SJSU CATALOG

Academic Year 2019–2020

Departments & Degrees
Policies & Procedures
Course Descriptions

SJSU SAN JOSÉ STATE UNIVERSITY

ONE WASHINGTON SQUARE | SAN JOSE, CA 95192

SJSU SAN JOSÉ STATE UNIVERSITY

Academic Year 2019-2020

Departments & Degrees

v01
July 1, 2019

ALL DATES, FEES & INFORMATION SUBJECT TO CHANGE WITHOUT NOTICE

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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General Education and American Institutions Letter Designation Attributes

For more information about General Education Objectives visit the policies and procedure pages in this catalog.

A1	Area A1: Oral Communication
A2	Area A2: Written Communication IA
A3	Area A3: Critical Thinking
B1	Area B1: Physical Science
B1+B3	Area B1+B3: Physical Science & Lab Sci
B2	Area B2: Life Science
B2+B3	Area B2+B3: Life Science & Lab Sci
B3	Area B3: Laboratory Science
B4	Area B4: Mathematical Concepts
C1	Area C1: Arts
C2	Area C2: Letters
D1	Area D1: Human Behavior
D2	Area D2: Comparative Systems
D2+D3*	Area D2+D3 Comp Sys & Soc Iss
D3	Area D3: Social Issues
E	Area E: Human Understanding & Development
US1	Area US1: American History
US2+US3*	Area US2, US3: US Constitution & California Government
US3	Area US3: California Government Only
US1+US2+US3*	Multiple GE Areas: US1, 2, 3
M1*	Multiple GE Areas: A1; C2; US1, 2, 3
M2*	Multiple GE Areas: A2; C2
M3*	Multiple GE Areas: A3; D3
C1+D2*	Multiple GE Areas: C1; D2
C2+D3+US123*	Multiple GE Areas; C2; D3; US1, 2, 3
M6*	Multiple GE Areas: D2; US1, 2, 3
D3+US123*	Multiple GE Areas: D3; US1, 2, 3
M8*	Multiple GE Areas: C1; C2
M9*	Multiple GE Areas: A3 or C2
M10*	Multiple GE Areas: A2; D3
D3+US23*	Multiple GE Areas: D3; US2, 3
D2+US1*	Multiple GE Areas: D2; US1
M13*	Multiple GE Areas: A3; C2; US1, 2, 3
M14*	Multiple GE Areas: A1; D2
M15*	Multiple GE Areas: A2; D3
R	Area R: Earth & Environment
S	Area S: Self, Society & Equality in the U.S.
V	Area V: Culture, Civilization & Global Understanding
Z	Area Z: Written Communication II (GWAR)

* In some cases the GE area may not be met until the entire course sequence is completed. This also applies to other GE combinations not noted with an asterisk.

Aerospace Engineering Department

College of Engineering

ENGINEERING BUILDING 272
408-924-3965
http://www.sjsu.edu/ae/

Professors

Nikos J. Mourtos, Chair
Periklis Papadopoulos

Assistant Professors

Lucia Capdevila
Fabrizio Vergine

Curricula

BS, Aerospace Engineering
MS, Aerospace Engineering

Introduction

Aerospace engineers research, design, and develop high-speed transportation vehicles, such as airplanes, spacecraft, space stations, planetary vehicles, and space probes. Approximately half of all aerospace engineers work in the aerospace industry (e.g. Boeing, Lockheed-Martin, Cessna, etc.), 15% work for government agencies (e.g. NASA, Department of Defense, etc.), and the rest work in engineering services, research, testing, and navigation functions. Aerospace engineers also work in industries not associated with aerospace, such as automotive, where they may work both on the improvement of the aerodynamics of automobiles and on a number of related areas due to the breadth of their preparation. Students in our program have opportunities to participate in international hands-on design-build-fly competitions or work with engineers from local industry to design-build-test and launch microsatellites into space. The BS Aerospace Engineering program is accredited by the Engineering Accreditation Commission of ABET, www.abet.org.

BS - Aerospace Engineering

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

Major Exceptions

This degree program meets certain University Requirements through approved major modifications. Please see the Major Exceptions area in the Policy and Procedures section of this catalog to identify the specific adjustments for this degree program or contact your major advisor for more details.

Major-Specific Graduation Requirements

Students in this major must complete all courses in Required in the Major (All courses in Preparation, Core, and Concentration/Specialization) with a "C or better" to graduate.

University Graduation Requirements 18

Core Lower Division General Education 6

Of the 39 units required by the university, 33 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

Upper Division General Education

Of the 9 units required by the university, 9 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 12

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

AMS 001A. American Cultures to 1877	M4	6
AMS 001B. American Cultures 1877 to present	M5	6

Physical Education

Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Preparation for the Major 36

To qualify for a baccalaureate degree in Aerospace Engineering, a student must receive a grade of "C" or better in all courses in preparation for the major.

CHEM 001A. General Chemistry	B1+B3	5
ENGL 001B. Argument and Analysis	C2	3
or equivalent second semester composition course.		
MATH 030. Calculus I	B4	3
MATH 031. Calculus II	B4	4
MATH 032. Calculus III	B4	3
MATH 129A. Linear Algebra I		3
MATH 133A. Ordinary Differential Equations		3
PHYS 050. General Physics/Mechanics	B1+B3	4
PHYS 051. General Physics/Electricity and Magnetism	B1+B3	4
PHYS 052. General Physics/Waves, Light, Heat	B1+B3	4

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Requirements of the Major 66

To qualify for a baccalaureate degree in Aerospace Engineering, a student must receive a grade of "C" or better in all courses required for the major.

Core Courses 16

EE 098. Introduction to Circuit Analysis		3
ENGR 010. Introduction to Engineering	E	3
ENGR 100W. Engineering Reports	Z+R	3
MATE 025. Introduction to Materials		3
AE 020. Computer-Aided Design for Aerospace Engineers		2
AE 030. Computer Programming for Aerospace Engineers		2

Required Courses 39

AE 112. Aerospace Structural Analysis I		4
AE 114. Aerospace Structural Analysis II		3
AE 138. Vector-Based Dynamics for Aerospace Applications		3
AE 140. Rigid Body Dynamics		3
AE 157. Aerospace Automatic Control Systems Design		3
AE 160. Aerodynamics I		3
AE 162. Aerodynamics II		3
AE 164. Aerothermodynamics		5
AE 165. Aerospace Flight Mechanics		3
AE 167. Aerospace Propulsion		3
AE 168. Aerospace Vehicle Dynamics and Control		3
AE 169. Computational Fluid Dynamics		3

Capstone 8

COMPLETE ONE OPTION:

Option 1

AE 171A. Aircraft Design I	S	3
AE 171B. Aircraft Design II	V	3
ENGR 195A. Global and Social Issues in Engineering	S	1
ENGR 195B. Global and Social Issues in Engineering	V	1

Option 2

AE 172A. Spacecraft Design I	S	3
AE 172B. Spacecraft Design II	V	3
ENGR 195A. Global and Social Issues in Engineering	S	1
ENGR 195B. Global and Social Issues in Engineering	V	1

Technical Electives 3

A technical elective may be chosen from the following list: AE110, AE142, AE166, AE173. Selected non-AE courses may also be eligible, with departmental approval		3

Total Units Required 120

MS - Aerospace Engineering

The MSAE Program is designed to prepare students for professional careers in industry or advanced study in Ph.D. programs. Students develop skills in research, design, development, experiment design, testing, and systems integration in air and space transportation systems. In addition to advanced aerospace engineering courses, electives are available in science, business, and other engineering fields. Class schedules are designed for the convenience of employed engineers who wish to pursue graduate work on a part-time basis. The MSAE Program welcomes students with undergraduate degrees in other engineering or science disciplines. For more information visit www.sjsu.edu/ae/programs/msae/

Educational Objectives for Graduate Program

To provide MSAE graduates with

1. A strong foundation beyond the undergraduate level in their chosen focus area as well as in mathematics, basic science, and engineering fundamentals, to be able to solve current aerospace engineering problems.
2. Contemporary professional and lifelong learning skills to successfully compete for technical engineering positions in the local, national, and global engineering market, advance in their current position or pursue doctoral studies.
3. Expertise necessary to work in the analysis, design, development, and testing of aerospace engineering systems with possible specialization in areas such as aircraft design or space transportation and exploration.
4. Strong verbal and written communication skills, including the ability to write engineering reports.
5. Ability to perform research and work independently to solve open-ended aerospace engineering problems.

Admissions Requirements

Candidates must meet all the university admissions requirements. Students can be admitted in either classified or conditionally classified standing. If an applicant's preparation for advanced graduate work is considered inadequate to meet the course prerequisites or other departmental requirements, the conditions will include taking preparatory courses to meet these requirements. Such courses will not count as part of the master's degree program requirements.

To be admitted to classified standing, a student must possess a BS degree in Aerospace Engineering or related field (e.g., Aeronautical Engineering, Astronautical Engineering or Space Engineering, etc.) from an accredited institution with a grade point average of 2.75 or better in the last 60 units.

Students may be admitted with conditionally classified standing if they have a BS degree in any engineering or science discipline from an accredited institution. Students with conditionally classified standing will take a series of BSAE core courses based on their evaluation by the AE Graduate Coordinator.

If an applicant's bachelor's degree is not from a US or Canadian university, a GRE must be taken; minimum scores acceptable for admission are listed on the Graduate Program Test Requirements webpage at GAPE. Applicants from countries in which the native language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirements webpage at GAPE.

Requirements for Advancement to Graduate Candidacy

Prior to registering for the first time (or upon re-entering), a student should consult with the AE Graduate Coordinator to develop a schedule of courses. Students admitted as conditionally classified must satisfy the requirements listed in their letter of acceptance. Students who have completed matriculation and achieved classified standing in the master's degree curriculum must next advance to candidacy for the degree. A student may advance to candidacy after completing a minimum of 9 units of graded work as a graduate student in letter-graded 100- or 200-level courses acceptable to the AE Department as well as fulfilling the other university requirements for advancement to candidacy for the MS degree, as detailed in the Graduate Policies and Procedures section of this catalog. Candidacy includes successful completion of the Graduation Writing Assessment Requirement (GWAR). For graduate courses that meet the GWAR, refer to the GWAR Course List on the College of Graduate Studies website.

Requirements for Graduation

University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

MS - Aerospace Engineering Graduation Requirements

The AE Department offers courses designed to provide a flexible curriculum structure that allows students to follow a course of study to meet their individual career goals. As shown below, the program consists of 30 semester units of approved work, including 6 units devoted to a thesis or project. The required coursework includes 6 units of advanced mathematics and computational methods, 12 units of aerospace core subjects, and 6 units of electives.

In selecting a project/thesis topic, the student must first identify a faculty member in his or her area of interest. Once the faculty member agrees to act as the student's project/thesis advisor, a program of study is established, including the project/thesis topic.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Culminating Experience (Plan A or Plan B)

In selecting a Plan A (Thesis) or Plan B (Project) topic, the student must first identify a faculty member in his / her area of interest. Once the faculty member agrees to act as the student's advisor, a program of study is established, including the thesis or project topic. In either option students perform graduate level research and/or design and/or development, involving aerospace systems or components of aerospace systems under the supervision of an AE faculty member. Students are encouraged to submit and present their work at student and/or professional conferences.

A project or thesis proposal is due to the AE295A / AE299 Course Coordinator no later than the 2nd week of class. A written progress report is due at the end of each month. The first progress report must include a review of the relevant literature. An end-of-semester written report is expected at the end of the 1st semester.

Plan A (Thesis)

A thesis requires approval by a committee of three members. Two of the thesis committee members must be SJSU faculty. An AE faculty member must agree to serve as the chair of the committee. Students must secure the commitment of all three members of their thesis committee. The committee must approve the student's thesis proposal no later than the 2nd week of the 1st semester. The thesis must meet university requirements as stipulated in this catalog and in the SJSU Master's Thesis and Doctoral Dissertation Guidelines. It will be written under the guidance of the candidate's thesis committee chair with the assistance of the other committee members. The candidate for the MSAE degree must successfully pass a final oral defense of the thesis.

Plan B (Project)

In the Project Option students work under the supervision of an AE faculty member.

Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR). For information on the GWAR, please see http://info.sjsu.edu/gcw.html.

Requirements of the Masters — 30

Advanced Mathematics and Computational Methods — 6

- AE 200. Engineering Analysis and Control of Aerospace Systems — 3
- AE 269. Advanced Computational Fluid Dynamics — 3

Core Courses — 12

- AE 250. Advanced Structures and Materials — 3
- AE 267. Space Propulsion Systems — 3

COMPLETE ONE COURSE FROM:

- AE 242. Orbital Mechanics and Mission Design — 3
- AE 243. Advanced Astrodynamics — 3
- AE 245. Spacecraft Dynamics and Control — 3
- AE 246. Advanced Aircraft Stability and Control — 3

COMPLETE ONE COURSE FROM:

- AE 262. Advanced Aerodynamics — 3
- AE 264. Gas Dynamics — 3
- AE 280. Hypersonics and Reentry Systems — 3

Area of Specialization — 6

STUDENTS MAY SPECIALIZE IN ONE OF THE TWO AREAS LISTED BELOW. EACH AREA HAS A REQUIRED TECHNICAL ELECTIVE, AS SHOWN BELOW. THE OTHER ELECTIVE MAY BE CHOSEN FROM AEROSPACE ENGINEERING, OTHER ENGINEERING PROGRAMS, PHYSICS, CHEMISTRY, MATHEMATICS, OR COMPUTER SCIENCE. IF A STUDENT OPTS TO NOT SPECIALIZE IN AN AREA, TWO ELECTIVES MUST BE SELECTED IN CONSULTATION WITH THE AE GRADUATE COORDINATOR.

Aircraft Design

- AE 271. Advanced Aircraft Design — GWAR — 3
- One additional elective — 3

Space Transportation and Exploration

- AE 210. Advanced Space Systems Engineering — 3

One additional elective 3

Culminating Experience **6**

COMPLETE ONE OPTION (PLAN A OR PLAN B):

Plan A (Thesis)

AE 299. Aerospace Engineering Masters Thesis 3

Students take AE 299 twice.

Plan B (Project)

AE 295A. Aerospace Engineering Masters Project I 3

AE 295B. Aerospace Engineering Masters Project II 3

Total Units Required **30**

Elective courses must be planned in consultation with the AE Graduate Coordinator. Students may also choose electives from other engineering fields, science, or business.

The maximum number of upper-division undergraduate units that can be applied toward the master's degree is 15.

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU cumulative grade point averages of 3.0 in order to graduate.

Aerospace Studies Department (Air Force ROTC)

College of Health and Human Sciences

INDUSTRIAL STUDIES 214
408-924-2960
http://www.sjsu.edu/afrotc
afrotc@sjsu.edu

Professors

Lt. Col. Walter Priebe

Assistant Professors

Capt. Ashley Gammon
Capt. Marshal Neubauer

Curricula

Minor, Aerospace

Introduction

San José State University supports a wing of Air Force Reserve Officer Training Corps (AFROTC) with cadets from San José State University, Santa Clara University, Stanford University, UC Santa Cruz, and many local community colleges. The Air Force ROTC program provides instruction in leadership, management, and national security studies along with military education and training. This program prepares the cadet for assignment to positions of responsibility and importance in the modern Air Force. Instruction is conducted on and off campus. This program offers all eligible SJSU students the opportunity to obtain an officer's commission in the United States Air Force while earning their college degrees.

Program Overview

Our faculty brings a wealth of experience and diversity to the program. Instructors are active duty Air Force officers from various career areas and provide students with a first rate academic education and military training experience. Each faculty member also acts as a student advisor to guide students through the program and help them reach the goal of an officer's commission in the United States Air Force.

College students wishing to commission as an Air Force officer through ROTC may enroll in a three, three-and-a-half, or four-year program. Students attend Air Force ROTC classes along with other college courses and receive elective academic credit.

After successfully completing all requirements, the cadets are commissioned as Air Force officers with a minimum four-year active duty service commitment.

Four-Year Program

The first two years of the Air Force ROTC four-year program, the General Military Course (GMC), consist of 1 hour of classroom work, two hours of leadership laboratory, and a minimum of two hours of physical conditioning each week. Upon completion of GMC requirements, cadets who wish to compete for entry into the last two years of the program, the Professional Officer Course (POC), must do so under the requirements of the POC selection system. This system uses qualitative factors, such as grade-point average, unit commander's evaluation, aptitude test scores and physical fitness test scores to determine a student's officer potential. After selection, students must successfully complete a three-week summer field training program at Maxwell Air Force Base in Montgomery, AL before entering the POC.

In the POC, cadets attend class three hours a week, participate in a weekly leadership laboratory lasting two hours, and perform a minimum of two hours of physical conditioning per week. Cadets apply what they have learned in the GMC and at field training. POC cadets conduct the leadership laboratories and manage the unit's cadet corps. Each unit has a cadet corps based on the Air Force organizational pattern of flight, squadron, group, and wing. POC classes are small, with emphasis on group discussions and cadet presentations. Classroom topics include leadership, communication skills and national defense policy. Once enrolled in the POC, all cadets enlist in the Air Force Reserve and assigned to the Obligated Reserve Section.

Scholarships

Current emphasis in the Air Force ROTC College Scholarship Program is to award scholarships to candidates pursuing undergraduate engineering or other scientific and technical disciplines. More than half of Air Force ROTC scholarships are awarded to students in these disciplines. Additionally, scholarships are available for foreign language majors; contact the Aerospace Studies department for more information regarding which foreign languages majors are eligible. Students in every degree program may enjoy scholarship opportunities, as the Air Force seeks to engage students who excel both academically and militarily.

Air Force ROTC offers several types of scholarships, awarded in increments of two, three, and four years. All types of awards provide an allowance for books, most required fees and a monthly nontaxable stipend. All scholarship cadets are required to meet certain academic, military, and physical fitness standards to earn and maintain scholarship benefits.

Field Training

Field Training, in many cases, is a cadet's first exposure to a working Air Force environment and the Aerospace Expeditionary Force (AEF) concept. The program develops military leadership and discipline, and provides Air Force officer familiarization, orientation and motivation. At the same time, the Air Force can evaluate each cadet's potential as an officer and entry into the POC.

Field training provides Air Force leadership opportunities, professional development, marksmanship training, team building, physical fitness, and AEF orientation. Lodging, meals and transportation (from the cadet's home of record or school) are provided at no cost.

Medical Professions

Nursing majors may apply for an AFROTC scholarship and graduates agree to accept a commission in the Air Force Nurse Corps and serve four years on active duty after successfully completing their licensing examination. Cadet premedical scholarship recipients who are accepted to medical school within one year of graduating may be sponsored in their pursuit of medical degrees.

Legal Professions

Both first-year and second-year law students can apply for ROTC scholarships. Students complete either a one-year or a two-year ROTC program while attending law school.

Additionally, second-year law students can pursue an Air Force commission through Air Force ROTC's graduate law program. This program guarantees judge advocate duty after a student completes all Air Force ROTC, law school, and bar requirements. After graduating from an American Bar Association-accredited law school, the student must be admitted to practice law before the highest state court of any state or a federal court. The new lawyer is then commissioned into the Air Force in the grade determined by the laws and directives in effect at the time of call to active duty.

Aerospace Studies Minor

All undergraduate students are eligible for the minor in aerospace studies. Those wishing to pursue a career as an Air Force officer after graduation should contact the Department of Aerospace Studies.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Minor - Aerospace Studies

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Requirements of the Minor	16
AS 001A. The Foundation of the United States Air Force	1
AS 001B. The Foundation of the United States Air Force	1
AS 002A. The Evolution of USAF Air and Space Power	1
AS 002B. The Evolution of USAF Air and Space Power	1
AS 131A. Air Force Leadership Studies	3
AS 131B. Air Force Leadership Studies	3
AS 141A. National Security Affairs	3
AS 141B. Preparation for Active Duty	3
Total Units Required	**16**

African American Studies Department

College of Social Sciences

WASHINGTON SQUARE HALL 216
408-924-5871

Professors

Theodorea Regina Berry, Chair
Steven M. Millner
Ruth P. Wilson

Assistant Professors

Wendy Thompson Taiwo

Curricula

BA, African American Studies
Minor, African American Studies
Minor, African Studies
Minor, Black Women's Studies

Introduction

An indispensable part of the mission of a metropolitan university, the Department of African-American Studies provides a comprehensive liberal arts education by training our students to appreciate diversity and multicultural American society. Our unique interdisciplinary curriculum focuses on the areas of: crime/justice, politics, urbanization, religion, history, sociology/welfare, psychology, African history/politics, gender equality, aesthetics and general education courses. Our upper division courses cover such topics as the Harlem Renaissance, African American women in history, and black images in American film and television. Our faculty contributes to scholarship in the field, and we are intellectually and professionally linked to local and national African American communities through our membership and support of professional associations such as the National Council of Black Studies.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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BA - African American Studies

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

University Graduation Requirements 47

Core Lower Division General Education 33

Of the 39 units required by the university, 6 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

NOTE: STUDENTS WHO HAVE COMPLETED THE ADT TRANSFER DEGREE (UNDER SB 1440) FOR THIS MAJOR WILL HAVE COMPLETED ALL LOWER DIVISION GE REQUIREMENTS AND SHOULD FOLLOW THE 60 UNIT GUARANTEE ROADMAP. MEET WITH AN ADVISOR PRIOR TO REGISTERING FOR YOUR FIRST SEMESTER FOR THE 60 UNIT ROADMAP OR SPECIFIC QUESTIONS.

Upper Division General Education 9

Of the 9 units required by the university, 0 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

CONSULT MAJOR ADVISOR FOR DEPARTMENT RECOMMENDED COURSEWORK TO MEET GE REQUIREMENT.

Physical Education 2

Graduation Writing Assessment Requirement 3

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Requirements of the Major 36

Area Requirements 18

Historical 9

AFAM 002A. African Americans and the Development of America's History and Government D2 3
AFAM 002B. African Americans and the Development of America's History and Government M7 3

Must complete entire sequence to meet the American Institutions requirement.

COMPLETE ONE COURSE FROM:

AFAM 040. African Origins 3
AFAM 111. African Nations: History, Politics, and Culture 3

Social-Behavioral 6

AFAM 120. Sociology of African American Communities 3
AFAM 159. Economic Issues in the Black Community 3

Cultural 3

AFAM 022. The Humanities in African-American Culture 3

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Senior Seminar	**3**
AFAM 198. Senior Seminar in African-American Studies	3
Electives in the Major	**15**
COMPLETE FIVE COURSES FROM:	
AFAM 102. African-American Music	3
AFAM 111. African Nations: History, Politics, and Culture	3
AFAM 112. African Immigrant Communities in the U.S.	3
AFAM 125. The Black Family:Historical/Contemporary Realities	3
AFAM 134. The Black Civil Rights Movements	3
AFAM 151. Race, Class and the Environment	3
AFAM 152. Black Women in the U.S	3
AFAM 156. Black Women Writers: Race, Culture and Resistance	3
AFAM 165. Topics in Ethnic American Literature	4
University Electives	37

At least 4 units must be Upper Division. A minor or double major is recommended (selected with advisor approval).

Total Units Required	**120**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Minor - African American Studies

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Requirements of the Minor		**18**
Required Courses		**6**
AFAM 002A. African Americans and the Development of America's History and Government	D2	3
AFAM 002B. African Americans and the Development of America's History and Government	M7	3
Upper Division Electives		**12**
Chosen to complement the major (see department Chair or minor advisor for specific information).		
Total Units Required		**18**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

Minor - African Studies

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Requirements of the Minor	15
Core Courses	**6**
AFAM 040. African Origins	3
AFAM 111. African Nations: History, Politics, and Culture	3
Elective Courses	**9**
COMPLETE NINE UNITS FROM:	
AFAM 112. African Immigrant Communities in the U.S.	3
AFAM 119. Africana Philosophy and Culture	3
AFAM 150. West African Drumming and Culture	3
ENGL 123B. Literature for Global Understanding-Africa V	3
POLS 142. African Politics	4
Other courses in consultation with advisor	
Total Units Required	**15**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Minor - Black Women's Studies

The Department of African American Studies is committed to providing students with critical and multidimensional scholarship, teaching, and community service based on Black feminist ideologies and concepts. The Black Women's Studies minor explores, examines, and engages the intellectual traditions connected to the cultural, historical, philosophical and social perspectives of the lived experience at the nexus of Blackness and womanhood; topics covered within the minor are interdisciplinary in nature. The minor emphasizes the significance of understanding power and political structures of power through the intersections of race and womanhood. Students will acquire skills in critical thinking, cultivation of dialogue, research development, and contribution to social change based on Black feminist ideologies and concepts. The coursework in the minor focuses on integrating academic and experiential scholarship, teaching, and learning.

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Requirements of the Minor		15
Core Courses		**9**
AFAM 002A. African Americans and the Development of America's History and Government	D2	3
AFAM 002B. African Americans and the Development of America's History and Government	M7	3
AFAM 152. Black Women in the U.S.		3
Elective Courses		**6**
COMPLETE SIX UNITS FROM THE LIST BELOW OR SELECT ANOTHER COURSE IN CONSULTATION WITH AN ADVISOR:		
AFAM 156. Black Women Writers: Race, Culture and Resistance		3
AFAM 166. African-American Women in History		3
COMM 176P. Communication and Gender		3
WOMS 020. Women of Color in the US	D2	3
WOMS 160. Queering Gender, Race, and Class		3
Total Units Required		**15**

American Studies Program

College of Humanities and the Arts

CLARK HALL 419
408-924-1366

Professors

Shannon Rose Riley

Associate Professors

J. Todd Ormsbee

Assistant Professors

Tova Cooper
Funie Hsu

Curricula

BA, Humanities, Concentration in American Studies
Minor, American Studies

Introduction

The American Studies Program provides useful preparation for graduate study, for elementary or secondary teaching, or for careers in law, public service or government. In addition to the minor in American Studies, a student can receive a Bachelor of Arts in Humanities with a concentration in American Studies through the Humanities Department. All American Studies courses, whether for a major, minor, or for general education, enhance our understanding of how our nation developed in the past, what it has become, and how these changes affect us today. Courses focus on subjects such as the American dream, interracial relations, environmental issues, popular culture and women's concerns.

Minor - American Studies

This degree is listed with the Humanities Department.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

BA - Humanities, Concentration in American Studies

This degree is listed with the Humanities Department.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Anthropology Department

College of Social Sciences

CLARK HALL 469
408-924-5710 (Anthropology)

Professors

Chuck Darrah
Jan English-Lueck
Roberto Gonzalez, Chair
Marco Meniketti
Elizabeth Weiss

Associate Professors

AJ Faas
Charlotte Sunseri

Curricula

BA, Anthropology
BA, Behavioral Science
BA, Organizational Studies
Minor, Anthropology
Minor, Native American Studies
Minor, Values, Technology and Society
MA, Applied Anthropology

Introduction

Anthropology majors study how humans live and have lived, present and past, and apply that knowledge to contemporary issues, learning how to articulate an anthropological perspective on human behavior. Our students develop skills in research, data analysis and clear and effective communication, preparing them to live in a complex, culturally diverse world. The Department of Anthropology's core curriculum provides an overview to the discipline as well as courses in cultural anthropology, archaeology, and physical anthropology. There are many opportunities for students to engage in research and service projects, and our faculty are scholars who bring their research into the classroom to enhance learning. We offer a BA in anthropology, an MA in applied anthropology, a BA in behavioral science, and a BA in organizational studies. Our graduates pursue careers in a wide range of professions, including law, medicine, business, social work, and health care.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

BA - Anthropology

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

University Graduation Requirements 41

Core Lower Division General Education 21

Of the 39 units required by the university, 18 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

NOTE: STUDENTS WHO HAVE COMPLETED THE ADT TRANSFER DEGREE (UNDER SB 1440) FOR THIS MAJOR WILL HAVE COMPLETED ALL LOWER DIVISION GE REQUIREMENTS AND SHOULD FOLLOW THE 60 UNIT GUARANTEE ROADMAP. MEET WITH AN ADVISOR PRIOR TO REGISTERING FOR YOUR FIRST SEMESTER FOR THE 60 UNIT ROADMAP OR SPECIFIC QUESTIONS.

Upper Division General Education 9

Of the 9 units required by the university, 0 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 6

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

COMPLETE ONE SEQUENCE FROM:

African American Studies 6

AFAM 002A. African Americans and the Development of America's History and Government	D2	3
AFAM 002B. African Americans and the Development of America's History and Government	M7	3

Asian American Studies 6

AAS 033A. Asian Americans in U.S. History I	D2	3
AAS 033B. Asian Americans in U.S. History II	M7	3

U.S. History and Government 6

HIST 015. Essentials of U.S. History	M12	3
POLS 015. Essentials of U.S. & California Government	M11	3

Chicana and Chicano Studies 6

CCS 010A. Mexican Americans and the Development of U.S. History and Government	D2	3
CCS 010B. Mexican Americans and the Development of U.S. History and Government	M7	3

Physical Education 2

Graduation Writing Assessment Requirement 3

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Preparation for the Major 3

COMPLETE THREE UNITS FROM:

SOCI 015. Statistical Applications in the Social Sciences	B4	3
SOCI 102. Introduction to Statistics		3
STAT 095. Elementary Statistics	B4	3

UNVS 015F and UNVS 015S may be used in lieu of the statistics course required by this major.

GEOG 012. Global Geography	D2	3

Requirements of the Major 42

Core Courses 15

ANTH 011. Cultural Anthropology	D1	3
ANTH 012. Introduction to Human Evolution	B2	3
ANTH 013. Archaeology	A3	3
ANTH 131. Theories of Culture		3
ANTH 191. Frontiers of Anthropology		3

Research Methods 3

COMPLETE THREE UNITS FROM:

ANTH 149. Ethnographic Methods	3
ANTH 155. Human Osteology	3
ANTH 168. Archaeological Methodology	3
ANTH 169. Archaeological Site Excavation	3

Cultural Anthropology 6

COMPLETE SIX UNITS FROM:

ANTH 102. Silicon Valley Connections	3
ANTH 105. Applied Anthropology	3
ANTH 107. Eating Culture: The Anthropology of Food	3
ANTH 108. Medical Anthropology	3
ANTH 125. Urban Anthropology	3
ANTH 129. Environmental Anthropology	3
ANTH 130. Kin, Kith, and Community: The Anthropology of Social Organization	3
ANTH 132. Creating Built Worlds	3
ANTH 134. Systemic Leadership	3
ANTH 136. Thought Control in Contemporary Society	3
ANTH 142. Culture in Mind	3
ANTH 143. Culture and Adaptation	3
ANTH 144. Gifts, Markets, and Power	3
ANTH 148. Religion and Anthropology	3
ANTH 149. Ethnographic Methods	3
ANTH 173. Multimedia Anthropology	3
ANTH 175. Anthropology of Native America	3
ANTH 176. Indians of California	3
ANTH 177. Anthropology of Asia	3

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Archaeology	**6**

COMPLETE SIX UNITS FROM:

ANTH 143. Culture and Adaptation	3
ANTH 161. Old World Civilizations	3
ANTH 162. Inca, Aztec and Maya Civilization	3
ANTH 164. North America before 1492	3
ANTH 165. Historical Archaeology	3
ANTH 168. Archaeological Methodology	3
ANTH 169. Archaeological Site Excavation	3

Physical Anthropology	**6**

COMPLETE SIX UNITS FROM:

ANTH 151. Modernity and Disease	3
ANTH 152. Becoming Human	3
ANTH 154. Monkeys, Apes and Humans	3
ANTH 155. Human Osteology	3
ANTH 156. Bioarchaeology	3
ANTH 157. Forensic Anthropology	3
ANTH 159. Mummies	3

Anthropology Electives	**6**

All current upper-division anthropology courses, except SJSU Studies Area R, S, or V courses, and any of the following courses as appropriate and with approval of advisor.

Double major and second baccalaureate requirements are the same as for the regular major except only 6 upper division anthropology electives are needed for a total of 30 units.

ANTH 180. Individual Studies	1-4
ANTH 184. Directed Reading	1-4
ANTH 187. Special Topics	3
ANTH 190. Designing Research	3
ANTH 195. Anthropology Practicum	1-6

University Electives	34
Total Units Required	**120**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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BA - Behavioral Science

Behavioral science majors develop an interdisciplinary perspective on human behavior and an understanding of psychological, social and cultural dimensions to being human in a complex society. Offered cooperatively by the Departments of Anthropology, Psychology and Sociology, the Behavioral Science Program is housed in the Department of Anthropology, which overseas academic advising. The program prepares graduates for a variety of jobs that require working with social science data and with people. Many of our alumni have pursued careers in human resources, social work, counseling, sales and marketing and law enforcement.

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

University Graduation Requirements 47

Core Lower Division General Education 27

Of the 39 units required by the university, 12 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

NOTE: STUDENTS WHO HAVE COMPLETED THE ADT TRANSFER DEGREE (UNDER SB 1440) FOR THIS MAJOR WILL HAVE COMPLETED ALL LOWER DIVISION GE REQUIREMENTS AND SHOULD FOLLOW THE 60 UNIT GUARANTEE ROADMAP. MEET WITH AN ADVISOR PRIOR TO REGISTERING FOR YOUR FIRST SEMESTER FOR THE 60 UNIT ROADMAP OR SPECIFIC QUESTIONS.

Upper Division General Education 9

Of the 9 units required by the university, 0 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 6

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

COMPLETE ONE SEQUENCE FROM:

African American Studies 6

AFAM 002A. African Americans and the Development of America's History and Government	D2	3
AFAM 002B. African Americans and the Development of America's History and Government	M7	3

Asian American Studies 6

AAS 033A. Asian Americans in U.S. History I	D2	3
AAS 033B. Asian Americans in U.S. History II	M7	3

U.S. History and Government 6

HIST 015. Essentials of U.S. History	M12	3
POLS 015. Essentials of U.S. & California Government	M11	3

Chicana and Chicano Studies 6

CCS 010A. Mexican Americans and the Development of U.S. History and Government	D2	3
CCS 010B. Mexican Americans and the Development of U.S. History and Government	M7	3

Physical Education 2

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Graduation Writing Assessment Requirement 3

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Requirements of the Major 48

Core Courses 15

ANTH 011. Cultural Anthropology D1 3
ANTH 193. Behavioral Science in Practice 3
ANTH 193 can also be taken as PSYC 193 and SOCI 193

PSYC 001. Introduction to Psychology D1 3
SOCI 001. Introduction to Sociology D1 3

COMPLETE THREE UNITS FROM:

STAT 095. Elementary Statistics B4 3
SOCI 015. Statistical Applications in the Social Sciences B4 3
SOCI 015 can also be taken as SOCS 015

SOCI 102. Introduction to Statistics 3
UNVS 015F and UNVS 015S may be used in lieu of the statistics course required by this major.

Methods Requirement

Students must complete at least one of the following courses: ANTH 149, ANTH 165, PSYC 018, PSYC 120, or SOCI 104. A 3-unit maximum of individual studies may be used to meet the degree requirements.

Anthropology 9

Three courses (at least 2 upper division) which may include
ANTH 149. Ethnographic Methods 3
ANTH 165. Historical Archaeology 3
ANTH 168. Archaeological Methodology 3

Psychology 9

Three courses in psychology (at least 2 upper division) which may include
PSYC 018. Introduction to Research Methods 3
PSYC 120. Advanced Research Methods and Design 4

Sociology 9

SOCI 101. Social Theory 3
Two additional upper division sociology courses which may include
SOCI 104. Quantitative Research Methods 3

Area Specialization 6

Specializations are a cluster of courses used by departments for advising purposes. Specializations will not appear on transcripts or diplomas. Please see advisor for more details.

Two additional upper division anthropology, psychology, or sociology courses, except SJSU Studies Area R, S, or V courses, approved by Behavioral Science advisor.

University Electives 25

At least one unit must be Upper Division course.

Total Units Required 120

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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BA - Organizational Studies

The BA in Organizational Studies is an interdisciplinary major designed to help students develop skills for careers in a variety of organizations including small businesses, multinational corporations, non-profit organizations, and local, state, and national government agencies. Organizational studies courses are focused on giving students skills for real-world problem solving. Students take courses across a wide range of social science disciplines including anthropology, communications studies, economics, political science, psychology, and sociology. Organizational studies is ideally suited for students who aim to pursue careers in business, government, or the non-profit sector, where knowing how organizations work is a key to success.

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

University Graduation Requirements 47

Core Lower Division General Education 30

Of the 39 units required by the university, 9 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

NOTE: STUDENTS WHO HAVE COMPLETED THE ADT TRANSFER DEGREE (UNDER SB 1440) FOR THIS MAJOR WILL HAVE COMPLETED ALL LOWER DIVISION GE REQUIREMENTS AND SHOULD FOLLOW THE 60 UNIT GUARANTEE ROADMAP. MEET WITH AN ADVISOR PRIOR TO REGISTERING FOR YOUR FIRST SEMESTER FOR THE 60 UNIT ROADMAP OR SPECIFIC QUESTIONS.

Upper Division General Education 9

Of the 9 units required by the university, 0 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 6

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

COMPLETE ONE SEQUENCE FROM:

African American Studies 6

AFAM 002A. African Americans and the Development of America's History and Government	D2	3
AFAM 002B. African Americans and the Development of America's History and Government	M7	3

Asian American Studies 6

AAS 033A. Asian Americans in U.S. History I	D2	3
AAS 033B. Asian Americans in U.S. History II	M7	3

U.S. History and Government 6

HIST 015. Essentials of U.S. History	M12	3
POLS 015. Essentials of U.S. & California Government	M11	3

Chicana and Chicano Studies 6

CCS 010A. Mexican Americans and the Development of U.S. History and Government	D2	3
CCS 010B. Mexican Americans and the Development of U.S. History and Government	M7	3

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Physical Education 2

Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Requirements of the Major 38-44

Core Courses 23-24

ANTH 133. Organizational Cultures 3
ORGS 101. People & Organizations 3
ORGS 102. Organizations, Inquiry & Analysis 4
ORGS 103. Organizational Studies Capstone 4

COMPLETE ONE COURSE FROM:

ENGL 100WB. Written Communication: Business ..... Z 3
LLD 100WB. Writing Workshop for Business Students ..... Z 3
or Any Social Science 100W 3

COMPLETE THREE UNITS FROM:

SOCI 015. Statistical Applications in the Social Sciences B4 3
STAT 095. Elementary Statistics B4 3

UNVS 015F and UNVS 015S may be used in lieu of the statistics course required by this major.

COMPLETE ONE METHODS COURSE:

ANTH 149. Ethnographic Methods 3
COMM 150I. Inquiry in Organizational Communication 4
POLS 100M. Political Inquiry 4
SOCI 104. Quantitative Research Methods 3

Depth of Study 15-20

Organizations and Identity 3-4

TAKE ONE COURSE IN ORGANIZATIONS AND IDENTITY

ANTH 130. Kin, Kith, and Community: The Anthropology of Social Organization 3
COMM 144F. Organizational Communication 4
ECON 101. Microeconomic Analysis 4
ECON 158. Economics of Entrepreneurship 4
SOCI 173. Socialization and Identity 3

Organizations and Society 6-8

TAKE TWO COURSE IN ORGANIZATIONS AND SOCIETY

ANTH 102. Silicon Valley Connections 3
COMM 164F. Communication and Global Organizations 4
ECON 102. Macroeconomic Analysis 4
PSYC 154. Social Psychology 3
SOCI 146. Work, Power, and Leisure 3
SOCI 163. Social Change 3

Organizational Processes 6-8

TAKE TWO COURSE IN ORGANIZATIONAL PROCESSES

ANTH 105. Applied Anthropology 3
COMM 114P. Business and Professional Speaking 4

COMM 124P. Communication Training and Development	4
ECON 121. Industrial Organization	4
POLS 103. Local Government and Politics	4
SOCI 169. Political Sociology	3
Advisor Approved Minor	**12-18**
University Electives	**11-23**
Total Units Required	**120**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Minor - Anthropology

An anthropology minor complements any career in which understanding human behavior is important. It is especially relevant to business majors and pre-professional students preparing for careers in law, medicine, or social work. Anthropology minors learn many useful skills including cultural competency, critical thinking, research design, and professional writing skills that are increasing in demand in private public, and non-profit organizations. Many students minor in anthropology simply because they find that learning about the human species is interesting and enjoyable.

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Requirements of the Minor		18
Four upper division anthropology electives (advisor consultation available)		12
COMPLETE TWO COURSES FROM:		
ANTH 011. Cultural Anthropology	D1	3
ANTH 012. Introduction to Human Evolution	B2	3
ANTH 013. Archaeology	A3	3
Total Units Required		**18**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

Minor - Native American Studies

The interdisciplinary minor in Native American Studies gives students a deeper knowledge of the rich cultural heritage of our continent's indigenous peoples. The minor provides students an opportunity to learn about the historical and contemporary struggles and achievements of Native Americans. Over the years our students have had the opportunity to work and study in collaboration with the Muwekma Ohlone, the Paiute, and other descendant communities. The Native American minor is particulary well suited for those seeking careers in heritage management or government.

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Requirements of the Minor		18
Historical Core		**3**
ANTH 164. North America before 1492		3
Cultural Core		**6**
COMPLETE TWO COURSES FROM:		
AMS 159. Nature and World Cultures	V	3
ANTH 162. Inca, Aztec and Maya Civilization		3
ANTH 175. Anthropology of Native America		3
ANTH 176. Indians of California		3
Additional Courses		**9**
COMPLETE THREE COURSES FROM:		
ANTH 129. Environmental Anthropology		3
ANTH 146. Culture and Conflict	V	3
ANTH 156. Bioarchaeology		3
ANTH 165. Historical Archaeology		3
ARTH 182A. Art of the Americas		3
CCS 105. Chicanos: United States/Mexico Relations		3
COMM 174. Intercultural Comm & Struct Inequality	S	3
HIST 181. Advanced Topics in American History		4
HIST 189A. California History to 1900	US3	4
SOCI 162. Race and Ethnic Relations	S	3
WOMS 020. Women of Color in the US	D2	3
Total Units Required		**18**

After consultation with an advisor, experimental courses (ANTH 195) may be used to fulfill minor requirements.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

Minor - Values, Technology and Society

This interdisciplinary minor groups existing courses from a number of departments into an integrated study of the interaction of values, technology and society as they give shape and direction to the world in which we live. In particular, the minor focuses on the increasing recognition of the need to assert human values (in particular, moral, social, aesthetic and political values) given the accelerating development of modern technology and the associated increasing complexity and interconnectedness of our lives. Courses in the minor examine these themes as they are reflected in such issues as war and peace, the environment, health, modern science and technology, our use of computers, and the expression of values in our technological society through ethics, art, design and religion.

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Requirements of the Minor		18
Core		**9**
COMPLETE ONE COURSE FROM:		
ANTH 011. Cultural Anthropology	D1	3
ANTH 013. Archaeology	A3	3
COMPLETE TWO COURSES FROM:		
ANTH 132. Creating Built Worlds		3
ANTH 143. Culture and Adaptation		3
PHIL 110. Science, Technology and Human Values	V	3
TECH 198. Technology and Civilization	V	3
Electives		**9**

Three courses (9 units) chosen from the following approved list selected in consultation with the program advisor; one additional core course may be substituted for an elective course with advisor approval. Students are encouraged to select courses that address one of the following program foci.

COMPLETE THREE COURSES FROM:

People and Environments		
BIOL 110. Biodiversity and Biopolitics	R	3
ENVS 001. Introduction to Environmental Issues	D1	3
ENVS 150. Introduction to Environmental Thought	S	3
GEOL 111. Geology and the Environment	R	3
METR 112. Global Climate Changes	R	3
PSYC 173. Human Factors		3
Health and Medicine		
ANTH 151. Modernity and Disease		3
HS 135. Health Issues in a Multicultural Society	S	3
SOCI 166. Medical Sociology		3
Technology and Social Control		
ANTH 136. Thought Control in Contemporary Society		3
ANTH 173. Multimedia Anthropology		3
ENVS 152. Globalization and the Environment	R	3
RTVF 110. Media and Culture	S	3

Students may take up to 6 units of lower division coursework in completing the minor requirements.

Total Units Required	**18**

MA - Applied Anthropology

Information about the program and important dates can be obtained at the department website: www.sjsu.edu/anthropology.

Admissions Requirements

Candidates must meet all the university admission requirements. The university-level graduate application is separate from the application you send to the department. You will need to apply separately to the university to obtain approval for university-level admission and to the department to obtain admission into the Applied Anthropology Program. Minimum requirements for the program are a bachelor's degree in Anthropology or a core of introductory Cultural and Physical or Archaeological Anthropology; an upper-division methods course in Ethnography, Archaeology, or Osteology; an upper-division anthropological theory course; and 6 elective units in upper-division Anthropology (approximately 18 units overall). A 3.0 grade point average (B or better) in the last 60 semester units of undergraduate work and all Anthropology courses is required. Depending on their level of preparation, applicants can be admitted in either classified or conditionally classified standing.

Applicants from countries in which the native language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirements webpage at GAPE.

Requirements for Advancement to Graduate Candidacy

Students must meet the university requirements for candidacy. General university requirements for advancement to candidacy for the MA degree are detailed in the Graduate Policies and Procedures section of this catalog. Candidacy includes successful completion of the Graduation Writing Assessment Requirement (GWAR). For graduate courses that meet the GWAR, refer to the GWAR Course List on the College of Graduate Studies website.

Further requirements of the department for advancement to candidacy include completion of 18 units in the graduate program and submission of a project or thesis proposal to the department's Graduate Committee. In order to advance to candidacy, all students must participate in the First Year Review in their second semester. Further information on the First Year Review is available on the program FAQ on the Department of Anthropology Website: www.sjsu.edu/anthropology/degrees/maa/programfaq

Requirements for Graduation

University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

MA -Applied Anthropology Graduation Requirements

Each course of study must include 36 semester units. Eighteen of the units are in the Applied Anthropology core. Six units of upper-division or graduate Anthropology depth courses will be taken with the permission of the student's advisor, and 6 units of upper-division or graduate classes outside of Anthropology emphasizing the student's area of application will be taken with the permission of the student's advisor. Six additional units will reflect research or professional internships and thesis or project report preparation. SJSU Studies courses may not be used to fulfill the Anthropology depth requirement or field of application requirement. In addition, students are expected to conduct original research and write a thesis or, alternatively, to be engaged in professional activity and write a project report. All research or professional activity must conform to the ethical standards of the discipline of Anthropology as outlined by the American Anthropological Association, the Society for Applied Anthropology, and the university's Institutional Review Board. The policy on timely progression to degree is available on the Applied Anthropology program website: http://www.sjsu.edu/anthropology/degrees/maa/programfaq/#reqprogress

Culminating Experience

Students must choose between Plan A (Thesis) or Plan B (Project) in order to graduate. In both cases, students must submit (to the department) and have approved a proposal for the work they are undertaking. For more information on Plan A and Plan B options and how to choose between them, please see the program FAQ on the Department of Anthropology website: www.sjsu.edu/anthropology/degrees/maa/programfaq.

Plan A (Thesis)

Plan A students enroll in ANTH 299, Master's Thesis, and complete a thesis under supervision of a department committee and submit it to the University Graduate Studies & Research Office for final approval. A thesis is a scholarly contribution to general knowledge. It follows a fairly standard, traditional form across disciplines and fields, and must conform to the guidelines required by the College of Graduate Studies. Typically, a thesis has an introductory chapter that includes a problem statement, a literature review chapter followed by one on methodology, one or more chapters of data and findings, an analytical/interpretive chapter and a concluding chapter. This basic template can be modified to best meet your needs, but it must be done in consultation with your committee chair to insure it meets university requirements.

Plan B (Project)

Plan B students enroll in ANTH 298, Anthropology Project, and undertake a project in applied anthropology and prepare a report documenting the process and results. The report is submitted to the anthropology graduate faculty, but not College of Graduate Studies. All research or professional activity must conform to the ethical standards of the discipline of anthropology as outlined by the American Anthropological Association, the Society for Applied Anthropology and the requirements of the university's Institutional Review Board. A project report documents some activity that the student undertook to apply anthropological skills and knowledge. Because it is not submitted to College of Graduate Studies, it does not have to meet that office's thesis requirements. Specifically, its length and organization are more variable and must be negotiated with the committee chair and the graduate faculty of the department. Project reports may be as brief as 50 pages and as long as several hundred. The report will typically document the problem, question or issue that stimulated the application; a literature review that includes both the history of the specific problem and its context, as well as comparable problems elsewhere is included. It will document in detail the application (i.e., what the student did), its rationale (i.e., why the student took the steps he or she did), and the outcomes (i.e., what happened). Although the emphasis will be on solving or addressing a particular problem, the report will also include systematic reflection on what happened and why, the larger lessons the student learned, and how they might inform practice in the future.

Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR). For information on the GWAR, please see http://info.sjsu.edu/gcw.html.

Requirements for the Masters — 36

Core Courses — 18

ANTH 230. Theory in Practice	GWAR	3
ANTH 231. Applications Core		3
ANTH 232. Applications Core		3
ANTH 233. Fields of Application		3
ANTH 234. Advanced Research Methods		3
ANTH 235. Quantitative Methods		3

Advisor approved elective may be substituted for ANTH 235

Anthropology Depth Requirement — 6

Two 3-unit upper division anthropology courses approved by faculty advisor

Field of Application Requirement — 6

Two 3-unit upper division SJSU courses approved by faculty advisor

Culminating Experience — 6

ANTH 280. Individual Studies	3

COMPLETE ONE OPTION FROM (PLAN A OR PLAN B):

Plan A (Thesis)

ANTH 299. Master's Thesis	1-6

Plan B (Project)

ANTH 298. Anthropology Project	3

Total Units Required — 36

Elective courses must be planned in consultation with the Anthropology Graduate Advisor.

The maximum number of upper-division undergraduate units that can be applied toward the master's degree is 15.

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU cumulative grade point averages of 3.0 in order to graduate.

Applied Data Science Department

College of Professional and Global Education

STUDENT UNION
408-924-2639
applied-data-science@sjsu.edu

Professors

Lee C. Chang, Chair
Subhankar Dhar
Jerry Z. Gao
Simon Shim
Ashraf Shirani

Assistant Professors

Guangliang Chen
Scott Jensen

Curricula

MS, Data Analytics (Special Session Program)

Introduction

The department provides the foundation for curricular innovation, student success, instructional support, and programmatic growth in the field of applied data science. Students in our programs emerge with a comprehensive understanding of how data is selected, collected, processed, modeled, analyzed, visualized and reported. Most importantly, through our responsive curriculum, our students gain mastery in the meaningful applications of data science, thus ensuring that they have the knowledge and capability of finding solutions to real-world data challenges.

The department intends to build an academic hub jointly with other SJSU departments and industry partners for promoting education and research in applied data science. To address the immense demands for data science professionals, the department launched MS in Data Analytics program in fall 2018. This program provides students with the advanced education necessary to draw insights from real data and apply analytical skills to solve practical problems. The curriculum of this program was developed jointly by subject experts of Silicon Valley companies and the faculty members of the College of Business, the College of Engineering, the College of Health and Human Sciences, the College of Professional and Global Education, as well as the College of Science.

MS - Data Analytics

The MS in Data Analytics degree program provides students from diverse academic and professional backgrounds with the advanced education necessary to draw insights from real data and to apply analytical skills to real-world problems. This program prepares students to conduct high-volume data management, predictive analytics, and data visualization toward solving real problems in their specialized career domains. Its multidisciplinary curriculum draws on insights from mathematics and statistics, computer sciences and software engineering, business management, health science, social science, and the natural sciences. Students completing the degree will have a practical knowledge of data analytics and the ability to apply appropriate statistical analyses and machine learning techniques needed to identify patterns, make predictions, design visualizations, and communicate findings effectively.

This Special Session degree program is offered through the College of Professional and Global Education (CPGE). It is a hybrid program consisting of ten courses with both in-person and fully online modes.

For Program Information visit: www.sjsu.edu/msda

Admissions Requirements

Admission to University

Candidates must apply through the CSU admissions portal, Cal State Apply, and meet all university admissions requirements. Applicants will need to apply separately to the university to obtain approval for university-level admission and to CPGE to obtain admission into the MS in Data Analytics.

In addition to holding a bachelor's degree as required above, international applicants (or applicants who earned their degrees in a country where the primary language is not English) must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirements webpage at GAPE.

Admission to Program

Candidates must meet all the university admissions requirements. Students can be admitted in either classified or conditionally classified standing. To be admitted to classified standing, the successful applicant must have earned a bachelor's degree from a regionally accredited institution and achieved a GPA of at least 3.0 (on a 4.0 scale) in the bachelor's degree institution or in the last 60 semester or 90 quarter units of all coursework. Also required are an upper-division statistics course, one or more college calculus course(s), and at least one college-level programming course. An applicant might be conditionally admitted to the program with marginal deficiency in the above requirements.

Admission to Conditionally Classified Standing

An applicant might be conditionally admitted to the program with marginal deficiency in the above requirements. The individual admission notification will explain required terms and conditions for attaining Classified standing.

Requirements for Advancement to Candidacy

The university requirements for advancement to candidacy for the master's degree are outlined in the Graduate Policies and Procedures section of this catalog. Candidacy includes successful completion of the Graduation Writing Assessment Requirement (GWAR), described in this catalog. DATA 294 is a multidisciplinary seminar class that exposes students to multiple domains in data analytics and satisfies the Graduation Writing Assessment Requirement (GWAR) for this program. For graduate courses that meet the GWAR, refer to the GWAR Course List on the Graduate Studies website.

Requirements for Graduation

University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

MS - Data Analytics Graduation Requirements

This is an interdisciplinary program consisting of 10 courses with both in-person and online modes. As shown below, each of the 6 core, 2 elective, and 2 thesis or project courses is 3 semester units.

Culminating Experience (Plan A or Plan B)

All students must complete one of the following culminating experience options as part of their 30-unit program requirement.

Plan A (Thesis)

Students opting to complete a master's thesis will take the DATA 299A and DATA 299B as a two-course sequence. The student is responsible for securing the commitment of a full-time tenured or tenure-track faculty member who agrees to serve as the thesis committee chair. The student must also secure the commitments of two additional university faculty members, one of whom must be a full-time tenured or tenure-track faculty member, to serve as the student's thesis committee. The student must write a thesis proposal and have it approved by the thesis committee and pass the DATA 299A before enrolling in the DATA 299B. The thesis must meet university requirements as stipulated in this catalog and in the SJSU Master's Thesis and Doctoral Dissertation Guidelines. It will be written under the guidance of the candidate's thesis committee chair with the assistance of the thesis committee.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

For Legend please see page 2

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Plan B (Project)

The graduate project is a research or development effort performed by a team of students on a topic chosen by mutual agreement between an advisor and the team. The choice of project topic must also be approved by the instructor of DATA 298A. DATA 298A is the first part of the master's project in which students develop a comprehensive plan and preliminary design of a data analytics project. DATA 298B is the second part of the master's project course in which each students complete an in-depth written projects to achieve the program outcomes and satisfy the program culminating experience requirement.

Special Session Program Information

Programs offered through Special Session are operated by the College of Professional and Global Education (CPGE). Registration and enrollment in a Special Session course or program must use the special session application form and will follow special session fee and course schedules. Note that regular session students seeking to enroll simultaneously in a special session course or program will trigger a separate and additional set of fees. This may require an additional enrollment appointment from the Registrar and it may have implications for financial aid status or requirements. Please visit the CPGE website for more information.

Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR). For information on the GWAR, please see http://info.sjsu.edu/gcw.html.

Requirements of the Masters 30

Core Courses 18

BUS 243. Database Management 3
CMPE 257. Machine Learning 3
DATA 220. Mathematical Methods for Data Analysis 3
DATA 294. Data Analytics Seminar GWAR 3
INFO 215. Information Visualization 3

COMPLETE ONE COURSE FROM:

BUS 235C. Data Mining 3
CMPE 255. Data Mining 3

Electives 6

Six units 200-level elective courses selected in consultation with the graduate advisor

Culminating Experience 6

COMPLETE ONE PLAN FROM:

Plan A (Thesis) 6

DATA 299A. Data Analytics Masters Thesis I 3
DATA 299B. Data Analytics Masters Thesis II 3

Plan B (Project) 6

DATA 298A. Data Analytics Masters Project I 3
DATA 298B. Data Analytics Masters Project II 3

Total Units Required 30

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU Cumulative grade point averages of 3.0 in order to graduate.

Art and Art History Department

College of Humanities and the Arts

ART BUILDING 116
408-924-4320
www.sjsu.edu/art

Art History and Visual Culture

Professors

Beverly K. Grindstaff
Anne R. Simonson

Associate Professors

Dore E. Bowen
Anthony Raynsford, Chair

Fine Art Studio Program

Professors

Gale R. Antokal
Joanne F. Hernandez
Robin J. Lasser
Patrick J. Surgalski

Associate Professors

G. Craig Hobbs
Valerie Mendoza
Shannon G. Wright

Assistant Professors

Andrew Blanton
Rhonda Holberton
Adam Shiverdecker

Curricula

BA, Art, Concentration in Art History and Visual Culture
BA, Art, Concentration Studio Practice
BA, Art, Concentration Studio Practice- Preparation for Teaching
BFA, Art, Concentration in Digital Media Art
BFA, Art, Concentration in Photography
BFA, Art, Concentration in Pictorial Art
BFA, Art, Concentration in Spatial Art
Minor, Architectural Studies
Minor, Art Education
Minor, Art History and Visual Culture
Minor, Photography
Minor, Studio Art
MA, Art, Art History and Visual Culture
MFA, Art, Digital Media Art

MFA, Art, Photography
MFA, Art, Pictorial Art
MFA, Art, Spatial Art

Introduction

Visual art and art history play a central role in our increasingly visual and interactive culture. Without the barriers of language, the visual arts are able to foster the kind of cross-cultural understanding required of global citizens. Founded in 1913, the Department of Art and Art History is committed to researching, teaching and practicing conceptual creativity and creative problem solving in media which encompass equally the most contemporary technologies and the most ancient forms of artistic practice. We are dedicated to the understanding and analysis of visual communication, to complex critical thinking and writing, and to the interpretation of local and global culture, past and present. Our BA, BFA, MA, and MFA degrees, accredited by the National Association of Schools of Art and Design (NASAD), offer students the opportunity to study with award-winning faculty in a "best-in-the-West" combination of facilities for making, exhibiting, and researching art across many media. All programs are supported and enriched by a diverse schedule of exhibitions in the Natalie and James Thompson Gallery, eight student galleries, and weekly public lectures.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

For Legend please see page 2

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BA - Art, Concentration in Art History and Visual Culture

The Art History and Visual Culture major enriches the lives of its students by providing an in-depth knowledge of cultural traditions and creative accomplishment, and by providing the skills necessary for applying that knowledge in the service of our multicultural society. Course offerings include a wide range of themes and topics in Modern, Contemporary, Classical, Renaissance, Islamic, and Nineteenth Century art, architecture, and design. Examination of these diverse areas encourages students to become responsible citizens through an understanding of the aesthetic, cultural, and ethical choices inherent in human development. Students in this program acquire the communication skills, research techniques, and methods of critical inquiry that have become a vital part of modern life.

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

University Graduation Requirements 35

Core Lower Division General Education 27

Of the 39 units required by the university, 12 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

NOTE: STUDENTS WHO HAVE COMPLETED THE ADT TRANSFER DEGREE (UNDER SB 1440) FOR THIS MAJOR WILL HAVE COMPLETED ALL LOWER DIVISION GE REQUIREMENTS AND SHOULD FOLLOW THE 60 UNIT GUARANTEE ROADMAP. MEET WITH AN ADVISOR PRIOR TO REGISTERING FOR YOUR FIRST SEMESTER FOR THE 60 UNIT ROADMAP OR SPECIFIC QUESTIONS.

Upper Division General Education

Of the 9 units required by the university, 9 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 6

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

COMPLETE ONE SEQUENCE FROM:

African American Studies 6

AFAM 002A. African Americans and the Development of America's History and Government	D2	3
AFAM 002B. African Americans and the Development of America's History and Government	M7	3

Asian American Studies 6

AAS 033A. Asian Americans in U.S. History I	D2	3
AAS 033B. Asian Americans in U.S. History II	M7	3

U.S. History and Government 6

HIST 015. Essentials of U.S. History	M12	3
POLS 015. Essentials of U.S. & California Government	M11	3

Chicana and Chicano Studies 6

CCS 010A. Mexican Americans and the Development of U.S. History and Government	D2	3
CCS 010B. Mexican Americans and the Development of U.S. History and Government	M7	3

Physical Education 2

Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Preparation for the Major 12-14

ANTH 160. Reconstructing Lost Civilizations ..... R 3

COMPLETE ONE COURSE FROM:

CA 172. The Arts in U.S. Society ..... S 3
RELS 191. Religion in America ..... S 3
RTVF 110. Media and Culture ..... S 3
URBP 101. The City ..... S 3
WOMS 101. Sex, Power, and Politics ..... S 3

COMPLETE 2 WORLD LANGUAGE OR 2 ART FOUNDATION COURSES FROM:

World Language Course 3-4
World Language Course 3-4
ART 012. Two-Dimensional Design and Color Concepts 3
ART 013. Three-Dimensional Design Concepts 3
ART 014. Color 3
ART 024. Drawing I 3

Requirements of the Major 51

Core Requirements 6

COMPLETE TWO COURSES FROM:

ARTH 070A. Art History, Prehistoric to Medieval C1 3
ARTH 070B. Art History, Renaissance to Modern C1 3
ARTH 070C. Arts of Asia C1 3

Highly Recommend Students take ARTH 070B

Upper Division Requirements 42

ART 100W. Writing Workshop: Fine Arts ..... Z 3

COMPLETE ONE COURSE FROM:

ARTH 101. Introduction to Practice of Art History 3
ARTH 175. Theories of Art History and Art Criticism 3

COMPLETE ONE COURSE FROM:

ARTH 193A. Worlds of Art and Culture ..... V 3
ARTH 193B. East Meets West in Art ..... V 3

Additional Coursework 33

Complete 33 units from the coursework below. A minimum of one course from each of the following three areas with a minimum of 3 additional courses selected from one of the groups. Courses can not be taken again if taken in another requirement area. One course may be studio art.

Area 1: World Art

ARTH 182A. Art of the Americas 3
ARTH 183B. Art of Islam-Early Islam to the Seljuks 3
ARTH 191B. Women in Art 3
ARTH 193A. Worlds of Art and Culture ..... V 3
ARTH 193B. East Meets West in Art ..... V 3
ARTH 194A. Art of China 3
ARTH 195. Art of Japan 3

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

For Legend please see page 2

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Area 2: Ancient and Early Modern Art in Europe

ARTH 183A. Art of Egypt and Mesopotamia	3
ARTH 183C. Art of Islam 13th-19th Century	3
ARTH 185. Art of the Classical World	3
ARTH 187A. Art of the Italian Renaissance, Fifteenth Century	3
ARTH 187B. Art of the Italian Renaissance, Sixteenth Century	3
ARTH 187C. The Art of Renaissance Venice	3
ARTH 188A. Northern Renaissance Fourteenth and Fifteenth Centuries	3
ARTH 188B. Northern Renaissance, Sixteenth Century	3
ARTH 189A. Baroque Art and Architecture in Italy and France	3
ARTH 189B. Northern Baroque Art and Architecture	3

Area 3: Modern and Contemporary Art

ARTH 110. History and Theory of New Media	3
ARTH 126. History of Photography	3
ARTH 160. Modern Architecture	3
ARTH 161. Contemporary Architecture	3
ARTH 162. California Architecture	3
ARTH 163. Twentieth Century Urban Design	3
ARTH 176A. Graphic Design History and Theory	3
ARTH 176B. Industrial Design in Society	3
ARTH 182B. American Art	3
ARTH 190A. Art of the Nineteenth Century	3
ARTH 190B. Early Modernist Art	3
ARTH 190C. 20th Century Art: from Dada to Pop	3
ARTH 191A. Issues in Contemporary Art	3
ARTH 192A. Modern Design	3
ARTH 192C. History of Interior Design	3

Capstone	**3**

COMPLETE ONE COURSE FROM:

ARTH 199. Art History Capstone Seminar		3
ARTH 270. Seminar in Ancient Art		3
ARTH 271. Seminar in Medieval Art		3
ARTH 272. Seminar in Renaissance Art	GWAR	3
ARTH 273. Seminar in Baroque Art		3
ARTH 274. Seminar in Nineteenth Century Art		3
ARTH 275. Seminar in Twentieth Century Art	GWAR	3
ARTH 276. Seminar in Oriental Art		3
ARTH 277. Seminar in Historiography		3
ARTH 278. Seminar in Myth and Symbol		3
ARTH 279. Seminar in Interdisciplinary Studies		3

University Electives	20-22
Total Units Required	**120**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

For Legend please see page 2

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CATALOG CONTENTS

BA - Art, Concentration in Studio Practice

The BA Art, Concentration in Studio Practice is a degree for artists who wish to chart their own path. This could include a broad-based approach to artistic media or a focus on a single medium; the contemporary art world embraces both these ways of working. Artists who put more emphasis on the communication of ideas and who wish to try everything may opt to take classes ranging from painting, to video art, to glassblowing, to photography, to woodworking. Others may desire to specialize in jewelry and metalsmithing, or drawing and printmaking, for example. The BA Art, Concentration in Studio Practice allows students to tailor their own degree to meet precisely their artistic interests, while progressing through a rigorous core of theoretical seminars and art history lecture classes that will inform their work in any medium. The degree puts an emphasis on entrepreneurship and the ability to fit into a variety of creative career prospects.

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

University Graduation Requirements 44

Core Lower Division General Education 30

Of the 39 units required by the university, 9 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

NOTE: STUDENTS WHO HAVE COMPLETED THE ADT TRANSFER DEGREE (UNDER SB 1440) FOR THIS MAJOR WILL HAVE COMPLETED ALL LOWER DIVISION GE REQUIREMENTS AND SHOULD FOLLOW THE 60 UNIT GUARANTEE ROADMAP. MEET WITH AN ADVISOR PRIOR TO REGISTERING FOR YOUR FIRST SEMESTER FOR THE 60 UNIT ROADMAP OR SPECIFIC QUESTIONS.

Upper Division General Education 6

Of the 9 units required by the university, 3 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 6

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

COMPLETE ONE SEQUENCE FROM:

African American Studies 6

AFAM 002A. African Americans and the Development of America's History and Government	D2	3
AFAM 002B. African Americans and the Development of America's History and Government	M7	3

Asian American Studies 6

AAS 033A. Asian Americans in U.S. History I	D2	3
AAS 033B. Asian Americans in U.S. History II	M7	3

U.S. History and Government 6

HIST 015. Essentials of U.S. History	M12	3
POLS 015. Essentials of U.S. & California Government	M11	3

Chicana and Chicano Studies 6

CCS 010A. Mexican Americans and the Development of U.S. History and Government	D2	3
CCS 010B. Mexican Americans and the Development of U.S. History and Government	M7	3

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

For Legend please see page 2

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Physical Education 2

Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Preparation for the Major 24

ART 012. Two-Dimensional Design and Color Concepts 3
ART 013. Three-Dimensional Design Concepts 3
ART 024. Drawing I 3
ART 074. Introduction to Digital Media 3
PHOT 040. Beginning Photography 3

COMPLETE ONE COURSE FROM:

ARTH 070A. Art History, Prehistoric to Medieval C1 3
ARTH 070B. Art History, Renaissance to Modern C1 3
ARTH 070C. Arts of Asia C1 3

Highly Recommend Students take ARTH 070B

COMPLETE TWO COURSE FROM:

ART 025. Expressive Drawing 3
ART 026. Drawing II 3
ART 046. Introduction to Ceramics 3
ART 061. Beginning Painting 3
ART 068. Beginning Sculpture: Object & Concept 3
ART 075. Introduction to Digital Video Art 3
PHOT 112. Color Photography 3
PHOT 115. Intermediate Digital Imaging 3

Requirements of the Major 43

Core Requirements 22

Art Fundamentals 13

ART 001. Professional Preparation in Art 1
ART 002. The Artist in Contemporary Culture 3
ART 003. Medium and Message 3
ART 100W. Writing Workshop: Fine Arts ..... Z 3
ART 177. Professional & Business Practices 3

Upper Division Art History 9

COMPLETE ONE COURSE FROM:

ARTH 110. History and Theory of New Media 3
ARTH 191A. Issues in Contemporary Art 3

COMPLETE ONE COURSE FROM:

ARTH 193A. Worlds of Art and Culture ..... V 3
ARTH 193B. East Meets West in Art ..... V 3
Additional 3 units of Upper Division Art History 3

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Major Electives 18

COMPLETE SIX COURSES IN THE FOLLOWING AREAS:

Courses cannot be taken again if taken in another requirement area.

Digital Media Art

ART 101. Digital Media Art 3
ART 102. 3D Modeling and Printing 3
ART 103. Art as System 3
ART 104. Interdisciplinary Seminar in Digital Media Art 3
ART 105. Advanced Digital Video 3
ART 106. Topics in Human Machine Interface 3
ART 107. Advanced Projects in Digital Media Art 3
ART 108. Introduction to Game Studies 3

Spatial Art

ART 132. Topics in Intermediate Ceramics 3
ART 133. Topics in Ceramic Sculpture 3
ART 134. Topics in Advanced Ceramics 3
ART 135. Topics in Moldmaking for Artists 3
ART 137. Figure Modeling 3
ART 140. Topics in Glass 3
ART 141. Topics in Advanced Glass 3
ART 147. Topics in Metalsmithing and Jewelry 3
ART 149. Topics in Jewelry and Small Sculpture 3
ART 168. Topics in Woodworking 3
ART 169. Topics in Metal Sculpture 3
ART 170. Topics in Fabricated Sculpture 3
ART 171. Advanced Sculpture 3
ART 172. Intermediate Sculpture: System/Structure 3
ART 173. Topics in Installation Art 3

Pictorial Art

ART 150. Topics in Printmaking and Letterpress 3
ART 151. Topics in Screen-Printing 3
ART 152. Topics in Lithography 3
ART 153. Topics in Intaglio Processes 3
ART 158. Topics in Drawing III 3
ART 162. Watercolor 3
ART 164A. Intermediate Painting 3
ART 164B. Intermediate Painting II 3
ART 165. Topics in Figure Painting 3
ART 166. Topics in Advanced Painting 3

Photography

PHOT 110. Black and White Photography 3
PHOT 112. Color Photography 3
PHOT 113. Alternative Photo Media 3
PHOT 114. Advanced Black and White Photography 3
PHOT 115. Intermediate Digital Imaging 3

PHOT 116. Contemporary Issues in Photography 3
PHOT 121. Introduction to Studio Lighting 3
PHOT 122. Advanced Studio Lighting 3
PHOT 123. Photography as Illustration 3
PHOT 125. Special Topics in Photography 3
PHOT 129. Professional Practices in Photography 3

Gallery/Projects/Internships

ART 174A. Museum and Gallery Operations 3
ART 174B. Internship: Museum and Gallery Operations 3
ART 175. Special Topics in Studio Art 3
ART 180. Individual Studies 1-3

Art History

ARTH 110. History and Theory of New Media 3
ARTH 126. History of Photography 3
ARTH 160. Modern Architecture 3
ARTH 161. Contemporary Architecture 3
ARTH 162. California Architecture 3
ARTH 163. Twentieth Century Urban Design 3
ARTH 176A. Graphic Design History and Theory 3
ARTH 176B. Industrial Design in Society 3
ARTH 182A. Art of the Americas 3
ARTH 182B. American Art 3
ARTH 183A. Art of Egypt and Mesopotamia 3
ARTH 185. Art of the Classical World 3
ARTH 187A. Art of the Italian Renaissance, Fifteenth Century 3
ARTH 187B. Art of the Italian Renaissance, Sixteenth Century 3
ARTH 188A. Northern Renaissance Fourteenth and Fifteenth Centuries 3
ARTH 188B. Northern Renaissance, Sixteenth Century 3
ARTH 189A. Baroque Art and Architecture in Italy and France 3
ARTH 189B. Northern Baroque Art and Architecture 3
ARTH 190A. Art of the Nineteenth Century 3
ARTH 190B. Early Modernist Art 3
ARTH 190C. 20th Century Art: from Dada to Pop 3
ARTH 191A. Issues in Contemporary Art 3
ARTH 192A. Modern Design 3
ARTH 192C. History of Interior Design 3

Capstone **3**

COMPLETE ONE COURSE FROM:

ART 176. Workshops in Studio Art 3
ART 197. BA Senior Project 3
PHOT 120. Image and Idea 3
PHOT 197. Senior Project Photography 3

University Electives **9**

Total Units Required **120**

BA - Art, Concentration in Studio Practice, Preparation for Teaching

The BA in Studio Practice/Preparation for Teaching is designed for students interested in teaching art in high school or middle school and has been approved by the California Commission on Teacher Credentialing (CCTC) as meeting the undergraduate subject matter preparation for a single subject credential program to be completed after the BA. The Preparation for Teaching degree provides a broad foundation in contemporary art practice and permits some specialization in a favorite art medium as well as specialized courses in teaching art education for young people. (Note that completing this major does not guarantee admission to a credential program; see http://www.sjsu.edu/education/ for more information.) This is an excellent time to prepare for a teaching career in California.

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

University Graduation Requirements 44

Core Lower Division General Education 30

Of the 39 units required by the university, 9 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

Upper Division General Education 6

Of the 9 units required by the university, 3 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 6

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

COMPLETE ONE SEQUENCE FROM:

African American Studies 6

AFAM 002A. African Americans and the Development of America's History and Government	D2	3
AFAM 002B. African Americans and the Development of America's History and Government	M7	3

Asian American Studies 6

AAS 033A. Asian Americans in U.S. History I	D2	3
AAS 033B. Asian Americans in U.S. History II	M7	3

U.S. History and Government 6

HIST 015. Essentials of U.S. History	M12	3
POLS 015. Essentials of U.S. & California Government	M11	3

Chicana and Chicano Studies 6

CCS 010A. Mexican Americans and the Development of U.S. History and Government	D2	3
CCS 010B. Mexican Americans and the Development of U.S. History and Government	M7	3

Physical Education 2

Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Preparation for the Major 33

ART 012. Two-Dimensional Design and Color Concepts 3
ART 013. Three-Dimensional Design Concepts 3
ART 024. Drawing I 3
ART 046. Introduction to Ceramics 3
ART 074. Introduction to Digital Media 3
PHOT 040. Beginning Photography 3

COMPLETE ONE COURSE FROM:

ART 025. Expressive Drawing 3
ART 026. Drawing II 3

COMPLETE ONE COURSE FROM:

ARTH 070A. Art History, Prehistoric to Medieval C1 3
ARTH 070B. Art History, Renaissance to Modern C1 3
ARTH 070C. Arts of Asia C1 3

Highly Recommend Students take ARTH 070B

COMPLETE ONE COURSE FROM:

ARTH 101. Introduction to Practice of Art History 3
PHIL 066. Introduction to Aesthetics C1 3
PHIL 106. Philosophy of Art 3

COMPLETE ONE COURSE FROM:

ARTH 193A. Worlds of Art and Culture ..... V 3
ARTH 193B. East Meets West in Art ..... V 3

COMPLETE ONE COURSE FROM:

ARTH 182A. Art of the Americas 3
ARTH 183A. Art of Egypt and Mesopotamia 3
ARTH 183C. Art of Islam 13th-19th Century 3
ARTH 190B. Early Modernist Art 3
ARTH 191A. Issues in Contemporary Art 3
ARTH 194A. Art of China 3
ARTH 195. Art of Japan 3

Requirements in the Major 34

Core Requirements 22

ART 001. Professional Preparation in Art 1
ART 002. The Artist in Contemporary Culture 3
ART 003. Medium and Message 3
ART 061. Beginning Painting 3
ART 100W. Writing Workshop: Fine Arts ..... Z 3
ART 138. Elementary Art Methods 3
ART 139. Teaching Diversity through Art 3

COMPLETE ONE COURSE FROM:

ART 047. Introduction to Metalsmithing 3
ART 068. Beginning Sculpture: Object & Concept 3
ART 173. Topics in Installation Art 3
ARTH 072. Design in Society C1 3

Specialized Courses 9

COMPLETE THREE COURSES IN ONE OF THE FOLLOWING AREAS:

Courses can not be taken again if taken in another requirement area.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Ceramics

ART 132. Topics in Intermediate Ceramics 3
ART 133. Topics in Ceramic Sculpture 3
ART 134. Topics in Advanced Ceramics 3
ART 137. Figure Modeling 3

Craft

ART 140. Topics in Glass 3
ART 141. Topics in Advanced Glass 3
ART 147. Topics in Metalsmithing and Jewelry 3
ART 149. Topics in Jewelry and Small Sculpture 3

Drawing/Painting

ART 158. Topics in Drawing III 3
ART 159. Advanced Life Drawing 3
ART 162. Watercolor 3
ART 164A. Intermediate Painting 3
ART 164B. Intermediate Painting II 3
ART 166. Topics in Advanced Painting 3

Photography

PHOT 110. Black and White Photography 3
PHOT 112. Color Photography 3
PHOT 115. Intermediate Digital Imaging 3
PHOT 116. Contemporary Issues in Photography 3

Printmaking

ART 151. Topics in Screen-Printing 3
ART 152. Topics in Lithography 3
ART 153. Topics in Intaglio Processes 3
ART 155. Topics in Monotype 3

Sculpture

ART 133. Topics in Ceramic Sculpture 3
ART 137. Figure Modeling 3
ART 149. Topics in Jewelry and Small Sculpture 3
ART 168. Topics in Woodworking 3
ART 170. Topics in Fabricated Sculpture 3
ART 171. Advanced Sculpture 3

Capstone **3**

ARED 150. Field Experience in the Arts 3

University Electives **12**

May include minor

Total Units Required **120**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

For Legend please see page 2

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BFA - Art, Concentration in Digital Media Art

The BFA Concentration in Digital Media Art (DMA) offers a multidisciplinary degree in digital art and design in the areas of computer graphics, web development, programming, physical computing, fabrication, prototyping, human computer interface (HCI), interaction design and computer games. Our curriculum is hands-on, providing project-oriented learning in collaborative workshop environments along with individually directed research and culminating exhibition opportunities. The DMA program area teaches technical, aesthetic, and critical thinking skills to empower students as problem solvers and innovators in the field of digital technology. Located in the heart of Silicon Valley, the DMA program is dedicated to the advancement of contemporary technologies through research and experimentation at the intersection of art and science. Students graduating from the program develop real-world skills using a wide range of tools, technologies, and techniques.

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

Major-Specific Graduation Requirements

No portfolios are required at the time of application for admission to SJSU. Major requirements for the first two years of study for BA Art/Studio Practice and all BFA degrees are very similar so that students have time to choose the right path and can apply for the BFA, if they choose to do so. At that time BFA program applicants must meet the following departmental requirements:

1. Have completed, be currently enrolled in, or planning to enroll within the following two semesters in all coursework in the common preparation for the BA and BFA Art majors (25-28 units of drawing, digital media, photography, sculpture, art history, ART 001, ART 002, ART 003 and ART 100W) with a minimum grade point average of 3.0 on a 4.0 scale. Also recommended, are three to six additional units from the desired BFA concentration area.

2. Pass the BFA - Art admissions review. During the review, which is held in October and March each year, images of the applicant's creative work are reviewed by the art faculty to determine if the work demonstrates the creative level expected of BFA candidates. Instructions are available on the Art and Art History Department website.

Students complete the BFA Art program with a capstone project, for which each candidate prepares an individual art exhibit to demonstrate the candidate's professional competence.

University Graduation Requirements 44

Core Lower Division General Education 30

Of the 39 units required by the university, 9 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

Upper Division General Education 6

Of the 9 units required by the university, 3 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 6

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

COMPLETE ONE SEQUENCE FROM:

African American Studies 6

AFAM 002A. African Americans and the Development of America's History and Government	D2	3
AFAM 002B. African Americans and the Development of America's History and Government	M7	3

Asian American Studies 6

AAS 033A. Asian Americans in U.S. History I	D2	3
AAS 033B. Asian Americans in U.S. History II	M7	3

U.S. History and Government 6

HIST 015. Essentials of U.S. History	M12	3
POLS 015. Essentials of U.S. & California Government	M11	3

Chicana and Chicano Studies **6**

CCS 010A. Mexican Americans and the Development of U.S. History and Government	D2	3
CCS 010B. Mexican Americans and the Development of U.S. History and Government	M7	3

Physical Education **2**

Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Preparation for the Major **24**

ART 012. Two-Dimensional Design and Color Concepts		3
ART 013. Three-Dimensional Design Concepts		3
ART 024. Drawing I		3
ART 068. Beginning Sculpture: Object & Concept		3
ART 074. Introduction to Digital Media		3
ART 075. Introduction to Digital Video Art		3
PHOT 040. Beginning Photography		3

COMPLETE ONE COURSE FROM:

ARTH 070A. Art History, Prehistoric to Medieval	C1	3
ARTH 070B. Art History, Renaissance to Modern	C1	3
ARTH 070C. Arts of Asia	C1	3

Highly Recommend Students take ARTH 070B

Requirements in the Major **52**

Core Requirements **19**

Art Fundamentals **10**

ART 001. Professional Preparation in Art		1
ART 002. The Artist in Contemporary Culture		3
ART 003. Medium and Message		3
ART 100W. Writing Workshop: Fine Arts	Z	3

Upper Division Art History **9**

ARTH 110. History and Theory of New Media		3

COMPLETE ONE COURSE FROM:

ARTH 193A. Worlds of Art and Culture	V	3
ARTH 193B. East Meets West in Art	V	3

COMPLETE ONE COURSE FROM:

ARTH 160. Modern Architecture		3
ARTH 161. Contemporary Architecture		3
ARTH 190C. 20th Century Art: from Dada to Pop		3
ARTH 191A. Issues in Contemporary Art		3
ARTH 192A. Modern Design		3

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Specialized Courses	**27**
ART 101. Digital Media Art	3
ART 102. 3D Modeling and Printing	3
ART 103. Art as System	3
ART 104. Interdisciplinary Seminar in Digital Media Art	3
ART 105. Advanced Digital Video	3
ART 106. Topics in Human Machine Interface	3
ART 107. Advanced Projects in Digital Media Art	3
ART 108. Introduction to Game Studies	3
COMPLETE ONE COURSE FROM:	
ART 046. Introduction to Ceramics	3
ART 047. Introduction to Metalsmithing	3
ART 133. Topics in Ceramic Sculpture	3
ART 135. Topics in Moldmaking for Artists	3
ART 137. Figure Modeling	3
ART 140. Topics in Glass	3
ART 141. Topics in Advanced Glass	3
ART 149. Topics in Jewelry and Small Sculpture	3
ART 151. Topics in Screen-Printing	3
ART 153. Topics in Intaglio Processes	3
ART 168. Topics in Woodworking	3
ART 169. Topics in Metal Sculpture	3
ART 170. Topics in Fabricated Sculpture	3
ART 173. Topics in Installation Art	3
ART 175. Special Topics in Studio Art	3
ART 178. Art Field Work	1-3
PHOT 120. Image and Idea	3
Capstone	**6**
ART 199. BFA Project	3
COMPLETE ONE COURSE FROM:	
ART 198. BFA Seminar	3
ART 210. Seminar in Digital Media Art	3
Total Units Required	**120**

BFA - Art, Concentration in Photography

The BFA Concentration in Photography prepares students for careers in photography by providing courses that emphasize image as it relates to concept, theory, and professional practice in commercial and fine art photography. Our curriculum engages students in a diverse range of contemporary practices in the medium, from innovative approaches to digital imaging and traditional silver-based photography, to historic alternative photographic processes. We recognize the possibilities of the interdisciplinary nature of photographic practice and encourage interested students to explore installation, video and electronic media. In addition to our emphasis on fine art photography our program includes a strong commercial photography component, offering introductory through advanced courses in studio lighting and professional practices. The blend of fine art and commercial photography makes our program unique. Our technical facilities are extensive and include traditional black and white darkroom, commercial lighting studio stations, alternative practices studio, and large format digital printers.

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

Major-Specific Graduation Requirements

No portfolios are required at the time of application for admission to SJSU. Major requirements for the first two years of study for BA Art/Studio Practice and all BFA degrees are very similar so that students have time to choose the right path and can apply for the BFA, if they choose to do so. At that time BFA program applicants must meet the following departmental requirements:

1. Have completed, be currently enrolled in, or planning to enroll within the following two semesters in all coursework in the common preparation for the BA and BFA Art majors (25-28 units of drawing, digital media, photography, sculpture, art history, ART 001, ART 002, ART 003 and ART 100W) with a minimum grade point average of 3.0 on a 4.0 scale. Also recommended, are three to six additional units from the desired BFA concentration area.

2. Pass the BFA - Art admissions review. During the review, which is held in October and March each year, images of the applicant's creative work are reviewed by the art faculty to determine if the work demonstrates the creative level expected of BFA candidates. Instructions are available on the Art and Art History Department website.

Students complete the BFA Art program with a capstone project, for which each candidate prepares an individual art exhibit to demonstrate the candidate's professional competence.

University Graduation Requirements 44

Core Lower Division General Education 30

Of the 39 units required by the university, 9 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

Upper Division General Education 6

Of the 9 units required by the university, 3 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 6

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

COMPLETE ONE SEQUENCE FROM:

African American Studies 6

AFAM 002A. African Americans and the Development of America's History and Government	D2	3
AFAM 002B. African Americans and the Development of America's History and Government	M7	3

Asian American Studies 6

AAS 033A. Asian Americans in U.S. History I	D2	3
AAS 033B. Asian Americans in U.S. History II	M7	3

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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U.S. History and Government **6**

HIST 015. Essentials of U.S. History	M12	3
POLS 015. Essentials of U.S. & California Government	M11	3

Chicana and Chicano Studies **6**

CCS 010A. Mexican Americans and the Development of U.S. History and Government	D2	3
CCS 010B. Mexican Americans and the Development of U.S. History and Government	M7	3

Physical Education **2**

Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Preparation for the Major **18**

ART 012. Two-Dimensional Design and Color Concepts		3
ART 013. Three-Dimensional Design Concepts		3
ART 024. Drawing I		3
ART 074. Introduction to Digital Media		3
PHOT 040. Beginning Photography		3

COMPLETE ONE COURSE FROM:

ARTH 070A. Art History, Prehistoric to Medieval	C1	3
ARTH 070B. Art History, Renaissance to Modern	C1	3
ARTH 070C. Arts of Asia	C1	3

Highly Recommend Students take ARTH 070B

Requirements in the Major **58**

Art Fundamentals **7**

ART 001. Professional Preparation in Art		1
ART 002. The Artist in Contemporary Culture		3
ART 100W. Writing Workshop: Fine Arts	Z	3

Art/Art History Electives **6**

COMPLETE TWO COURSES IN ONE OF THE FOLLOWING AREAS OR OTHER APPROVED ELECTIVES.

Digital Media Art

ART 075. Introduction to Digital Video Art		3
ART 105. Advanced Digital Video		3

Photography

PHOT 110. Black and White Photography		3
PHOT 113. Alternative Photo Media		3
PHOT 114. Advanced Black and White Photography		3
PHOT 122. Advanced Studio Lighting		3
PHOT 123. Photography as Illustration		3
PHOT 125. Special Topics in Photography		3

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Pictorial Arts

ART 026. Drawing II	3
ART 061. Beginning Painting	3
ART 151. Topics in Screen-Printing	3
ART 152. Topics in Lithography	3
ART 153. Topics in Intaglio Processes	3
ART 158. Topics in Drawing III	3
ART 162. Watercolor	3
ART 164A. Intermediate Painting	3
ART 164B. Intermediate Painting II	3
ART 165. Topics in Figure Painting	3

Spatial Art

ART 046. Introduction to Ceramics	3
ART 132. Topics in Intermediate Ceramics	3
ART 133. Topics in Ceramic Sculpture	3
ART 137. Figure Modeling	3
ART 140. Topics in Glass	3
ART 141. Topics in Advanced Glass	3
ART 168. Topics in Woodworking	3
ART 172. Intermediate Sculpture: System/Structure	3
ART 173. Topics in Installation Art	3

Upper Division Art History — **9**

PHOT 126. History of Photography		3

COMPLETE ONE COURSE FROM:

ARTH 193A. Worlds of Art and Culture	V	3
ARTH 193B. East Meets West in Art	V	3

COMPLETE ONE COURSE FROM:

ARTH 110. History and Theory of New Media	3
ARTH 191A. Issues in Contemporary Art	3

Specialization Courses — **30**

Courses cannot be taken again if taken in another requirement area.

PHOT 112. Color Photography	3
PHOT 115. Intermediate Digital Imaging	3
PHOT 116. Contemporary Issues in Photography	3
PHOT 120. Image and Idea	3
PHOT 121. Introduction to Studio Lighting	3
PHOT 129. Professional Practices in Photography	3
PHOT 197. Senior Project Photography	3

COMPLETE THREE COURSES FROM:

PHOT 110. Black and White Photography	3
PHOT 113. Alternative Photo Media	3
PHOT 114. Advanced Black and White Photography	3
PHOT 122. Advanced Studio Lighting	3
PHOT 123. Photography as Illustration	3
PHOT 125. Special Topics in Photography	3

Capstone — **6**

ART 198. BFA Seminar	3
ART 199. BFA Project	3

Total Units Required — **120**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

For Legend please see page 2

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BFA - Art, Concentration in Pictorial Art

The Pictorial Art BFA program provides students with an intellectual, creative, and physical setting that supports excellence in painting, drawing, and printmaking. It provides a mix of discipline and autonomy. Preparation begins with a strong understanding of the fundamentals of drawing. From that foundation, the program provides comprehensive challenges in all pictorial disciplines and emphasizes both the historical traditions of painting and contemporary approaches. Faculty and students engage in critical and personal dialogue to encourage the development of a strong independent vision.

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

Major-Specific Graduation Requirements

No portfolios are required at the time of application for admission to SJSU. Major requirements for the first two years of study for BA Art/Studio Practice and all BFA degrees are very similar so that students have time to choose the right path and can apply for the BFA, if they choose to do so. At that time BFA program applicants must meet the following departmental requirements:

1. Have completed, be currently enrolled in, or planning to enroll within the following two semesters in all coursework in the common preparation for the BA and BFA Art majors (25-28 units of drawing, digital media, photography, sculpture, art history, ART 001, ART 002, ART 003 and ART 100W) with a minimum grade point average of 3.0 on a 4.0 scale. Also recommended, are three to six additional units from the desired BFA concentration area.

2. Pass the BFA - Art admissions review. During the review, which is held in October and March each year, images of the applicant's creative work are reviewed by the art faculty to determine if the work demonstrates the creative level expected of BFA candidates. Instructions are available on the Art and Art History Department website.

Students complete the BFA Art program with a capstone project, for which each candidate prepares an individual art exhibit to demonstrate the candidate's professional competence.

University Graduation Requirements 44

Core Lower Division General Education 30

Of the 39 units required by the university, 9 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

Upper Division General Education 6

Of the 9 units required by the university, 3 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 6

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

COMPLETE ONE SEQUENCE FROM:

African American Studies 6

AFAM 002A. African Americans and the Development of America's History and Government	D2	3
AFAM 002B. African Americans and the Development of America's History and Government	M7	3

Asian American Studies 6

AAS 033A. Asian Americans in U.S. History I	D2	3
AAS 033B. Asian Americans in U.S. History II	M7	3

U.S. History and Government 6

HIST 015. Essentials of U.S. History	M12	3
POLS 015. Essentials of U.S. & California Government	M11	3

Chicana and Chicano Studies 6

CCS 010A. Mexican Americans and the Development of U.S. History and Government	D2	3
CCS 010B. Mexican Americans and the Development of U.S. History and Government	M7	3

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

For Legend please see page 2

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Physical Education 2

Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Preparation for the Major 24

ART 012. Two-Dimensional Design and Color Concepts 3
ART 013. Three-Dimensional Design Concepts 3
ART 024. Drawing I 3
ART 026. Drawing II 3
ART 061. Beginning Painting 3
ART 074. Introduction to Digital Media 3
PHOT 040. Beginning Photography 3

COMPLETE ONE COURSE FROM:

ARTH 070A. Art History, Prehistoric to Medieval C1 3
ARTH 070B. Art History, Renaissance to Modern C1 3
ARTH 070C. Arts of Asia C1 3

Highly Recommend Students take ARTH 070B

Requirements in the Major 52

Core Requirements 19

Art Fundamentals 10

ART 001. Professional Preparation in Art 1
ART 002. The Artist in Contemporary Culture 3
ART 003. Medium and Message 3
ART 100W. Writing Workshop: Fine Arts ..... Z 3

Upper Division Art History 9

One Course of Upper Division Art History 3

COMPLETE ONE COURSE FROM:

ARTH 190B. Early Modernist Art 3
ARTH 191A. Issues in Contemporary Art 3

COMPLETE ONE COURSE FROM:

ARTH 193A. Worlds of Art and Culture ..... V 3
ARTH 193B. East Meets West in Art ..... V 3

Specialized Courses 15

COMPLETE TWO COURSES FROM:

ART 150. Topics in Printmaking and Letterpress 3
ART 151. Topics in Screen-Printing 3
ART 152. Topics in Lithography 3
ART 153. Topics in Intaglio Processes 3
ART 155. Topics in Monotype 3

COMPLETE TWO COURSES FROM:

ART 025. Expressive Drawing 3
ART 158. Topics in Drawing III 3
ART 164A. Intermediate Painting 3
ART 164B. Intermediate Painting II 3

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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COMPLETE ONE COURSE FROM:

ART 046. Introduction to Ceramics	3
ART 047. Introduction to Metalsmithing	3
ART 068. Beginning Sculpture: Object & Concept	3
ART 132. Topics in Intermediate Ceramics	3
ART 134. Topics in Advanced Ceramics	3
ART 140. Topics in Glass	3
ART 147. Topics in Metalsmithing and Jewelry	3
ART 149. Topics in Jewelry and Small Sculpture	3
ART 169. Topics in Metal Sculpture	3
ART 171. Advanced Sculpture	3
ART 172. Intermediate Sculpture: System/Structure	3
ART 173. Topics in Installation Art	3

Area Requirements **12**

COMPLETE FOUR COURSES IN ONE OF THE FOLLOWING AREAS:

Courses cannot be taken again if taken in another requirement area except Art 152, Art 153 and Art 155 which are repeatable for credit.

Area One

ART 158. Topics in Drawing III	3
ART 162. Watercolor	3
ART 164A. Intermediate Painting	3
ART 164B. Intermediate Painting II	3
ART 165. Topics in Figure Painting	3
ART 166. Topics in Advanced Painting	3

Area Two

ART 150. Topics in Printmaking and Letterpress	3
ART 151. Topics in Screen-Printing	3
ART 152. Topics in Lithography	3
ART 153. Topics in Intaglio Processes	3
ART 155. Topics in Monotype	3

Capstone **6**

ART 198. BFA Seminar	3
ART 199. BFA Project	3

Total Units Required **120**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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BFA - Art, Concentration in Spatial Art

The BFA Art, Concentration in Spatial Art is a degree for artists seeking to specialize in sculpture and three-dimensional art processes. Spatial Art students begin with the common Art core of drawing, photography, digital media art, three-dimensional design, art history, and seminars about making a career as an artist. They then move into intermediate and advanced classes focused on large metal casting, woodworking, glass, ceramics, jewelry, and installation art. All studio classes emphasize concept development and recognition of contemporary art-world trends, while upper-division art history classes provide context and develop students' critical thinking skills.

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

Major-Specific Graduation Requirements

No portfolios are required at the time of application for admission to SJSU. Major requirements for the first two years of study for BA Art/Studio Practice and all BFA degrees are very similar so that students have time to choose the right path and can apply for the BFA, if they choose to do so. At that time BFA program applicants must meet the following departmental requirements:

1. Have completed, be currently enrolled in, or planning to enroll within the following two semesters in all coursework in the common preparation for the BA and BFA Art majors (25-28 units of drawing, digital media, photography, sculpture, art history, ART 001, ART 002, ART 003 and ART 100W) with a minimum grade point average of 3.0 on a 4.0 scale. Also recommended, are three to six additional units from the desired BFA concentration area.

2. Pass the BFA - Art admissions review. During the review, which is held in October and March each year, images of the applicant's creative work are reviewed by the art faculty to determine if the work demonstrates the creative level expected of BFA candidates. Instructions are available on the Art and Art History Department website.

Students complete the BFA Art program with a capstone project, for which each candidate prepares an individual art exhibit to demonstrate the candidate's professional competence.

University Graduation Requirements 44

Core Lower Division General Education 30

Of the 39 units required by the university, 9 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

Upper Division General Education 6

Of the 9 units required by the university, 3 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 6

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

COMPLETE ONE SEQUENCE FROM:

African American Studies 6

AFAM 002A. African Americans and the Development of America's History and Government	D2	3
AFAM 002B. African Americans and the Development of America's History and Government	M7	3

Asian American Studies 6

AAS 033A. Asian Americans in U.S. History I	D2	3
AAS 033B. Asian Americans in U.S. History II	M7	3

U.S. History and Government 6

HIST 015. Essentials of U.S. History	M12	3
POLS 015. Essentials of U.S. & California Government	M11	3

Chicana and Chicano Studies 6

CCS 010A. Mexican Americans and the Development of U.S. History and Government	D2	3
CCS 010B. Mexican Americans and the Development of U.S. History and Government	M7	3

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Physical Education 2

Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Preparation for the Major 24

ART 012. Two-Dimensional Design and Color Concepts 3
ART 013. Three-Dimensional Design Concepts 3
ART 024. Drawing I 3
ART 046. Introduction to Ceramics 3
ART 068. Beginning Sculpture: Object & Concept 3
ART 074. Introduction to Digital Media 3
PHOT 040. Beginning Photography 3

COMPLETE ONE COURSE FROM:

ARTH 070A. Art History, Prehistoric to Medieval C1 3
ARTH 070B. Art History, Renaissance to Modern C1 3
ARTH 070C. Arts of Asia C1 3

Highly Recommend Students take ARTH 070B

Requirements in the Major 52

Core Requirements 19

Art Fundamentals 10

ART 001. Professional Preparation in Art 1
ART 002. The Artist in Contemporary Culture 3
ART 003. Medium and Message 3
ART 100W. Writing Workshop: Fine Arts ..... Z 3

Upper Division Art History Requirements 9

One Course of Upper Division Art History 3

COMPLETE ONE COURSE FROM:

ARTH 193A. Worlds of Art and Culture ..... V 3
ARTH 193B. East Meets West in Art ..... V 3

COMPLETE ONE COURSE FROM:

ARTH 160. Modern Architecture 3
ARTH 161. Contemporary Architecture 3
ARTH 190C. 20th Century Art: from Dada to Pop 3
ARTH 191A. Issues in Contemporary Art 3
ARTH 192A. Modern Design 3
ARTH 192C. History of Interior Design 3

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Specialized Courses **27**

Courses can not be taken again if taken in another requirement area.

ART 173. Topics in Installation Art 3

COMPLETE THREE COURSES FROM:

ART 047. Introduction to Metalsmithing 3
ART 133. Topics in Ceramic Sculpture 3
ART 140. Topics in Glass 3
ART 168. Topics in Woodworking 3
ART 169. Topics in Metal Sculpture 3
ART 170. Topics in Fabricated Sculpture 3

Additional Courses **15**

Complete two upper division courses from ART, ARTH, and/or PHOT. Courses cannot be taken again if taken in another requirement area. 6

COMPLETE THREE COURSES FROM:

ART 132. Topics in Intermediate Ceramics 3
ART 133. Topics in Ceramic Sculpture 3
ART 134. Topics in Advanced Ceramics 3
ART 135. Topics in Moldmaking for Artists 3
ART 137. Figure Modeling 3
ART 140. Topics in Glass 3
ART 141. Topics in Advanced Glass 3
ART 147. Topics in Metalsmithing and Jewelry 3
ART 149. Topics in Jewelry and Small Sculpture 3
ART 168. Topics in Woodworking 3
ART 169. Topics in Metal Sculpture 3
ART 170. Topics in Fabricated Sculpture 3
ART 172. Intermediate Sculpture: System/Structure 3
ART 173. Topics in Installation Art 3
ART 175. Special Topics in Studio Art 3
ART 180. Individual Studies 1-3

Capstone **6**

ART 198. BFA Seminar 3
ART 199. BFA Project 3

Total Units Required **120**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Minor - Art Education

The Minor in Art Education helps to prepare students who plan to apply to credential programs in Art without first completing the BA Art/Studio Practice, Concentration in Teacher Preparation.

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Requirements for the Minor		**24**
Core Requirements		**21**
ART 012. Two-Dimensional Design and Color Concepts		3
ART 024. Drawing I		3
ART 046. Introduction to Ceramics		3
ART 138. Elementary Art Methods		3
ART 139. Teaching Diversity through Art		3
ARED 150. Field Experience in the Arts		3
COMPLETE ONE COURSE FROM:		
PHIL 066. Introduction to Aesthetics	C1	3
PHIL 106. Philosophy of Art		3
Upper Division Art History		**3**
COMPLETE ONE COURSE FROM:		
ARTH 182A. Art of the Americas		3
ARTH 183A. Art of Egypt and Mesopotamia		3
ARTH 183C. Art of Islam 13th-19th Century		3
ARTH 193A. Worlds of Art and Culture	V	3
ARTH 193B. East Meets West in Art	V	3
ARTH 194A. Art of China		3
ARTH 195. Art of Japan		3
Total Units Required		**24**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Minor - Art History and Visual Culture

The minor in Art History and Visual Culture major enriches the lives of its students by providing an in-depth knowledge of cultural traditions and creative accomplishment, and by providing the skills necessary for applying that knowledge in the service of our multicultural society.

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Preparation for the Minor		6
COMPLETE 6 UNITS FROM:		
ARTH 070A. Art History, Prehistoric to Medieval	C1	3
ARTH 070B. Art History, Renaissance to Modern	C1	3
ARTH 070C. Arts of Asia	C1	3

Requirements for the Minor	12
Twelve units of art history course work total. Must include 9 units of upper division art history courses. Of these, six units must be completed at San José State University.	

Total Units Required	18

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Minor - Architectural Studies

The Minor in Architectural Studies provides essential preparation for students who plan to apply for graduate study in Architecture.

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Preparation for the Minor — 9

COMPLETE ONE COURSE FROM:

MATH 019. Precalculus	B4	5
MATH 030. Calculus I	B4	3

COMPLETE ONE COURSE FROM:

PHYS 001. Elementary Physics	B1	3
PHYS 002A. Fundamentals of Physics	B1+B3	4

COMPLETE ONE COURSE FROM:

ARTH 070A. Art History, Prehistoric to Medieval	C1	3
ARTH 070B. Art History, Renaissance to Modern	C1	3

Requirements in the Minor — 12

Art History Requirement — 6

COMPLETE TWO COURSES FROM:

ARTH 160. Modern Architecture	3
ARTH 161. Contemporary Architecture	3
ARTH 162. California Architecture	3
ARTH 163. Twentieth Century Urban Design	3
ARTH 192C. History of Interior Design	3

Interior Design Requirements — 3

COMPLETE ONE COURSE FROM:

DSIT 005. Introduction of Interior Design and Architecture	3
DSIT 010. Sketching, Drawing + Modeling	3
DSIT 029. Design Process	3
DSIT 034. Interior Architecture Foundation Studio	3
DSIT 098. Architectural Forum	3
DSIT 103. Interior Architecture Conceptual Design Studio	3

Art Requirements — 3

3 units must include a second studio course, either from the Interior Design requirement or from the following.

ART 013. Three-Dimensional Design Concepts	3
ART 024. Drawing I	3
ART 026. Drawing II	3
ART 068. Beginning Sculpture: Object & Concept	3
ART 172. Intermediate Sculpture: System/Structure	3
ART 173. Topics in Installation Art	3

Total Units Required — 21

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Minor - Photography

The Minor in Photography allows students to develop skills that will add valuable breadth and career flexibility to their primary degree.

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Requirements in the Minor	21
PHOT 040. Beginning Photography	3
PHOT 110. Black and White Photography	3
PHOT 112. Color Photography	3
PHOT 120. Image and Idea	3
PHOT 121. Introduction to Studio Lighting	3
COMPLETE ONE COURSE FROM:	
PHOT 113. Alternative Photo Media	3
PHOT 114. Advanced Black and White Photography	3
PHOT 115. Intermediate Digital Imaging	3
PHOT 122. Advanced Studio Lighting	3
PHOT 123. Photography as Illustration	3
PHOT 197. Senior Project Photography	3
COMPLETE ONE COURSE FROM:	
PHOT 126. History of Photography	3
PHOT 129. Professional Practices in Photography	3
Total Units Required	**21**

Minor - Studio Art

The Minor in Studio Art allows students to develop skills that will add valuable breadth and career flexibility to their primary degree.

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Requirements for the Minor	**18**
Support for the Minor	**6**
Lower division studio art courses	
Minor Requirements	**12**
Twelve units of studio art work total. Must include 9 units of upper division studio art courses, 6 units of which are taken at San Jose State University.	
Total Units Required	**18**

MA - Art, Concentration in Art History and Visual Culture

The Master of Arts in Art History and Visual Culture offers a broad education in art history including preparation for a Ph.D. degree program. It also helps to prepare students for a graduate library degree with a specialization in art history as well as a variety of positions including community college professor, researcher, museum curator, art administrator, conservator, and visual resource librarian.

Additional information is available in the Art & Art History Department Office and on the department website: www.sjsu.edu/art/.

Admissions Requirements

Admission to Classified Standing

Depending on their level of preparation, applicants can be admitted in either classified or conditionally classified standing. Admission requires two steps.

In addition to the university admission requirements, as outlined in this catalog, applicants must meet requirements for their area:

- Art History and Visual Culture: completion of 30 or more college-level semester units or equivalent in Art History courses with a minimum 3.0 GPA. At least 24 units should have been in upper-division Art History courses. Courses in related academic areas will be assessed in reviewing qualifications of applicants. Reading knowledge of a foreign language related to the subject of the intended thesis research is strongly recommended.
- Art Education: Completion of 45 or more college-level semester units or equivalent in appropriate Art courses with a minimum 3.0 GPA. At least 12 of these units must have been in Art History of which 6 units were upper-division courses and 3 units were in Art 138, Studio Art Experiences for Young People, or their equivalent.

Applicants from countries in which the native language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirements webpage at GAPE.

Admission to Conditionally Classified Standing

Applicants who meet minimum requirements for admission to the Graduate Division but do not meet all other (programmatic) requirements (i.e., lacking prerequisites or GPA) may be admitted to conditionally classified standing. They will be advanced to classified standing when the Art History graduate advisor certifies they have satisfied all appropriate requirements.

Requirements for Advancement to Graduate Candidacy

Candidacy denotes that the student is fully qualified to complete the final stages of the MA - Art and is thus eligible to enroll in ART 299 (Master's Thesis) or ART 297B (Master's Project). In order to advance to candidacy, students must meet the university requirements for candidacy. General university requirements for advancement to candidacy for the MA degree are detailed in the Graduate Policies and Procedures section of this catalog. Candidacy includes successful completion of the Graduation Writing Assessment Requirement (GWAR). For graduate courses that meet the GWAR, refer to the GWAR Course List on the College of Graduate Studies website.

Additional departmental requirements for candidacy include

- Secure commitment of three faculty members of the university, two of whom must be members of the Art and Art History faculty, to serve as members of the student's MA - Art project or thesis committee, with one regular Art faculty member agreeing to serve as chair. For candidates in Art History and Visual Culture, the chair of the committee and at least one other committee member must be art historians. This committee must approve the student's proposed program for the MA - Art degree no later than one month prior to the end of the semester preceding the one in which enrollment in the final project or thesis course(s) is planned.
- Submission of a proposed curriculum program conforming to university and departmental requirements. The proposed program must be approved by the Art graduate committee before the student may be considered for the MA - Art. The proposed program must list a total of 30 semester units, of which at least 15 must be in courses at the 200 level. The proposed program must include the required seminars and ART 299 (Master's Thesis) or ART 297B (Master's Project). Electives to complete the 30 units may be drawn from approved 100 and 200-level courses.
- Passage of the first of two comprehensive exams and the language exam.

Requirements for Graduation

University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

MA - Art Graduation Requirements

Requirements in the two areas or tracks are as follows:

- Art Education: Of the 30 units required, 21 must be in Art courses and 9 units may be in related areas of study. The upper-division writing requirement and EDLD 221, ART 260, and one seminar must be completed before candidacy may be granted.

- Art History and Visual Culture: Of the 30 units required, 21 must be in Art History and Visual Culture courses and 9 units may be in related areas of study. Five seminars (15 units) must be included. The MA - Art student with a concentration in Art History and Visual Culture must demonstrate reading knowledge of a foreign language related to the subject of the intended thesis research. The student must also pass a two-part comprehensive written examination designed to test general competence in Art History and Visual Culture. The second part of the exam is based on the candidate's thesis proposal once that has been approved by a pre-thesis committee. Attainment of candidacy and eligibility to enroll in ART 299 (Master's Thesis) will be contingent upon satisfactory completion of all comprehensive and language examinations.

Thesis Requirements

- The thesis must meet university requirements as stipulated in this catalog and in the SJSU Master's Thesis and Doctoral Dissertation Guidelines. It will be written under the guidance of the candidate's thesis committee chair with the assistance of the thesis committee.
- Thesis Examination: The candidate for the MA - Art degree must successfully pass a final oral examination based on the thesis.

Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR). For information on the GWAR, please see http://info.sjsu.edu/gcw.html.

Requirements of the Masters — 30

Core Requirements — 15

COMPLETE FIVE COURSES FROM:

ARTH 270. Seminar in Ancient Art		3
ARTH 271. Seminar in Medieval Art		3
ARTH 272. Seminar in Renaissance Art	GWAR	3
ARTH 273. Seminar in Baroque Art		3
ARTH 274. Seminar in Nineteenth Century Art		3
ARTH 275. Seminar in Twentieth Century Art	GWAR	3
ARTH 276. Seminar in Oriental Art		3
ARTH 277. Seminar in Historiography		3
ARTH 278. Seminar in Myth and Symbol		3
ARTH 279. Seminar in Interdisciplinary Studies		3
ART 282A. Seminar in the Theory and Criticism of Contemporary Art		3
ART 282B. Seminar in Contemporary Art	GWAR	3

ARTH courses are repeatable for credit when course content changes

Electives — 12

Up to 12 units of departmental graduate advisor-approved 100-level electives. Six units may be taken from other departments with graduate advisor approval.

Culminating Experience — 3

2 Comprehensive Qualifying Exams

Language Examination

COMPLETE ONE OPTION FROM (PLAN A OR PLAN B):

Plan A (Thesis)

ART 299. Master's Thesis or Project — 3

Plan B (project)

ART 297B. Master's Project — 3

Total Units Required — 30

Elective courses must be planned in consultation with the Art History and Visual Culture Graduate Advisor.

The maximum number of upper-division undergraduate units that can be applied toward the master's degree is 15.

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU cumulative grade point averages of 3.0 in order to graduate.

MFA - Art, Concentrations in Digital Media Art, Photography, Pictorial Art and Spatial Art

Step I. Admission to MFA Classified Standing

Applicants must meet university requirements for admission to classified standing as outlined in this catalog. In addition, they must meet the following requirements:

1. Demonstrated interest in the area of study by a professional portfolio. The equivalent to a Bachelor of Fine Art (BFA) degree in the applicant's designated area of graduate emphasis is recommended. At least 6 upper division units in art history are required.

2. Successful completion of the application procedure for the MFA Admission Review. During the MFA Admission Review, appropriate materials documenting the applicant's creative work are examined by the art faculty to determine whether the quality of the work meets the standards expected for MFA graduate work. Applicants should submit copies of their creative materials for the MFA Admission Review; applicants should not submit their original materials unless requested to do so by the faculty. Applicants who pass the review and who meet minimum school and university requirements are admitted to classified standing for the following semester.

Applicants for the MFA Admission Review will be considered only if the review instructions have been carefully followed and all requested materials (including official transcripts) are supplied. Email or call the Art and Art History department, art@sjsu.edu or 408-924-4320, for details. The deadline for application to the departmental review is the second Friday in January each year; application to this departmental review should not be confused with application to SJSU which is also required prior to the university's deadline.

Admission to Conditionally Classified Status

Applicants who meet the University's minimum requirements for graduate admission and whose creative work, as examined during the MFA Admission Review, shows promise but is not supported by traditional undergraduate preparation in Art may be admitted to conditionally classified status and provided with a list of requirements to be addressed as soon as they enroll. They will be advanced to classified status when the art graduate advisor certifies all appropriate requirements for classified standing have been satisfied. Applicants who have completed an MA - Art degree must meet all prerequisites and requirements for the MFA - Art degree program.

Admission to Candidacy for the MFA - Art

Candidacy denotes that the classified graduate student is fully qualified to complete the final stages of the MFA - Art program and is thus eligible to enroll in ART 298A, MFA Special Study, and 298B, MFA Project. In order to attain candidacy, the student must meet the university requirements for admission to candidacy as outlined in this catalog. The University requires that all graduate students complete the Graduation Writing Assessment Requirement (GWAR) as a condition for advancement to candidacy. Please refer to the SJSU catalog section titled "Graduation Writing Assessment Requirement" for details. For graduate courses that meet the GWAR, please refer to the Graduate Admissions and Program Evaluation website at www.sjsu.edu/gape. In addition, the student must:

1. Formalize their MFA project committee by obtaining the signatures of at least three university faculty members (two must be members of the art faculty) to serve as members of the student's committee. A regular art faculty member who teaches in the student's major area of emphasis must serve as chair. This committee must approve the student's proposed program of study for the MFA - Art degree no later than one month prior to the end of the semester preceding the one in which the final project is created.
2. The student must submit a proposed program of study conforming to university and school requirements on the "Departmental Request for Candidacy" form obtained from Graduate Admissions and Program Evaluations and filed according to university deadlines. The proposed program of study must be approved by the art graduate committee and the College of Graduate Studies before the student may be considered for the MFA - Art.
3. Pass the Advancement to Candidacy (ATC) Review. This is an exhibition of original work which can be scheduled during any semester in one of the department's student galleries. Students must obtain signatures of two faculty members willing to serve on their culminating project committee, including at least one faculty member teaching in the designated area of emphasis, in order to apply to the ATC Review. Passing the review is necessary before the student may file for the "Departmental Request for Candidacy" and enroll in their culminating project classes, ART 298A and Art 298B.

Additional information regarding advancement to candidacy is available in the Art & Art History Department Office.

Completing Requirements for the MFA - Art

1. General Requirements: The MFA - Art program requires a minimum of 60 units of approved courses completed after admission to classified status in the program, of which at least 30 units must be in courses at the 200 level. Electives to complete the 60 units may be drawn from approved 100 and 200 level courses. The program also requires the student to participate in regularly scheduled departmental activities such as studio visits by faculty, first-semester review, first-year review, and Advancement to Candidacy reviews.
2. Required Courses: see below.
3. All students must meet the university's graduation writing assessment requirement.
4. MFA - Art Project: The culmination of the degree is the MFA - Art culminating project which must demonstrate the professional level of the candidate's accomplishment. After admission to candidacy the culminating project will be developed under the guidance of the candidate's MFA - ART project committee chair with the assistance of the project committee. Upon the committee's prior approval of the completed work, projects will be appropriately exhibited in accordance with departmental requirements.

All candidates must also submit to the Department of Art and Art History a satisfactory report of the project, following the department's approved format. MFA project reports will document the creative project and the creative process and context for that project with color images that illustrate each work in the project. The project report and the image record (in the case of studio projects) must be approved by the candidate's culminating project committee and by the art graduate advisor before the degree may be awarded.

1. Final Examination: The candidate must successfully complete an oral examination based on the area of the MFA - Art culminating project.
2. The application for graduation form must be filed with the university Graduate Admissions and Program Evaluations (GAPE) according to the posted deadline during the semester prior to completion of degree requirements.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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MFA - Art, Digital Media Art

Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR). For information on the GWAR, please see http://info.sjsu.edu/gcw.html.

Requirements of the Masters		60
Graduate Seminars and Critiques in Area of Concentration		**6**
ART 281. Interdisciplinary Critique Seminar	3	
COMPLETE ONE COURSE FROM:		
ART 210. Seminar in Digital Media Art	3	
ART 281. Interdisciplinary Critique Seminar	3	
Graduate Tutorials in Area of Concentration		**6**
ART 220. Tutorials in Digital Media Art	3	
Seminars		**6**
ART 282A. Seminar in the Theory and Criticism of Contemporary Art	3	
ART 282B. Seminar in Contemporary Art GWAR	3	
Additional Course		**3**
CHOOSE ONE OF THE FOLLOWING:		
ART 174A. Museum and Gallery Operations	3	
ART 276. Artists Teaching Art	3	
Upper Division Art History		**6**
Professional Writing Course		**3**
ART 200W. Professional Writing in Contemporary Art GWAR	3	
Electives		**24**
Special Study		**3**
ART 298A. MFA Special Study	3	
Culminating Experience		**3**
ART 298B. MFA Project	3	
Total Units Required		**60**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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MFA - Art, Photography

Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR). For information on the GWAR, please see http://info.sjsu.edu/gcw.html.

Requirements of the Masters 60

Graduate Seminars and Critiques in Area of Concentration 18

ART 281. Interdisciplinary Critique Seminar 3
ART 208. Graduate Photography Critique 3
ART 208 must be taken 5 times.

Graduate Tutorials in Area of Concentration 6

ART 222. Tutorials in Photography 3

Seminars 6

ART 282A. Seminar in the Theory and Criticism of Contemporary Art 3
ART 282B. Seminar in Contemporary Art ..... GWAR 3

Additional Course 3

COMPLETE ONE COURSE FROM:

ART 174A. Museum and Gallery Operations 3
ART 276. Artists Teaching Art 3

Upper Division Art History 6

Professional Writing Course 3

ART 200W. Professional Writing in Contemporary Art ..... GWAR 3

Electives 12

Special Study 3

ART 298A. MFA Special Study 3

Culminating Experience 3

ART 298B. MFA Project 3

Total Units Required 60

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

For Legend please see page 2

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CATALOG CONTENTS

MFA - Art, Pictorial Art

Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR). For information on the GWAR, please see http://info.sjsu.edu/gcw.html.

Requirements of the Masters	60
Graduate Seminars and Critiques in Area of Concentration	**6**
ART 281. Interdisciplinary Critique Seminar	3
COMPLETE ONE COURSE FROM:	
ART 281. Interdisciplinary Critique Seminar	3
Graduate Tutorials in Area of Concentration	**6**
ART 217. Tutorials in Pictorial Arts	3
Seminars	**6**
ART 282A. Seminar in the Theory and Criticism of Contemporary Art	3
ART 282B. Seminar in Contemporary Art GWAR	3
Additional Course	**3**
COMPLETE ONE COURSE FROM:	
ART 174A. Museum and Gallery Operations	3
ART 276. Artists Teaching Art	3
Upper Division Art History	**6**
Professional Writing Course	**3**
ART 200W. Professional Writing in Contemporary Art GWAR	3
Electives	**24**
Special Study	**3**
ART 298A. MFA Special Study	3
Culminating Experience	**3**
ART 298B. MFA Project	3
Total Units Required	**60**

MFA - Art, Spatial Art

Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR). For information on the GWAR, please see http://info.sjsu.edu/gcw.html.

Requirements of the Masters		60
Graduate Seminars and Critiques in Area of Concentration		**6**
ART 281. Interdisciplinary Critique Seminar	3	
COMPLETE ONE COURSE FROM:		
ART 281. Interdisciplinary Critique Seminar	3	
Graduate Tutorials in Area of Concentration		**6**
ART 219. Tutorials in Spatial Art	3	
Seminars		**6**
ART 282A. Seminar in the Theory and Criticism of Contemporary Art	3	
ART 282B. Seminar in Contemporary Art GWAR	3	
Additional Course		**3**
COMPLETE ONE COURSE FROM:		
ART 174A. Museum and Gallery Operations	3	
ART 276. Artists Teaching Art	3	
Upper Division Art History		**6**
Professional Writing Course		**3**
ART 200W. Professional Writing in Contemporary Art GWAR	3	
Electives		**24**
Special Study		**3**
ART 298A. MFA Special Study	3	
Culminating Experience		**3**
ART 298B. MFA Project	3	
Total Units Required		**60**

Athletics (Intercollegiate)

ALAN B. SIMPKINS INTERCOLLEGIATE ATHLETICS ADMINISTRATION BUILDING (7TH & ALMA)
408-924-1200 (Voice)
408-924-1291 (Fax)

Professors

Billy J. Campsey, NCAA Faculty Representative
Sen Chiao, NCAA Faculty Athletic Representative
Steve O'Brian, Deputy Director of Athletics

Athletics Staff

Brent Brennan, Head Coach, Football
Darren Coelho, Assistant Athletics Director for Ticket Operations
Jamie Craighead, Head Coach, Women's Basketball
Eileen Daley, Associate Athletic Director for Student Advising
John Dormann, Head Coach, Women's Golf
Jacquelyn Duysen, Associate Athletic Director of Compliance
Lawrence Fan, Assistant Athletics Director for Media Relations
Lauren Hanson, Head Coach, Women's Soccer
Sage Hopkins, Head Coach, Swimming/Diving
John Kennaday, Head Coach, Men's Golf
Ryan Merz, Director of Compliance, Financial Aid/Housing
Ryan O'Rorke, Assistant Athletics Director for Marketing and Multimedia Services
Roseanne Oty, Director of Compliance, Eligibility/Admissions
Jeff Petersmeyer, Head Coach, Men's & Women's Cross Country; Women's Track & Field
Jean Prioleau, Head Coach, Men's Basketball
Brad Sanfillippo, Interim Head Coach, Baseball
Gabor Sarusi, Head Coach, Women's Water Polo
Blake Sasaki, Senior Associate Athletics Director for External Relations
Scott Shaw, Director of Sports Medicine
Aaron Shephardson, Head Coach, Beach Volleyball
Jolene Shephardson, Head Coach, Volleyball
Chad Skorupka, Head Coach, Women's Tennis
Simon Tobin, Head Coach, Men's Soccer
Garrett Ton, Facilities and Events Coordinator
Marie Tuite, Director of Athletics
Peter Turner, Head Coach, Softball
Gary Uribe, Head Coach, Athletic Performance
Mike Waller, Sr. Associate Athletic Director, Business Operations
Bruce Watson, Head Coach, Men's Water Polo
Brad Wick, Head Coach, Men and Women's Cross Country
Dave Wojcik, Head Coach, Men's Basketball
Wayne Wright, Head Coach, Gymnastics

Introduction

Intercollegiate athletics offers a comprehensive spectrum of 17 sports (6 men's and 11 women's) which compete at the NCAA Division I level (the highest level of collegiate competition). San Jose State University is a member of the Mountain West Athletic Conference. Over the years, San Jose State athletics teams have won 10 NCAA team and 50 individual championships.

Course offerings are designed to satisfy the needs and interests of highly skilled student-athletes and provide them with the highest level of intercollegiate athletics experience. Note: Courses are open only to those SJSU students who are currently on one of the Spartan team rosters.

Aviation

College of Engineering
Department of Aviation and Technology

INDUSTRIAL STUDIES 111
408-924-3190 (Voice)
408-924-3198 (Fax)
www.engr.sjsu.edu/avtech

Professors

Fred Barez, , Chair
Wenben Wei

Assistant Professors

Francesca Favaro
Tyler Spence

Curricula

BS, Aviation
Minor, Aviation

Introduction

The oldest and largest provider of aviation degrees on the West Coast, the Aviation programs in the Department of Aviation and Technology prepare students for careers as professional pilots, airport managers, technical, marketing and quality control managers, and other aviation industry professionals. Students receive hands-on experience in both basic and advanced aviation principles and procedures, including aircraft design, aviation safety, air traffic control, and legal and labor issues in national and international aviation. Bachelor degree candidates have the option to focus on professional fight, operations, aviation management, or maintenance management-a specialty that complements an AS-level Federal Aviation Administration (FAA)-approved community college maintenance program. Aviation classes are held both on campus and off-site at our Reid-Hillview Airport facility.

Note to Veterans

Those students who have successfully completed armed forces instructional programs in aviation and who have been awarded units by the Admissions Office for this service training may apply such credit as appropriate toward any of the major or minor programs offered by the department.

Honors Program

Students who have maintained a 3.5 grade point average in all aviation courses are eligible for the departmental honors program. Qualified candidates may apply or be nominated by the faculty, during their junior year. To meet the honors course requirements, candidates must enroll in at least two units of Aviation 180H Individual Studies. This individual studies course is specifically structured for honors students. Students who successfully complete the two, one-unit honors courses, and who maintain the required 3.5 grade point average, will qualify for the award of departmental honors at graduation.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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BS - Aviation

The curriculum provides a four-year pattern of course work for those interested in the several different aspects of aviation. In addition to the required course work in general education, aviation, science and business, the student has the opportunity to choose one of four options - Professional Flight, Operations, Aviation Management, or Maintenance Management.

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

Major Exceptions

This degree program meets certain University Requirements through approved major modifications. Please see the Major Exceptions area in the Policy and Procedures section of this catalog to identify the specific adjustments for this degree program or contact your major advisor for more details.

Major-Specific Graduation Requirements

All courses in the Preparation and Required in Major (all courses in preparation, core, and concentration) must be completed with a grade of "C- or better". With the exception of ENGR 100W which must be completed with a "C or better".

University Graduation Requirements 27

Core Lower Division General Education 15

Of the 39 units required by the university, 24 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

Upper Division General Education

Of the 9 units required by the university, 9 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 12

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

AMS 001A. American Cultures to 1877	M4	6
AMS 001B. American Cultures 1877 to present	M5	6

Physical Education

Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Preparation for the Major 22

BUS2 090. Business Statistics		3
CHEM 001A. General Chemistry	B1+B3	5
MATH 071. Calculus for Business and Aviation	B4	3

MATH 30 or MATH 30P may be used in lieu of MATH 71

COMPLETE ONE COURSE FROM:

BUS1 020. Financial Accounting		3
BUS1 020N. Survey of Accounting		3

COMPLETE ONE SEQUENCE FROM:

Physics A

PHYS 002A. Fundamentals of Physics	B1+B3	4
PHYS 002B. Fundamentals of Physics	B1+B3	4

Physics B

PHYS 050. General Physics/Mechanics	B1+B3	4
PHYS 051. General Physics/Electricity and Magnetism	B1+B3	4

Students may use PHYS 2B instead of PHYS 51

Requirements of the Major 71

To qualify for a baccalaureate degree in Aviation, students must earn a grade of "C-" or better in each required major and preparation course.

Core Courses 27

AVIA 078. Introduction to Aviation Management		3
AVIA 128. Aviation Safety and Security		3
AVIA 141. Human Factors in the Aviation Environment		3
AVIA 173. Aviation Law		3
AVIA 176. Airline Operations and Management		3
AVIA 190. Senior Capstone Seminar		3
AVIA 198. Aviation and Human Civilization	V	3
BUS3 186. Professional and Business Ethics	S	3
ENGR 100W. Engineering Reports	Z+R	3

Specialized Courses 44

Choose one of the following options.

Flight Operations

AVIA 001. Introduction to the Aviation Industry	3
AVIA 031. Aircraft Theory and Design	3
AVIA 042. Aircraft Systems	3
AVIA 043. Propulsion Theory	3
AVIA 068. Avionics and Airborne Communication	3
AVIA 073. Air Traffic Control	3
AVIA 091. Aircraft Turbine Engines	3
AVIA 110. Aviation Meteorology	3
AVIA 178. Airport Planning and Management	3
AVIA 193. Aerodynamics	3
AVIA 194. Pilot Avionics and General Aviation Systems	3
Major Elective	8

COMPLETE ONE COURSE FROM:

AVIA 177. General Aviation Operations and Management	3
AVIA 179. Advanced Airport Planning and Management	3
AVIA 195. Internship with the Aviation Industry	1-6

Professional Flight

Students in the Professional Flight option are required to select an affiliated flight school and earn three FAA pilot ratings. The costs of flight training are not included in the tuition at SJSU.

AVIA 001. Introduction to the Aviation Industry	3
AVIA 002. Private Pilot Ground	3
AVIA 003. Introduction to Private Pilot Part 141 Flight	2
AVIA 031. Aircraft Theory and Design	3
AVIA 042. Aircraft Systems	3

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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AVIA 043. Propulsion Theory 3
AVIA 062. Instrument Pilot Ground 3
AVIA 063. Instrument Rating Part 141 Flight 2
AVIA 068. Avionics and Airborne Communication 3
AVIA 073. Air Traffic Control 3
AVIA 091. Aircraft Turbine Engines 3
AVIA 110. Aviation Meteorology 3
AVIA 112. Commercial Pilot Ground 3
AVIA 113. Commercial Professional Pilot Part 141 Flight 2
AVIA 193. Aerodynamics 3
Major Elective 2

Aviation Management

AVIA 001. Introduction to the Aviation Industry 3
AVIA 031. Aircraft Theory and Design 3
AVIA 042. Aircraft Systems 3
AVIA 043. Propulsion Theory 3
AVIA 073. Air Traffic Control 3
AVIA 177. General Aviation Operations and Management 3
AVIA 178. Airport Planning and Management 3
AVIA 179. Advanced Airport Planning and Management 3
BUS1 170. Fundamentals of Finance 3
BUS5 146. Fundamentals of Project Management 3
ECON 001B. Principles of Economics: Microeconomics D1 4
Major Elective 4

Requirements for Minor in Business 6

BUS3 160. Fundamentals of Management and Organizational Behavior 3

COMPLETE ONE COURSES FROM:

BUS3 150. Fundamentals of Human Resource Management 3
BUS5 141. Procurement and Supply Management 3
BUS5 145. Global Operations Strategy 3
BUS5 167. Managing Environmental Issues 3
BUS5 181. Introduction to Entrepreneurship 3

Maintenance Management

Airframes and Powerplants (A&P) coursework 30

In order to complete this option, a student must complete an AS-level FAA-approved maintenance programs at an accredited community college, such as those listed below, prior to beginning upper division coursework. See department for more information.

Additional Courses Taken at SJSU 14

BUS5 141. Procurement and Supply Management 3
ECON 001B. Principles of Economics: Microeconomics D1 4
ISE 155. Supply Chain Engineering 3
TECH 145. Lean Manufacturing 3
Major Elective 1

Total Units Required **120**

Minor - Aviation

A minor in aviation is granted upon the completion of a coherent course of study and may be designed to fit the needs of a student from another major. The minor must include at least 12 units, six of which must be upper division. Six units must be completed in residence. Contact the department office (IS 111) for more details.

Behavioral Sciences Program

College of Social Sciences

CLARK HALL 469
408-924-5710

Curricula

BA, Behavioral Science

Introduction

Behavioral science majors develop an interdisciplinary perspective on human behavior and an understanding of the psychological, social and cultural dimensions to being human in a complex society. Offered cooperatively by the Departments of Anthropology, Psychology and Sociology, the Behavioral Science Program is housed in the Department of Anthropology, which oversees academic advising. The program prepares graduates for a variety of jobs that require working with social science data and with people. Many of our alumni have pursued graduate work in health care, social work, human resources, and other fields.

The Department of Anthropology provides all academic advising for the Behavioral Science Program. Students are encouraged to call the Department of Anthropology, (408) 924-5710, with any questions about the program, including the availability of advisors.

BA - Behavioral Science (Interdepartmental)

This degree is listed with the Anthropology Department.

Biological Sciences Department

College of Science

DUNCAN HALL 254
408-924-4900

Professors

Tzvia Abramson
David K. Bruck
Jeffrey Honda
Joanne Kerr
Susan Lambrecht
Elizabeth McGee-Bergerol
William Murray
Cleber Ouverney
Sabine A. Rech
Scott Shaffer
Julio Soto

Associate Professors

Shelley Cargill, Chair
Rachael French
Elizabeth Skovran
Miri Van-Hoven
J. Brandon White
Katherine Wilkinson

Assistant Professors

Benjamin Carter
Jessica Castillo-Vardaro
Bree Grillo-Hill
Frank Huynh
Jennifer Johnston

Curricula

BA, Biological Science
BS, Biological Science, Concentration in Microbiology
BS, Biological Science, Concentration in Molecular Biology
BS, Biological Science, Concentration in Systems Physiology
BS, Ecology and Evolution
BS, Marine Biology
Minor, Bioinformatics
Minor, Biological Science
Minor, Science
Certificate, Clinical Lab Scientist
MBT, Master Biotechnology
MA, Biological Sciences
MS, Biological Sciences, Concentration in Ecology and Evolution
MS, Biological Sciences, Concentration in Physiology
MS, Biological Sciences, Concentration in Molecular Biology and Microbiology

Introduction

As leaders in the education of a highly trained and diverse scientific workforce, our mission is to provide a dynamic educational experience by engaging students in hands-on, inquiry-based learning activities at the bench and in the field. Through these experiences our students will gain a conceptual and experiential understanding of the biological sciences spanning from molecules to ecosystems.

Our Program goals are to:

- Serve the diverse student population of our region.
- Educate students to be intellectually agile and technologically proficient.
- Provide students with intensive, rigorous laboratory and field experiences within the context of their regular coursework.
- Create individualized mentoring opportunities and state-of-the-art learning experiences within the context of our faculty research programs.
- Foster creativity, a sound theoretical foundation, and the ability to communicate effectively and interact cooperatively.
- Make substantial contributions to the scientific community through our research efforts and that of our students.

Honors Program

Students may apply for the honors program in Biology in BS - Biological Sciences, Concentration in Systems Physiology.

Students wishing to complete the honors program must:

1. Have a GPA of 3.5 or higher in courses required in the major,

2. Have an overall SJSU GPA of 3.0 or higher, and

3. Complete Biology, Botany, or Zoology 186 "Senior Thesis".

Senior thesis courses involve the student in the completion of a research project under the direct supervision of a faculty member. As such, the research project must be on a mutually agreed upon topic. It is recommended that the student submit a proposal for research to the faculty member and have that proposal approved in the last semester of his/her junior year. The student is required to present the results of the research in written form and as a seminar.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

BA - Biological Science

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

Major Exceptions

This degree program meets certain University Requirements through approved major modifications. Please see the Major Exceptions area in the Policy and Procedures section of this catalog to identify the specific adjustments for this degree program or contact your major advisor for more details.

Major-Specific Graduation Requirements

Students in this major must complete all lower division courses in the Requirements of the Major with a "C- or better" to graduate.

Prerequisite Requirements

Enrollment in any chemistry course requires that the prerequisite courses be passed with a grade of "C or better" (C- not accepted). Exceptions may be made only with instructor consent or if not explicitly stated in the course description. Refer to the SJSU Course Catalog for specific information regarding course prerequisites.

University Graduation Requirements 38

Core Lower Division General Education 24

Of the 39 units required by the university, 15 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

NOTE: STUDENTS WHO HAVE COMPLETED THE ADT TRANSFER DEGREE (UNDER SB 1440) FOR THIS MAJOR WILL HAVE COMPLETED ALL LOWER DIVISION GE REQUIREMENTS (EXCEPT FOR 1 COURSE IN GE AREA C AND 1 COURSE IN GE AREA D) AND SHOULD FOLLOW THE 60 UNIT GUARANTEE ROADMAP (WHICH INCLUDE THE MISSING GE IN AREA C AND D). MEET WITH AN ADVISOR PRIOR TO REGISTERING FOR YOUR FIRST SEMESTER FOR THE 60 UNIT ROADMAP OR SPECIFIC QUESTIONS.

Upper Division General Education 6

Of the 9 units required by the university, 3 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 6

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

COMPLETE ONE SEQUENCE FROM:

African American Studies 6

AFAM 002A. African Americans and the Development of America's History and Government	D2	3
AFAM 002B. African Americans and the Development of America's History and Government	M7	3

Asian American Studies 6

AAS 033A. Asian Americans in U.S. History I	D2	3
AAS 033B. Asian Americans in U.S. History II	M7	3

U.S. History and Government 6

HIST 015. Essentials of U.S. History	M12	3
POLS 015. Essentials of U.S. & California Government	M11	3

Chicana and Chicano Studies 6

CCS 010A. Mexican Americans and the Development of U.S. History and Government	D2	3
CCS 010B. Mexican Americans and the Development of U.S. History and Government	M7	3

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Physical Education		**2**

Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Preparation for the Major		**35-41**
BIOL 100W. Scientific Communication Workshop	Z	3
BIOL 155. Hypothesis Testing		3
CHEM 001A. General Chemistry	B1+B3	5
CHEM 001B. General Chemistry	B1+B3	5
PHYS 002A. Fundamentals of Physics	B1+B3	4
PHYS 002B. Fundamentals of Physics	B1+B3	4
COMPLETE ONE SEQUENCE FROM:		
Organic Chemistry A		
CHEM 008. Organic Chemistry		3
CHEM 009. Organic Chemistry Lab		1
Organic Chemistry B		
CHEM 112A. Organic Chemistry		3
CHEM 112B. Organic Chemistry		3
CHEM 113A. Organic Chemistry Lab		2
COMPLETE ONE COURSE FROM:		
CHEM 132. Introductory Biochemistry		4
CHEM 135. General Biochemistry		4
COMPLETE ONE COURSE FROM:		
MATH 019. Precalculus	B4	5
MATH 030. Calculus I	B4	3
Requirements of the Major		**33-35**
Core Courses		**14-16**
BIOL 030. Principles of Biology I	B2+B3	4
BIOL 031. Principles of Biology II	B2+B3	4
COMPLETE ONE COURSE FROM:		
BIOL 115. General Genetics		4
BIOL 118. Evolutionary Genetics		4
COMPLETE ONE COURSE FROM:		
BIOL 135B. Eukaryotic Cell and Molecular Biology II	R	3
BIOL 159. Integrative Biology	R	3
BIOL 160. Ecology	R	4
BIOL 178. Integrative Physiology	R	3
MICR 127. Microbial Physiology	R	3
Major Electives		**19**
Upper Division Non-GE BIOL/BOT/ENT/ZOOL/MICR/MS Courses		19
University Electives		**6-14**
Total Units Required		**120**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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BS - Biological Science, Concentration in Microbiology

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

Major Exceptions

This degree program meets certain University Requirements through approved major modifications. Please see the Major Exceptions area in the Policy and Procedures section of this catalog to identify the specific adjustments for this degree program or contact your major advisor for more details.

Major-Specific Graduation Requirements

Students in this major must complete all lower division courses in the Requirements of the Major with a "C- or better" to graduate.

Prerequisite Requirements

Enrollment in any chemistry course requires that the prerequisite courses be passed with a grade of "C or better" (C- not accepted). Exceptions may be made only with instructor consent or if not explicitly stated in the course description. Refer to the SJSU Course Catalog for specific information regarding course prerequisites.

University Graduation Requirements 38

Core Lower Division General Education 24

Of the 39 units required by the university, 15 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

NOTE: STUDENTS WHO HAVE COMPLETED THE ADT TRANSFER DEGREE (UNDER SB 1440) FOR THIS MAJOR WILL HAVE COMPLETED ALL LOWER DIVISION GE REQUIREMENTS (EXCEPT FOR 1 COURSE IN GE AREA C AND 1 COURSE IN GE AREA D) AND SHOULD FOLLOW THE 60 UNIT GUARANTEE ROADMAP (WHICH INCLUDE THE MISSING GE IN AREA C AND D). MEET WITH AN ADVISOR PRIOR TO REGISTERING FOR YOUR FIRST SEMESTER FOR THE 60 UNIT ROADMAP OR SPECIFIC QUESTIONS.

Upper Division General Education 6

Of the 9 units required by the university, 3 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 6

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

COMPLETE ONE SEQUENCE FROM:

African American Studies 6

AFAM 002A. African Americans and the Development of America's History and Government	D2	3
AFAM 002B. African Americans and the Development of America's History and Government	M7	3

Asian American Studies 6

AAS 033A. Asian Americans in U.S. History I	D2	3
AAS 033B. Asian Americans in U.S. History II	M7	3

U.S. History and Government 6

HIST 015. Essentials of U.S. History	M12	3
POLS 015. Essentials of U.S. & California Government	M11	3

Chicana and Chicano Studies 6

CCS 010A. Mexican Americans and the Development of U.S. History and Government	D2	3
CCS 010B. Mexican Americans and the Development of U.S. History and Government	M7	3

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Physical Education 2

Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Preparation for the Major 17

BIOL 055. Biostatistics		3
BIOL 100W. Scientific Communication Workshop	Z	3
PHYS 002A. Fundamentals of Physics	B1+B3	4
PHYS 002B. Fundamentals of Physics	B1+B3	4
MATH 030. Calculus I	B4	3

NOTE: MATH 030P (5 units) or MATH 060 (5 units) or Calculus A/B or B/C Advanced Placement Exam with a score of 3 or higher is also acceptable

Requirements of the Major 42

BIOL 030. Principles of Biology I	B2+B3	4
BIOL 031. Principles of Biology II	B2+B3	4
BIOL 107. Immunology		3
MICR 101. General Microbiology		5
MICR 127. Microbial Physiology	R	3
MICR 141. Pathogenic Microbiology I		3
MICR 166. Bacterial Genetics		4

COMPLETE AT LEAST 7 UNITS OF LABORATORY COURSES FROM:

BIOL 107L. Immunology Laboratory		2
BIOL 116L. Genetics Laboratory		3
BIOL 180. Individual Studies		1-4
MICR 122L. Bacterial Diversity Laboratory		2
MICR 123L. Food Microbiology Laboratory		2
MICR 127L. Microbial Physiology Laboratory		2
MICR 140L. Hematology Laboratory		2
MICR 141L. Pathogenic Microbiology I - Laboratory		3
MICR 142L. Pathogenic Microbiology II - Laboratory		3

COMPLETE 9 ADDITIONAL UNITS FROM LAB COURSES ABOVE OR:

BIOL 115. General Genetics		4
BIOL 116. Molecular Genetics		4
BIOL 118. Evolutionary Genetics		4
BIOL 124. Systems Physiology		3
BIOL 125. Systems Physiology Laboratory		2
BIOL 134. Vertebrate Histology		4
BIOL 135A. Eukaryotic Cell and Molecular Biology I		3
BIOL 135L. Molecular Cell Biology Lab		3
BIOL 156. Ecological Sampling Design and Analyses		3
CHEM 055. Quantitative Analysis		2
MICR 122. Bacterial Diversity		2
MICR 123. Food Microbiology		1
MICR 140. Hematology		3
MICR 142. Pathogenic Microbiology II		3
MICR 170. General Virology		3

Requirements in the Minor			23
CHEM 001A. General Chemistry	B1+B3		5
CHEM 001B. General Chemistry	B1+B3		5
CHEM 112A. Organic Chemistry			3
CHEM 112B. Organic Chemistry			3
CHEM 113A. Organic Chemistry Lab			2
CHEM 120S. Chemical Safety Seminar			1
CHEM 135. General Biochemistry			4
Total Units Required			**120**

Students pursuing the California State Clinical Laboratory Science license should consult an advisor for additional requirements.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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BS - Biological Science, Concentration in Molecular Biology

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

Major Exceptions

This degree program meets certain University Requirements through approved major modifications. Please see the Major Exceptions area in the Policy and Procedures section of this catalog to identify the specific adjustments for this degree program or contact your major advisor for more details.

Major-Specific Graduation Requirements

Students in this major must complete all lower division courses in the Requirements of the Major with a "C- or better" to graduate.

Prerequisite Requirements

Enrollment in any chemistry course requires that the prerequisite courses be passed with a grade of "C or better" (C- not accepted). Exceptions may be made only with instructor consent or if not explicitly stated in the course description. Refer to the SJSU Course Catalog for specific information regarding course prerequisites.

University Graduation Requirements 38

Core Lower Division General Education 24

Of the 39 units required by the university, 15 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

NOTE: STUDENTS WHO HAVE COMPLETED THE ADT TRANSFER DEGREE (UNDER SB 1440) FOR THIS MAJOR WILL HAVE COMPLETED ALL LOWER DIVISION GE REQUIREMENTS (EXCEPT FOR 1 COURSE IN GE AREA C AND 1 COURSE IN GE AREA D) AND SHOULD FOLLOW THE 60 UNIT GUARANTEE ROADMAP (WHICH INCLUDE THE MISSING GE IN AREA C AND D). MEET WITH AN ADVISOR PRIOR TO REGISTERING FOR YOUR FIRST SEMESTER FOR THE 60 UNIT ROADMAP OR SPECIFIC QUESTIONS.

Upper Division General Education 6

Of the 9 units required by the university, 3 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 6

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

COMPLETE ONE SEQUENCE FROM:

African American Studies 6

AFAM 002A. African Americans and the Development of America's History and Government	D2	3
AFAM 002B. African Americans and the Development of America's History and Government	M7	3

Asian American Studies 6

AAS 033A. Asian Americans in U.S. History I	D2	3
AAS 033B. Asian Americans in U.S. History II	M7	3

U.S. History and Government 6

HIST 015. Essentials of U.S. History	M12	3
POLS 015. Essentials of U.S. & California Government	M11	3

Chicana and Chicano Studies 6

CCS 010A. Mexican Americans and the Development of U.S. History and Government	D2	3
CCS 010B. Mexican Americans and the Development of U.S. History and Government	M7	3

Physical Education 2

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Preparation for the Major — 17

BIOL 055. Biostatistics		3
BIOL 100W. Scientific Communication Workshop	Z	3
PHYS 002A. Fundamentals of Physics	B1+B3	4
PHYS 002B. Fundamentals of Physics	B1+B3	4
MATH 030. Calculus I	B4	3

NOTE: MATH 030P (5 units), or MATH 060 (5 units), or Calculus A/B or B/C Advanced Placement Exam with a score of 3 or higher is also acceptable

Requirements of the Major — 42

BIOL 030. Principles of Biology I	B2+B3	4
BIOL 031. Principles of Biology II	B2+B3	4
BIOL 115. General Genetics		4
BIOL 116. Molecular Genetics		4
BIOL 116L. Genetics Laboratory		3
BIOL 135A. Eukaryotic Cell and Molecular Biology I		3
BIOL 135B. Eukaryotic Cell and Molecular Biology II	R	3
BIOL 135L. Molecular Cell Biology Lab		3

COMPLETE 14 UNITS OF BIOLOGY ELECTIVES:

BIOL 105. Principles of Developmental Biology		3
BIOL 107. Immunology		3
BIOL 107L. Immunology Laboratory		2
BIOL 117. Human Genetics		3
BIOL 119. Neurogenetics		3
BIOL 123A. Bioinformatics I		3
BIOL 123B. Bioinformatics II		3
BIOL 124. Systems Physiology		3
BIOL 125. Systems Physiology Laboratory		2
BIOL 136. Vertebrate Neurophysiology		3
BIOL 137. Introduction to Principles of Toxicology		3
BIOL 180. Individual Studies		1-4
BIOL 198. Undergraduate Research		1-4
MICR 101. General Microbiology		5
MICR 166. Bacterial Genetics		4
MICR 170. General Virology		3

or other courses with prior advisor approval (at least 9 elective units must be in Biological Sciences)

Requirements in the Minor — 23

CHEM 001A. General Chemistry	B1+B3	5
CHEM 001B. General Chemistry	B1+B3	5
CHEM 112A. Organic Chemistry		3
CHEM 112B. Organic Chemistry		3
CHEM 113A. Organic Chemistry Lab		2
CHEM 120S. Chemical Safety Seminar		1
CHEM 135. General Biochemistry		4

Total Units Required — 120

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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BS - Biological Science, Concentration in Systems Physiology

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

Major Exceptions

This degree program meets certain University Requirements through approved major modifications. Please see the Major Exceptions area in the Policy and Procedures section of this catalog to identify the specific adjustments for this degree program or contact your major advisor for more details.

Major-Specific Graduation Requirements

Students in this major must complete all lower division courses in the Requirements of the Major with a "C- or Better" to graduate.

Prerequisite Requirement

Enrollment in any chemistry course requires that the prerequisite courses be passed with a grade of "C or better" (C- not accepted). Exceptions may be made only with instructor consent or if not explicitly stated in the course description. Refer to the SJSU Course Catalog for specific information regarding course prerequisites.

University Graduation Requirements 38

Core Lower Division General Education 24

Of the 39 units required by the university, 15 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

NOTE: STUDENTS WHO HAVE COMPLETED THE ADT TRANSFER DEGREE (UNDER SB 1440) FOR THIS MAJOR WILL HAVE COMPLETED ALL LOWER DIVISION GE REQUIREMENTS (EXCEPT FOR 1 COURSE IN GE AREA C AND 1 COURSE IN GE AREA D) AND SHOULD FOLLOW THE 60 UNIT GUARANTEE ROADMAP (WHICH INCLUDE THE MISSING GE IN AREA C AND D). MEET WITH AN ADVISOR PRIOR TO REGISTERING FOR YOUR FIRST SEMESTER FOR THE 60 UNIT ROADMAP OR SPECIFIC QUESTIONS.

Upper Division General Education 6

Of the 9 units required by the university, 3 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 6

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

COMPLETE ONE SEQUENCE FROM:

African American Studies 6

AFAM 002A. African Americans and the Development of America's History and Government	D2	3
AFAM 002B. African Americans and the Development of America's History and Government	M7	3

Asian American Studies 6

AAS 033A. Asian Americans in U.S. History I	D2	3
AAS 033B. Asian Americans in U.S. History II	M7	3

U.S. History and Government 6

HIST 015. Essentials of U.S. History	M12	3
POLS 015. Essentials of U.S. & California Government	M11	3

Chicana and Chicano Studies 6

CCS 010A. Mexican Americans and the Development of U.S. History and Government	D2	3
CCS 010B. Mexican Americans and the Development of U.S. History and Government	M7	3

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Physical Education 2

Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Preparation for the Major 17

BIOL 055. Biostatistics		3
BIOL 100W. Scientific Communication Workshop	Z	3
PHYS 002A. Fundamentals of Physics	B1+B3	4
PHYS 002B. Fundamentals of Physics	B1+B3	4
MATH 030. Calculus I	B4	3

MATH 030P (5 units) or MATH 060 (5 units) also acceptable

Requirements of the Major 42

BIOL 030. Principles of Biology I	B2+B3	4
BIOL 031. Principles of Biology II	B2+B3	4
BIOL 115. General Genetics		4
BIOL 124. Systems Physiology		3
BIOL 125. Systems Physiology Laboratory		2
BIOL 170. Cellular and Molecular Physiology		3
BIOL 178. Integrative Physiology	R	3

Major Electives 19

COMPLETE 16 UNITS FROM:

BIOL 105. Principles of Developmental Biology	3
BIOL 107. Immunology	3
BIOL 107L. Immunology Laboratory	2
BIOL 131. Endocrine Physiology	3
BIOL 135L. Molecular Cell Biology Lab	3
BIOL 136. Vertebrate Neurophysiology	3
BIOL 136L. Vertebrate Neurophysiology Laboratory	1
BIOL 137. Introduction to Principles of Toxicology	3
BIOL 165. Advanced Human Anatomy	4
BIOL 167. Cardiorespiratory Physiology	3
BIOL 168. Reproductive Physiology	3
BIOL 180. Individual Studies	1-4

COMPLETE THREE UNITS FROM:

Courses can also be taken from 16-unit choice list above.

BIOL 116. Molecular Genetics		4
BIOL 116L. Genetics Laboratory		3
BIOL 117. Human Genetics		3
BIOL 119. Neurogenetics		3
BIOL 135B. Eukaryotic Cell and Molecular Biology II	R	3
MICR 101. General Microbiology		5
MICR 140. Hematology		3
MICR 140L. Hematology Laboratory		2

other courses with prior advisor consent

Requirements in the Minor		23
CHEM 001A. General Chemistry	B1+B3	5
CHEM 001B. General Chemistry	B1+B3	5
CHEM 112A. Organic Chemistry		3
CHEM 112B. Organic Chemistry		3
CHEM 113A. Organic Chemistry Lab		2
CHEM 120S. Chemical Safety Seminar		1
CHEM 135. General Biochemistry		4
Total Units Required		**120**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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BS - Ecology and Evolution

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

Major Exceptions

This degree program meets certain University Requirements through approved major modifications. Please see the Major Exceptions area in the Policy and Procedures section of this catalog to identify the specific adjustments for this degree program or contact your major advisor for more details.

Major-Specific Graduation Requirements

Students in this major must complete all lower division courses in the Requirements of the Major with a "C- or better" to graduate.

Prerequisite Requirements

Enrollment in any chemistry course requires that the prerequisite courses be passed with a grade of "C or better" (C- not accepted). Exceptions may be made only with instructor consent or if not explicitly stated in the course description. Refer to the SJSU Course Catalog for specific information regarding course prerequisites.

University Graduation Requirements 38

Core Lower Division General Education 24

Of the 39 units required by the university, 15 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

NOTE: STUDENTS WHO HAVE COMPLETED THE ADT TRANSFER DEGREE (UNDER SB 1440) FOR THIS MAJOR WILL HAVE COMPLETED ALL LOWER DIVISION GE REQUIREMENTS (EXCEPT FOR 1 COURSE IN GE AREA C AND 1 COURSE IN GE AREA D) AND SHOULD FOLLOW THE 60 UNIT GUARANTEE ROADMAP (WHICH INCLUDE THE MISSING GE IN AREA C AND D). MEET WITH AN ADVISOR PRIOR TO REGISTERING FOR YOUR FIRST SEMESTER FOR THE 60 UNIT ROADMAP OR SPECIFIC QUESTIONS.

Upper Division General Education 6

Of the 9 units required by the university, 3 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 6

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

COMPLETE ONE SEQUENCE FROM:

African American Studies 6

AFAM 002A. African Americans and the Development of America's History and Government	D2	3
AFAM 002B. African Americans and the Development of America's History and Government	M7	3

Asian American Studies 6

AAS 033A. Asian Americans in U.S. History I	D2	3
AAS 033B. Asian Americans in U.S. History II	M7	3

U.S. History and Government 6

HIST 015. Essentials of U.S. History	M12	3
POLS 015. Essentials of U.S. & California Government	M11	3

Chicana and Chicano Studies 6

CCS 010A. Mexican Americans and the Development of U.S. History and Government	D2	3
CCS 010B. Mexican Americans and the Development of U.S. History and Government	M7	3

Physical Education 2

Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Preparation for the Major 31-33

BIOL 100W. Scientific Communication Workshop	Z	3
BIOL 156. Ecological Sampling Design and Analyses		3
CHEM 001A. General Chemistry	B1+B3	5
CHEM 001B. General Chemistry	B1+B3	5
CHEM 008. Organic Chemistry		3
CHEM 009. Organic Chemistry Lab		1
PHYS 002A. Fundamentals of Physics	B1+B3	4
PHYS 002B. Fundamentals of Physics	B1+B3	4

COMPLETE ONE COURSE FROM:

MATH 019. Precalculus	B4	5
MATH 030. Calculus I	B4	3

Requirements of the Major 49-51

Core Courses 41

BIOL 030. Principles of Biology I	B2+B3	4
BIOL 031. Principles of Biology II	B2+B3	4
BIOL 106. Physiological Ecology		3
BIOL 106L. Physiological Ecology Lab		1
BIOL 113. Comparative Taxonomy		3
BIOL 114. Functional Morphology		3
BIOL 160. Ecology	R	4
BIOL 163. Conservation Biology		3
BOT 165. Plant Communities of California		4
ENT 101. Insect Diversity		4

COMPLETE ONE COURSE FROM:

BIOL 115. General Genetics		4
BIOL 118. Evolutionary Genetics		4

COMPLETE ONE COURSE FROM:

ZOOL 115. Invertebrate Zoology and Natural History		4
ZOOL 116. Vertebrate Evolution and Natural History		4

Major Electives 8-10

COMPLETE 8-10 UNITS FROM:

BIOL 115. General Genetics		4
BIOL 118. Evolutionary Genetics		4
BIOL 115 and BIOL 118 (which ever wasn't taken above)		
BIOL 155. Hypothesis Testing		3
BIOL 164. Ecological Field Methods		3
BIOL 180. Individual Studies		1-4
BOT 104. Plant Taxonomy		4
ENT 106. Forensic Entomology		3
GEOL 137. Introduction to GPS/GIS for Geologic Applications		4
ZOOL 115. Invertebrate Zoology and Natural History		4
ZOOL 116. Vertebrate Evolution and Natural History		4
ZOOL 115 and ZOOL 116 (which ever wasn't taken above)		
ZOOL 160. Zoogeography		3

Other upper-division non-GE BIOL/BOT/ENT/ZOOL/MICR/MS electives with prior advisor approval

Total Units Required 120

Students must obtain a prior advisor approval for electives and for choice of courses within categories.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

BS - Marine Biology

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

Major Exceptions

This degree program meets certain University Requirements through approved major modifications. Please see the Major Exceptions area in the Policy and Procedures section of this catalog to identify the specific adjustments for this degree program or contact your major advisor for more details.

Major-Specific Graduation Requirements

Students in this major must complete all lower division courses in the Requirements of the Major with a "C- or better" to graduate.

Prerequisite Requirements

Enrollment in any chemistry course requires that the prerequisite courses be passed with a grade of "C or better" (C- not accepted). Exceptions may be made only with instructor consent or if not explicitly stated in the course description. Refer to the SJSU Course Catalog for specific information regarding course prerequisites.

University Graduation Requirements 35

Core Lower Division General Education 21

Of the 39 units required by the university, 18 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

Upper Division General Education 6

Of the 9 units required by the university, 3 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 6

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

COMPLETE ONE SEQUENCE FROM:

African American Studies 6

AFAM 002A. African Americans and the Development of America's History and Government	D2	3
AFAM 002B. African Americans and the Development of America's History and Government	M7	3

Asian American Studies 6

AAS 033A. Asian Americans in U.S. History I	D2	3
AAS 033B. Asian Americans in U.S. History II	M7	3

U.S. History and Government 6

HIST 015. Essentials of U.S. History	M12	3
POLS 015. Essentials of U.S. & California Government	M11	3

Chicana and Chicano Studies 6

CCS 010A. Mexican Americans and the Development of U.S. History and Government	D2	3
CCS 010B. Mexican Americans and the Development of U.S. History and Government	M7	3

Physical Education 2

Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Preparation for the Major		34
BIOL 055. Biostatistics		3
BIOL 100W. Scientific Communication Workshop	Z	3
BIOL 156. Ecological Sampling Design and Analyses		3
CHEM 001A. General Chemistry	B1+B3	5
CHEM 001B. General Chemistry	B1+B3	5
CHEM 008. Organic Chemistry		3
CHEM 009. Organic Chemistry Lab		1
CHEM 132. Introductory Biochemistry		4
MATH 030. Calculus I	B4	3
PHYS 002A. Fundamentals of Physics	B1+B3	4

Requirements of the Major		51
Core Courses		**34**
BIOL 030. Principles of Biology I	B2+B3	4
BIOL 031. Principles of Biology II	B2+B3	4
BIOL 106. Physiological Ecology		3
BIOL 106L. Physiological Ecology Lab		1
BIOL 113. Comparative Taxonomy		3
BIOL 114. Functional Morphology		3
BIOL 160. Ecology	R	4
MS 103. Marine Ecology		4
MS 144. Biological Oceanography		4
COMPLETE ONE COURSE FROM:		
BIOL 115. General Genetics		4
BIOL 118. Evolutionary Genetics		4
Major Electives		**17**
COMPLETE 17 UNITS FROM:		
BIOL 115. General Genetics		4
BIOL 118. Evolutionary Genetics		4
BIOL 115 and BIOL 118 (which ever wasn't taken above)		
BIOL 155. Hypothesis Testing		3
BIOL 164. Ecological Field Methods		3
BIOL 180. Individual Studies		1-4
GEOL 137. Introduction to GPS/GIS for Geologic Applications		4
MS 104. Quantitative Marine Science		4
MS 105. Marine Science Diving		3
MS 112. Marine Birds and Mammals		4
MS 113. Marine Ichthyology		4
MS 124. Marine Invertebrate Zoology I		4
MS 131. Marine Botany		4
MS 180. Independent Studies		1-4
ZOOL 115. Invertebrate Zoology and Natural History		4
ZOOL 116. Vertebrate Evolution and Natural History		4
Other upper-division non-GE BIOL/BOT/ZOOL/MICR/MS electives with prior advisor approval		
Total Units Required		**120**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Minor - Bioinformatics

Insights into many areas of biology, including genomics, molecular biology, neuroscience, physiology, microbiology, ecology and evolution, can be gained using computational methods. Bioinformatics is the use of computational tools to understand important questions in the biological sciences. The minor in bioinformatics gives students a background in the biological sciences, computation skills, and experience using these skills to address biological questions. The minor requires 8 units of biology courses, 6 units of introductory courses in a programming language (either Python or Java), and 6 units of courses in bioinformatics.

At least 12 of units must be distinct from the requirements of the student's major. At least six units must be completed at SJSU. The minimum aggregate GPA for all coursework required for the minor must be at least 2.0. A grade of "C-" or better is required for courses being used to meet any requirement in the minor.

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Requirements of the Minor		20
Lower Division		**14**
BIOL 030. Principles of Biology I	B2B3	4
BIOL 031. Principles of Biology II	B2B3	4
CS 022A. Python Programming for Non Majors I		3
CS 022B. Python Programming for Non Majors II		3
Upper Division		**6**
BIOL 123A. Bioinformatics I		3
BIOL 123B. Bioinformatics II		3
Total Units Required		**20**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Minor - Biological Science

Environmental Studies students should consult a Biology Advisor.

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Requirements of the Minor		18
BIOL 020. Ecological Biology	B2+B3	3
BIOL 021. Human Biology	B2+B3	3
Ten to twelve (10-12) additional units in biological sciences courses of which six (6) units must be upper division.		10-12
At least six (6) units, selected in consultation with the Biological Sciences Department advisor for minors, must be taken at San Jose State University.		
Total Units Required		**18**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Minor - Science

The science minor does not qualify for a science teaching minor. See the Science Education Program advisor for the supplementary science credential requirements. This minor is not open to majors in College of Science, except mathematics and computer science.

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Requirements of the Minor	22

Prerequisite	6

General Education requirements in science at San Jose State University

Additional Courses	16

Select at least 3 units per category; complete at least one of each category.

Biological Science

COMPLETE ONE COURSE FROM:

BIOL 020. Ecological Biology	B2B3	3
BIOL 021. Human Biology	B2B3	3
BIOL 054. Human Understanding	E	3
BIOL 065. Human Anatomy	B2B3	4
BIOL 066. Human Physiology	B2B3	5
BIOL 101. Origins of Life	R	3
BIOL 109. Human Neuroanatomy and Physiology		4
BIOL 110. Biodiversity and Biopolitics	R	3
BIOL 140. Human Sexuality	S	3
MICR 020. General Bacteriology	B2B3	5

Physical Science

COMPLETE ONE COURSE FROM:

CHEM 001A. General Chemistry	B1+B3	5
CHEM 008. Organic Chemistry		3
CHEM 030B. Introductory Chemistry		3
PHYS 001. Elementary Physics	B1	3
PHYS 001L. Elementary Physics Lab	B3	1
PHYS 002A. Fundamentals of Physics	B1+B3	4
PHYS 002B. Fundamentals of Physics	B1+B3	4

Earth Science

COMPLETE ONE COURSE FROM:

ASTR 101. Modern Astronomy	R	3
ASTR 102. Astronomy Lab	B3	1
AVIA 110. Aviation Meteorology		3
GEOL 001. General Geology	B1+B3	4
GEOL 006. Geology of California	B1	3
GEOL 111. Geology and the Environment	R	3
METR 112. Global Climate Changes	R	3

Total Units Required	22

For all courses for the minor, the instructor may accept related course work or experimental learning in lieu of stated prerequisites.

Clinical Lab Scientist Training Program

The Clinical Laboratory Scientist Training Program at San Jose State University is a 12 month training program that prepares students to take the ASCP national exam for Clinical Laboratory Scientists and obtain a California State Clinical Laboratory Scientist license.

The training program is a 40 hour per week commitment with an emphasis on hands-on learning in the hospital setting. Most weeks, students will spend 32 hours training at a clinical site and 8 hours in lecture. For more information on the program, please visit our website at www.sjsu.edu/cls.

As part of the application process, a group of applicants will participate in interviews which include representatives from our clinical affiliates. Students are admitted to the program based on a weighted score which takes into account the documents in their application, their performance during interview and an essay written on the day of the interview.

Admission Policies and Prerequisites

To be admitted to the program you must have:

- A bachelor's degree in biology or a related science
- 18 semester units of Biology including instruction in Immunology, Hematology, Medical Microbiology
- 16 semester units of Chemistry including instruction in Biochemistry and Quantitative Analysis
- 3 semester units of Physics including instruction in optics and electromagnetism
- 3 semester hours of mathematics (statistics or calculus)
- A minimum G.P.A. of 2.8 on a 4 point scale
- A minimum G.P.A. of 3.0 in last 60 units
- Completion of Hematology, Immunology and Medical Microbiology courses with a grade of B or better within 5 years of application
- Coursework in Human or Mammalian Physiology and Human or General Genetics
- Three (3) letters of recommendation
- Acceptance by the SJSU CLS Program Selection Committee and a Clinical Affiliate
- All applicants must have completed 12 semester units of upper-division science course work at an United States university before applying to the program
- All applicants must have the legal right to work in the United States
- For students with a degree from a foreign university, TOEFL (minimum score of 100 or equivalent IELTS score)
- Meet admission requirements for San Jose State University (do not apply until AFTER you have been accepted to SJSU CLS Training Program and have been given instructions on how to proceed)
- Hold CLS Training license granted by State of California, Laboratory Field Services (apply AFTER you have been accepted to SJSU CLS Training Program)

Interview and Matching Process

A committee comprised of SJSU Biology Department faculty members review and score each candidate's application and then meet to determine which candidates they will be inviting to interview. Candidates who are invited to interview receive the contact information for the education coordinators at the various clinical sites. They are invited to arrange tours of the participating facilities before they come to interview. We like to give at least a month for the candidates to make these arrangements. Candidates are asked to come to interview prepared to rank the clinical sites in their order of preference.

The interviews are conducted over two days, with each day having a morning and an afternoon interview session. Each session begins with a short essay (topic to be revealed at that time). Following that, there is a brief opportunity to speak with the education coordinators and CLS Training Program staff at a meet & greet breakfast (or lunch). Candidates will then have an opportunity to interview with the education coordinators, scheduled in 15-minute increments. There are generally 8-12 education coordinators seated around the conference table with the candidate sitting at the head of the table. Candidates are all asked the same questions, with time at the end for additional discussion as desired. The educations coordinators score each candidate on their interview.

At the end of the two days of interviews, the education coordinators are asked to fill out a form indicating which candidates they would be willing to train. They do not rank the candidates, they merely check "Yes" next to the names of candidates that are acceptable to them.

The CLS Training Program compiles all of the scores (application 50%, interview 40%, and essay 10%) to determine a ranking. With that ranking in hand, we take the preference sheet from the highest ranked candidate and determine his/her 1st choice of training facility. We then look to the form filled out by the education coordinator to see if they had indicated a willingness to train them. If they checked "yes", we have a match. If there was no match, we go to the candidate's 2nd choice of training facility, continuing until we have a match. We then continue down the list matching candidates in order of their ranking until all training positions have been filled.

We announce matches in coordination with the other training schools to allow candidates the opportunity to weigh their options from each school at the same time. We send out emails notifying the candidates of their matches. Candidates who are not matched are notified of their alternate status. If a candidate chooses to decline a match to accept a position at another school, we then go to the highest ranked candidate in our alternate list and go through the matching process again.

Candidates not placed stay in our alternate pool until training begins. If they do not receive a placement, we are happy to move letters and transcripts forward to a new application cycle, but a new application must be submitted.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Required Core	24
MICR 291A. Advanced Hematology	4
MICR 291B. Advanced Pathophysiology	4
MICR 291C. Advanced Human Immunology	4
MICR 291D. Advanced Medical Microbiology	4
MICR 291E. Advanced Immunohematology	4
MICR 291F. Molecular Based Diagnostic Techniques	4

Additional Core	21
THREE SEMESTERS OF THE FOLLOWING COURSE:	
MICR 291G. Clinical Laboratory Management	4
MICR 292. Topics and Demonstrations in Clinical Laboratory Science	3

Total Units Required	45

Master in Biotechnology

The Master of Biotechnology (MBT) program integrates advanced, hands-on training in laboratory-based molecular biology courses with MBA-level business courses from the College of Business. The core courses provide an introduction to aspects of the biotechnology industry including drug development, marketing, finance and intellectual property. The required internship experience allows the students to apply what they have learned in real-life settings.

Through elective choices, students supplement the core program with additional hands-on science or MBA courses in support of their career goals. MBT program graduates are highly trained individuals who have had direct exposure to the biotechnology corporate world and are ready to make immediate contributions to biotechnology companies. Graduates work in a variety of positions in research, product development, marketing, regulatory affairs, clinical affairs, project management, quality, and others.

For more information visit: www.sjsu.edu/biology/.

Admissions Requirements

University Admissions

Applicants must submit a complete graduate application by applying through the CSU Cal State Apply system at calstate.edu/apply and meet all the university admission requirements. Applicants apply separately to the department to obtain admission into the Master in Biotechnology degree program. See the GAPE Graduate Admissions website and this Catalog for general information about graduate admissions at SJSU.

Applicants from countries in which the native language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirements webpage at GAPE.

Admission to the Program

Applicants must submit to the Program Director their unofficial transcripts, GRE and TOEFL scores, two letters of recommendation, a statement of purpose and a resume. Potential candidates will be interviewed during the spring semester. Admission is based on the acceptance to the university and the outcome of the interview.

Requirements for Advancement to Candidacy

All students will submit their Advancement to Candidacy petitions during the fall of their second year, after having fulfilled all University requirements for advancement to candidacy, as detailed in the Graduate Policies and Procedures section of this catalog. Candidacy includes successful completion of the Graduation Writing Assessment Requirement (GWAR), which is satisfied in this degree by completion of BIOL 202TA and 202TB with grades of "B" or higher.

Culminating Experience

Plan B (Project)

The culminating experience is the Biotechnology Colloquium (Biol 285T), which includes the preparation of a business plan for a biotechnology startup company.

Requirements for Graduation

University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

Graduation Requirements

The Master if Biotechnology program consists of 36 semester units of approved work. It includes a 2-unit internship in the biotechnology industry.

Special Session Program Information

Academic Programs offered through Special Session are operated by the College of Professional and Global Education (CPGE). Registration and enrollment in a Special Session course or program must use the special session application form and will follow special session fee and course schedules. Note that regular session students seeking to enroll simultaneously in a special session course or program will trigger a separate and additional set of fees. This may require an additional enrollment appointment from the Registrar and it may have implications for financial aid status or requirements. Please visit the IES website for more information.

Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR). For information on the GWAR, please see http://info.sjsu.edu/gcw.html.

This requirement is satisfied by passing BIOL 202TA and 202TB.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Core Courses		29
BIOL 202TA. Biotech Seminar: Biotech Products	GWAR	3
BIOL 202TB. Biotech Seminar: Drug Development Process	GWAR	3
BIOL 202TC. Biotech Seminar: Biotech Business I		2
BIOL 202TD. Biotech Seminar: Biotech Business II		2
BIOL 205T. Advanced Molecular Techniques for Biotechnology		4
BIOL 280T. Internship in the Biotechnology Industry		2
BIOL 282C. Biotechnology Company Management		3
BUS 282A. Essentials of Management and Organizational Behavior		3
BUS 282B. Essentials of Operations Management		3
COMPLETE ONE COURSE FROM:		
BIOL 221T. Advanced Bioinformatics for Biotechnology		4
BIOL 255T. Introduction to Stem Cell Techniques		4
Electives		**6**
STUDENTS MUST TAKE ANY TWO OF THE FOLLOWING 200-LEVEL SCIENCE AND/OR BUSINESS COURSES:		
Science Electives		
BIOL 227T. Principles of Pharmacology		3
BIOL 229T. Biotechnology Instrumentation		3
BIOL 233T. Immunological Techniques for Biotechnology		3
BIOL 283T. Topics in Biotech Regulatory Affairs		3
BIOL 281T. Individual Studies in Biotechnology		1-4
Business Electives		
200-level Business electives chosen in consultation with the Program Director		
Culminating Experience (Plan B)		**1**
BIOL 285T. Colloquium in Biotechnology		1
Total Units Required		**36**

Elective courses must be planned in consultation with the Graduate Advisor.

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU cumulative grade point averages of 3.0 in order to graduate.

MA - Biological Sciences

The MA in Biological Sciences offers students broad training in areas of science that may include general biology, plant biology, cell biology, ecology, entomology, genetics, microbiology, immunology, systems physiology, toxicology, zoology, or, under special circumstances, marine biology. Students with an MA in Biological Sciences go on to careers in research, biotechnology, medical and health sciences, and teaching.

For more information visit the program website at: www.sjsu.edu/biology/.

Admissions Requirements

University Admissions

Candidates must apply through the CSU admissions portal, Cal State Apply, and meet all university admissions requirements. Applicants will need to apply separately to the university to obtain approval for university-level admission and to the department to obtain admission into the MA in Biological Sciences.

Applicants from countries in which the native language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirements webpage at GAPE. The program does not currently require the GRE for admission.

Admission to the Program

In addition, applicants must submit to the Graduate Coordinator for the Department of Biological Sciences a personal statement and two letters of recommendation from people who can evaluate your potential to succeed in a graduate program.

Note: Applicants' admission into the program is contingent upon their being accepted by a tenured or tenure-track faculty member in the Department of Biological Sciences who will become their major advisor. Applicants must contact tenured or tenure-track faculty members

Requirements for Admission to Classified Standing

Students can be admitted in either classified or conditionally classified standing. To be admitted to the MA in Biological Sciences program in Classified status, an applicant must meet all of the minimum university and departmental requirements for admission.

Admission to Conditionally Classified Standing

If an applicant's preparation for advanced graduate work is considered inadequate to meet the course prerequisites or other departmental and/or faculty requirements, the conditions will include passing additional courses (specified by the student's major advisor) in the first semester of the program with a grade of B or better. The program admissions letter will explain terms and requirements.

Requirements for Advancement to Candidacy

Each semester, students should consult with their graduate advisor as to develop a schedule of courses. Students admitted as conditionally classified must satisfy the requirements listed in their acceptance agreement before advancement to candidacy. Students who have completed matriculation and achieved classified standing in the master's degree curriculum must next advance to candidacy for the degree. A student may advance to candidacy after completing a minimum of 9 units of graded work as a graduate student in letter-graded 100- or 200- level courses acceptable to the AE Department as well as fulfilling the other university requirements for advancement to candidacy, as detailed in the Graduate Policies and Procedures section of this catalog. Candidacy includes successful completion of the Graduation Writing Assessment Requirement (GWAR), which is satisfied in this degree by completion of BIOL 202 with a "B" or higher.

Requirements for Graduation

University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

Culminating Experience Requirements

Students in the MA, Biological Sciences may complete the program Culminating Experience through through either a comprehensive exam or graduate project. Students who have advanced to candidacy, and who have completed or are in the final semester of completing the 30 units of required coursework will choose, in consultation with their major advisor, one of two options for their Culminating Experience. The program does not offer a thesis option.

Plan B (Comprehensive Exam)

Students choosing the Plan B (Comprehensive Exam) will enroll in BIOL 298M M.A. Biological Sciences Culminating Experience, and successfully complete written exam, followed by an oral exam as their culminating experience. The advising committee determines the format of the written and oral exams. Once the written portion of the exam is passed, students take a two- to three-hour oral examination. Successful completion of both exams is required for award of the MA Biological Sciences degree. Students who are not successful in their first attempt will have one opportunity to retake one or both exams. Written and oral exams will include material from graduate-level coursework taken by the student. Successful completion of both the written and oral exam is determined by a majority vote of the student's graduate committee.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Plan B (Project)

The student choosing the Plan B (Project) must enroll in the 1-unit 298M M.A. Biological Sciences Culminating Experience and complete a research project that has been approved and supervised by their major advisor. This culminating experience option requires students to complete a written report in the style of a manuscript for publication that describes the project and to deliver an oral presentation describing the project to the advising committee. Research projects for the MA Biological Sciences are typically 1-2 semesters in duration. Successful completion of both the manuscript and the oral presentation is determined by a majority vote of the student's graduate committee.

As shown below, the program consists of 30 semester units of approved work. The student consults with his or her advisor to select coursework.

Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR). For information on the GWAR, please see http://info.sjsu.edu/gcw.html.

Requirements of the Masters — 30

Core Courses — 4

BIOL 201. Graduate Seminar in Biological Sciences		1
BIOL 202. Graduate Studies in Biology	GWAR	3

Electives — 25

BIOL 255E. Advanced Topics: Ecology and Evolution	3
BIOL 255L. Advanced Biology Laboratory	3
BIOL 255M. Advanced Topics:Molecular & Microbiology	3
BIOL 255P. Seminar in Advanced Biology: Physiology	3
BIOL 280. Individual Studies	1-3
BIOL 284. Master's Directed Reading	1-3

Students may enroll in a maximum combination of 8 units in BIOL 280 and BIOL 284.

100- or 200-level courses chosen with advisor consent

Culminating Experience — 1

CHOOSE ONE OPTION:

Plan B (Project)

BIOL 298M. MA Culminating Experience	1
Comprehensive Written Examination	0
Comprehensive Oral Examination	0

Plan B (Comprehensive Exam)

BIOL 298M. MA Culminating Experience	1
Comprehensive Written Examination	0
Comprehensive Oral Examination	0

Total Units Required — 30

Elective courses must be planned in consultation with the Graduate Advisor.

The maximum number of upper-division undergraduate units that can be applied toward the master's degree is 15.

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU Cumulative grade point averages of 3.0 in order to graduate.

MS - Biological Sciences, Concentration in Ecology and Evolution

The master's program in Biological Sciences with a concentration in Ecology and Evolution offers students training in the pursuit of rigorous scientific investigation with an emphasis on ecological and evolutionary processes. Students in this degree program emphasize botany, entomology, zoology, or conservation biology through choice of advisor, committee, course work, and thesis or project. Our graduates have an excellent grasp of theory and application of ecological and evolutionary principles.

In addition, students with our degree will have gained experience in critical thinking, problem solving, research methodology (e.g., experimental design, sampling techniques, and analysis), and both written and oral communication. Our alumni are successful applicants for doctoral degree programs and generally attain high-level academic and non-academic positions in both the private and public sectors.

For more information visit http://www.sjsu.edu/biology/.

Admissions Requirements

Candidates must meet all the university admissions requirements.

In addition, applicants must submit to the Graduate Coordinator for the Department of Biological Sciences a 1-2 page personal statement that includes the following sections: an explanation of why the student wants to earn an MA or MS, their long-term goals and how will the degree help facilitate those goals, the names of up to three tenure-track faculty members whose research interests them, and two letters of recommendation. **Applicants must also be accepted by a tenured or tenure-track faculty member in the Department of Biological Sciences prior to acceptance by the program.** It is the student's responsibility to contact any potential faculty advisors. For complete details on the student approval process, please visit: http://www.sjsu.edu/biology/graduate-programs/prospective-ms-students/index.html.

Students can be admitted in either classified or conditionally classified standing. Conditional acceptance means that the candidate must fulfill specific requirements in order to be eligible to apply for advancement to candidacy. These conditions will be stipulated as part of the acceptance agreement between the faculty adviser and the applicant. Failure to fulfill these requirements will result in disqualification from the program.

Applicants from countries in which the native language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirements webpage at GAPE.

Requirements for Advancement to Graduate Candidacy

Each semester, students should consult with their graduate advisor to develop a schedule of courses. Students admitted as conditionally classified must satisfy the requirements listed in their acceptance agreement before advancing to candidacy. Students who have comp achieved classified standing in the master's degree curriculum must next advance to candidacy for the degree. A student may advance to candidacy after completing a minimum of 9 units of letter-graded work as a graduate student in 100- or 200-level courses acceptable to the department as well as fulfilling the other university requirements for advancement to candidacy, as detailed in the Graduate Policies and Procedures section of this catalog. Candidacy includes successful completion of the Graduation Writing Assessment Requirement (GWAR), which is satisfied in this degree by completion of BIOL 202 with a grade of "B" or higher.

Requirements for Graduation

University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

MS Biological Sciences, Concentration in Ecology and Evolution, Graduation Requirements

As shown below, the program consists of 30 semester units of approved work. The student consults with his or her advisor to select a thesis or project topic.

Culminating Experience Requirements

Plan A (Thesis)

Thesis: The thesis must meet university requirements as stipulated in this catalog and in the SJSU Master's Thesis and Doctoral Dissertation Guidelines. It will be written under the guidance of the candidate's thesis committee chair with the assistance of the thesis committee. The MS thesis document must be approved by the student's thesis research committee before submission. Typically, the thesis committee will provide the candidate feedback during the Thesis Defense and may request changes to the thesis before final approval.

Oral Thesis Defense: All MS candidates are required to present a public seminar based on their research project.

Plan B (Project)

Written Project: The written project must be a manuscript describing the student's research project, written following a professional journal's format for submission. It will be written under the guidance of the candidate's graduate committee chair with the assistance of their graduate committee. The manuscript must be approved by the student's graduate committee. Typically, the committee will provide the candidate feedback during the Project Defense and may request changes to the manuscript before final approval.

Oral Project Defense: All MS candidates are required to present a public seminar based on their research project.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR). For information on the GWAR, please see http://info.sjsu.edu/gcw.html.

A grade of "B" or better in BIOL 202 will satisfy the graduate competency in writing requirement

Requirements of the Masters 30

Core Courses 15

BIOL 201. Graduate Seminar in Biological Sciences 1
BIOL 202. Graduate Studies in Biology GWAR 3
BIOL 220. Science Communication 3
BIOL 297. Graduate Research 8

Students take a total of 8 core units of this class.

Concentration Courses 9

BIOL 218. Evolution 3
BIOL 256. Advanced Experimental Design and Analysis 3
BIOL 255E. Advanced Topics: Ecology and Evolution 3

Electives 5

Elective courses must be planned in consultation with the Graduate Advisor.

BIOL 255E. Advanced Topics: Ecology and Evolution 3
BIOL 255L. Advanced Biology Laboratory 3
BIOL 255M. Advanced Topics:Molecular & Microbiology 3
BIOL 255P. Seminar in Advanced Biology: Physiology 3

100- or 200-level courses chosen with advisor consent

Culminating Experience 1

COMPLETE ONE OPTION (PLAN A OR PLAN B):

Plan A (Thesis)
BIOL 299. Master's Thesis 1
Seminar- Thesis Defense

Plan B (Project)
BIOL 298. MS Project Culminating Experience 1
Seminar- Project Defense

Total Units Required 30

Elective courses must be planned in consultation with the Graduate Advisor.

The maximum number of upper-division undergraduate units that can be applied toward the master's degree is 15.

A public seminar on the thesis or project must be given.

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU cumulative grade point averages of 3.0 in order to graduate.

MS - Biological Sciences, Concentration in Physiology

The master's program in Biological Sciences with a concentration in Physiology offers students training in the pursuit of rigorous scientific investigation with an emphasis on the integrative nature of physiology across levels of organization from molecule to organism. During their research experience, students acquire the skills necessary to successfully address a variety of research questions under the guidance of faculty.

In addition, students with our degree will have gained experience in critical thinking, problem solving, research methodology (e.g., experimental design, sampling techniques, and analysis), and both written and oral communication. Our alumni are successful applicants for doctoral degree programs and generally attain high level academic and non-academic positions in both the private and public sectors.

For more information visit: http://www.sjsu.edu/biology/.

Admissions Requirements

Candidates must meet all the university admissions requirements.

In addition, applicants must submit to the Graduate Coordinator for the Department of Biological Sciences a 1-2 page personal statement that includes the following sections: an explanation of why the student wants to earn an MS or MA, their long-term goals and how the degree will help facilitate those goals, the names of up to three tenured or tenure-track faculty members whose res
earch interests them, and two letters of recommendation. **Applicants must also be accepted by a tenured or tenure-track faculty member in the Department of Biological Sciences prior to acceptance by the program.** It is the student's responsibility to contact any potential faculty advisors. For complete details on the student approval process, please visit: http://www.sjsu.edu/biology/graduate-programs/prospective-ms-students/index.html.

Students can be admitted in either classified or conditionally classified standing. Conditional acceptance means that the candidate must fulfill specific requirements in order to be eligible to apply for advancement to candidacy. These conditions will be stipulated as part of the acceptance agreement between the faculty adviser and the applicant. Failure to fulfill these requirements will result in disqualification from the program.

Applicants from countries in which the native language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirements webpage at GAPE.

Requirements for Advancement to Graduate Candidacy

Each semester, students should consult with their graduate advisor to develop a schedule of courses. Students admitted as conditionally classified must satisfy the requirements listed in their acceptance agreement before advancing to candidacy. Students who have achieved classified standing in the master's degree curriculum must next advance to candidacy for the degree. A student may advance to candidacy after completing a minimum of 9 units of letter-graded work as a graduate student in 100- or 200-level courses acceptable to the department as well as fulfilling the other university requirements for advancement to candidacy, as detailed in the Graduate Policies and Procedures section of this catalog. Candidacy includes successful completion of the Graduation Writing Assessment Requirement (GWAR), which is satisfied in this degree by completion of BIOL 202 with a grade of "B" or better.

Requirements for Graduation

University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

MS - Biological Sciences, Concentration in Physiology, Graduation Requirements

As shown below, the program consists of 30 semester units of approved work. The student consults with his or her advisor to select a thesis or project topic.

Culminating Experience Requirements

Plan A (Thesis)

Thesis: The thesis must meet university requirements as stipulated in this catalog and in the SJSU Master's Thesis and Doctoral Dissertation Guidelines. It will be written under the guidance of the candidate's thesis committee chair with the assistance of the thesis committee. The MS thesis document must be approved by the student's thesis research committee before submission. Typically, the thesis committee will provide the candidate feedback during the Thesis Defense and may request changes to the thesis before final approval.

Oral Thesis Defense: All MS candidates are required to present a public seminar based on their research project.

Plan B (Project)

Written Project: The written project must be a manuscript describing the student's research project, written following a professional journal's format for submission. It will be written under the guidance of the candidate's graduate committee chair with the assistance of their graduate committee. The manuscript must be approved by the student's graduate committee. Typically, the committee will provide the candidate feedback during the Project Defense and may request changes to the manuscript before final approval.

Oral Project Defense: All MS candidates are required to present a public seminar based on their research project.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR). For information on the GWAR, please see http://info.sjsu.edu/gcw.html.

A grade of 'B' or better in BIOL 202 will satisfy the graduate competency in writing requirement

Requirements of the Masters 30

Core Courses 15

BIOL 201. Graduate Seminar in Biological Sciences 1
BIOL 202. Graduate Studies in Biology ..... GWAR 3
BIOL 220. Science Communication 3
BIOL 297. Graduate Research 8
Students take a total of 8 core units of this course.

Concentration Courses 9

BIOL 227. Advanced Physiology and Pharmacology 3
BIOL 230. Comparative Animal Physiology 3
BIOL 255P. Seminar in Advanced Biology: Physiology 1-4
Students take at least 3 units of this course.

Electives 5

Elective courses must be planned in consultation with the Graduate Advisor.

BIOL 255E. Advanced Topics: Ecology and Evolution 1-4
BIOL 255L. Advanced Biology Laboratory 1-4
BIOL 255M. Advanced Topics:Molecular & Microbiology 1-4
BIOL 255P. Seminar in Advanced Biology: Physiology 1-4
100- or 200-level courses chosen with advisor consent

Culminating Experience 1

COMPLETE ONE OPTION (PLAN A OR PLAN B):

Plan A (Thesis)
BIOL 299. Master's Thesis 1
Seminar- Thesis Defense

Plan B (Project)
BIOL 298. MS Project Culminating Experience 1
Seminar- Project Defense

Total Units Required 30

Elective courses must be planned in consultation with the Graduate Advisor.

The maximum number of upper-division undergraduate units that can be applied toward the master's degree is 15.

A public seminar on the thesis or project must be given.

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU cumulative grade point averages of 3.0 in order to graduate.

MS - Biological Sciences, Concentration in Molecular Biology and Microbiology

The Master of Science program in Biological Sciences with a concentration in Molecular Biology and Microbiology offers students training in the pursuit of rigorous scientific investigation with an emphasis on discovering the molecular mechanisms that underlie biological processes such as behavior, cell biology, immunology, microbial diversity, microbial engineering, pathogenesis, and neural development. During their research experience, students acquire the skills necessary to successfully address a variety of research questions under the guidance of faculty.

In addition, students with our degree will have gained experience in critical thinking, problem solving, research methodology (e.g., experimental design, sampling techniques, and analysis), and both written and oral communication. Our alumni are successful applicants for doctoral degree programs and generally attain high level academic and non-academic positions in both the private and public sectors.

For more information visit http://www.sjsu.edu/biology/

Admissions Requirements

Candidates must meet all the university admissions requirements.

In addition, applicants must submit to the Graduate Coordinator for the Department of Biological Sciences an explanation of why the student wants to earn an MS or MA, their long-term goals and how the degree will help facilitate those goals, the names of up to three tenured or tenure-track faculty members whose research interests them, and two letters of recommendation. **Applicants must also be accepted by a tenured or tenure-track faculty member in the Department of Biological Sciences prior to acceptance by the program.** It is the student's responsibility to contact any potential faculty advisors. For complete details on the student approval process, please visit: http://www.sjsu.edu/biology/graduate-programs/prospective-ms-students/index.html

Students can be admitted in either classified or conditionally classified standing. Conditional acceptance means that the candidate must fulfill specific requirements in order to be eligible to apply for advancement to candidacy. These conditions will be stipulated as part of the acceptance agreement between the faculty adviser and the applicant. Failure to fulfill these requirements will result in disqualification from the program.

Applicants from countries in which the native language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirements webpage at GAPE.

Requirements for Advancement to Graduate Candidacy

Each semester, students should consult with their graduate advisor to develop a schedule of courses. Students admitted as conditionally classified must satisfy the requirements listed in their acceptance agreement before advancing to candidacy. Students who have achieved classified standing in the master's degree curriculum must next advance to candidacy for the degree. A student may advance to candidacy after completing a minimum of 9 units of letter-graded work as a graduate student in 100- or 200-level courses acceptable to the department as well as fulfilling the other university requirements for advancement to candidacy, as detailed in the Graduate Policies and Procedures section of this catalog. Candidacy includes successful completion of the Graduation Writing Assessment Requirement (GWAR), which is satisfied in this degree by completion of BIOL 202 with a grade of "B" or better.

Requirements for Graduation

University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

MS - Biological Sciences, Concentration in Molecular Biology and Microbiology, Graduation Requirements

As shown below, the program consists of 30 semester units of approved work. The student consults with his or her advisor to select a thesis or project topic.

Culminating Experience Requirements

Plan A (Thesis)

Thesis: The thesis must meet university requirements as stipulated in this catalog and in the SJSU Master's Thesis and Doctoral Dissertation Guidelines. It will be written under the guidance of the candidate's thesis committee chair with the assistance of the thesis committee. The MS thesis document must be approved by the student's thesis research committee before submission. Typically, the thesis committee will provide the candidate feedback during the Thesis Defense and may request changes to the thesis before final approval.

Oral Thesis Defense: All MS candidates are required to present a public seminar based on their research project.

Plan B (Project)

Written Project: The written project must be a manuscript describing the student's research project, written following a professional journal's format for submission. It will be written under the guidance of the candidate's graduate committee chair with the assistance of their graduate committee. The manuscript must be approved by the student's graduate committee. Typically, the committee will provide the candidate feedback during the Project Defense and may request changes to the manuscript before final approval.

Oral Project Defense: All MS candidates are required to present a public seminar based on their research project.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR). For information on the GWAR, please see http://info.sjsu.edu/gcw.html.

A grade of "B" or better in BIOL 202 will satisfy the graduate competency in writing requirement

Requirements of the Masters 30

Core Courses 15

BIOL 201. Graduate Seminar in Biological Sciences 1
BIOL 202. Graduate Studies in Biology ..... GWAR 3
BIOL 220. Science Communication 3
BIOL 297. Graduate Research 8
Students take a total of 8 core units of this course.

Concentration Courses 9

BIOL 205. Advanced Molecular Techniques 4
BIOL 215. Seminar in Advanced Genetics 3
BIOL 255M. Advanced Topics:Molecular & Microbiology 1-4
Students take at least 2 units of this class

Electives 5

Elective courses must be planned in consultation with the Graduate Advisor

BIOL 233. Immunological Techniques 3
BIOL 255L. Advanced Biology Laboratory 1-4
BIOL 255M. Advanced Topics:Molecular & Microbiology 3
other 100- or 200-level courses chosen with advisor consent

Culminating Experience 1

COMPLETE ONE OPTION (PLAN A OR PLAN B):

Plan A (Thesis)
BIOL 299. Master's Thesis 1
Seminar - Thesis Defense

Plan B (Project)
BIOL 298. MS Project Culminating Experience 1
Seminar - Project Defense

Total Units Required 30

Elective courses must be planned in consultation with the Graduate Advisor.

The maximum number of upper-division undergraduate units that can be applied toward the master's degree is 15.

A public seminar on the thesis or project must be given.

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU cumulative grade point averages of 3.0 in order to graduate.

Biomedical Engineering Department

College of Engineering

ENGINEERING BUILDING 233
408-924-3409
biomedical-engineering@sjsu.edu
sjsu.edu/bme

Professors

Guna S. Selvaduray, Chair

Assistant Professors

Alessandro Bellofiore
Folarin Erogbogbo
Matthew Leineweber
Melinda Simon

Curricula

BS, Biomedical Engineering
Minor, Biomedical Engineering
MS, Biomedical Engineering
MS, Biomedical Engineering, Concentration Biomedical Devices

Introduction

Biomedical engineering is an inherently interdisciplinary field that lies at the intersection of engineering and the biological and health sciences. Biomedical engineers use the principles of engineering to develop solutions for a wide variety of products and technologies that improve the quality of life. Students majoring in biomedical engineering will have the satisfaction of being actively engaged in a discipline that has human health and welfare as its primary focus.

The mission of the Biomedical Engineering Department is to be a recognized leader in translational biomedical research; to provide hands-on education focused on solving real world biomedical problems; and to foster innovation and entrepreneurship in the service of human well-being.

The BS and MS Biomedical Engineering programs have been designed, in consultation with potential employers, to prepare graduates for the wide variety of emerging careers in biomedical devices, bioelectronics and instrumentation, imaging, bioinformatics, and manufacturing, among others. The coursework prepares students to function effectively in a U.S. Food & Drug Administration-regulated environment. These programs also promote the development of soft skills, such as oral and written communication, and team work, that are necessary for professional success and lifelong learning in the global marketplace. The ability to address and deal with ethical issues, which are of paramount importance in biomedical engineering, is also cultivated, and communications skills are integrated into the classes throughout the curriculum.

In addition to bachelor's and master's degrees in biomedical engineering, we offer an undergraduate minor in biomedical engineering, appropriate for students pursuing other fields of study but still interested in applications in biomedical engineering. The BS Biomedical Engineering program is accredited by the Engineering Accreditation Commission of ABET, www.abet.org.

BS - Biomedical Engineering

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

Major Exceptions

This degree program meets certain University Requirements through approved major modifications. Please see the Major Exceptions area in the Policy and Procedures section of this catalog to identify the specific adjustments for this degree program or contact your major advisor for more details.

Major-Specific Graduation Requirements

The following course in Preparation for the Major must be completed with a "C- or Better": ENGL 001B.

The following courses in Required in the Major Lower Division Core (LD Core) must be satisfied with a "C- or Better": MATH 030*, MATH 031*, MATH 032*, PHYS 050*, PHYS 051, CHEM 001A*, CHEM 001B*, Biol 030*, ENGR 010*, BME 025*, BME 065, BME 068 and EE 098. Those with an asterisk (*) must be completed with a GPA 2.0 and no individual course grade lower than "C-" before enrolling in Junior Core classes.

The Junior Core which consists of Math 133A or Math 123, BME 115*, BME 117*, BME 130*, BME 174*, BME 177*, and ENGR 100W*, must be completed with a GPA of 2.0 or better, and no individual course grade lower than "C-". Those identified with an asterisk (*) must be completed before enrolling in Senior Project (BME 198A).

The Senior Core consists of: BME 147, BME 165, BME 168, BME 178, BME 198A and BME 198B. The entire Senior Core must be completed with a GPA of 2.0 or higher and no individual course grade lower than a C-.

All electives for the BS Biomedical Engineering degree must also be completed with a C- or better.

Prerequisite Requirements

Enrollment in any chemistry course requires that the prerequisite courses be passed with a grade of "C or better" (C- not accepted). Exceptions may be made only with instructor consent or if not explicitly stated in the course description. Refer to the SJSU Course Catalog for specific information regarding course prerequisites.

University Graduation Requirements 18

Core Lower Division General Education 6

Of the 39 units required by the university, 33 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

Upper Division General Education

Of the 9 units required by the university, 9 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 12

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

AMS 001A. American Cultures to 1877 ..... M4 6
AMS 001B. American Cultures 1877 to present M5 6

Physical Education

Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Preparation for the Major		42
BIOL 030. Principles of Biology I	B2+B3	4
CHEM 001A. General Chemistry	B1+B3	5
CHEM 001B. General Chemistry	B1+B3	5
CHEM 008. Organic Chemistry		3
CHEM 009. Organic Chemistry Lab		1
ENGL 001B. Argument and Analysis	C2	3
or equivalent second semester composition course.		
MATH 030. Calculus I	B4	3
MATH 031. Calculus II	B4	4
MATH 032. Calculus III	B4	3
PHYS 050. General Physics/Mechanics	B1+B3	4
PHYS 051. General Physics/Electricity and Magnetism	B1+B3	4
COMPLETE ONE COURSE FROM:		
MATH 123. Differential Equations and Linear Algebra		3
MATH 133A. Ordinary Differential Equations		3

Requirements of the Major		60
Core Courses		**14**
BME 025. Introduction to Biomedical Engineering Design		3
BME 065. Biomedical Applications of Statics		2
CE 95 or CE 99 also accepted		
EE 098. Introduction to Circuit Analysis		3
ENGR 010. Introduction to Engineering	E	3
ENGR 100W. Engineering Reports	Z+R	3
Biomedical Engineering Specific Courses		**37**
BME 068. Biomedical Applications of Metals and Ceramics		3
MATE 025 also accepted		
BME 115. Foundations of Biomedical Engineering		4
BME 117. Biotransport Phenomena		3
BME 130. Numerical Methods in Biomedical Engineering		3
BME 147. Quantitative Methods for BME		3
BME 165. Applied Engineering Biomechanics		3
BME 168. Medical and Biological Polymers		3
BME 174. Biomedical Regulatory Requirements		3
BME 177. Physiology for Engineers		3
BME 178. Biomedical Product Realization		3
BME 198A. Senior Design Project I	S	2
BME 198B. Senior Design Project II	V	2
ENGR 195A. Global and Social Issues in Engineering	S	1
ENGR 195B. Global and Social Issues in Engineering	V	1
Must take BME 198A/B and ENGR 195 A/B to meet GE Area S and V requirements		
Technical Major Electives		**9**
Electives must be selected from the approved departmental list in consultation with the students' advisor.		
Total Units Required		**120**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Minor - Biomedical Engineering

Students must complete a minimum of 13 units as listed under the course requirements. All of these units must be outside the requirements for the student's major, i.e., the same courses cannot be listed both on the minor and the major forms. BME 115 (4 units) and BME 177 (3 units) are required for all students taking this minor. In consultation with the Biomedical Engineering advisor, students must select two additional courses from the group of biomedical engineering-based courses. It is the student's responsibility to make sure that the prerequisites for each course are met. Students in majors other than engineering, biology, chemistry or physics will probably need to take additional courses to meet prerequisites for the courses required for this minor. This sequence of courses is the recommended pattern for engineering majors. Alternative patterns may be approved by the Biomedical Engineering advisor for students majoring in biology, physics or chemistry.

Interested students are encouraged to meet with a BME Department Adviser to fill out the Biomedical Engineering Minor form {http://www.sjsu.edu/bcme/docs/BME%20 Minor%20Form%20-%20Fall%202017.xlsx}.

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Requirements of the Minor	13
BME 115. Foundations of Biomedical Engineering	4
BME 177. Physiology for Engineers	3
COMPLETE TWO COURSES FROM:	
BME 068. Biomedical Applications of Metals and Ceramics	3
BME 117. Biotransport Phenomena	3
BME 147. Quantitative Methods for BME	3
BME 165. Applied Engineering Biomechanics	3
BME 168. Medical and Biological Polymers	3
BME 174. Biomedical Regulatory Requirements	3
BME 178. Biomedical Product Realization	3
BME 182. Orthotics and Prosthetics	3
BME 188. Biomedical Device Manufacturing	3
EE 127. Electronics for Biomedical Applications	3
Total Units Required	**16**

MS - Biomedical Engineering

Students pursuing the MS, Biomedical Engineering degree will have the satisfaction of being actively engaged in a discipline that has human health and welfare as its primary focus. Biomedical Engineering is an inherently interdisciplinary field in which professionals from engineering and the physical sciences play a major role in developing engineered products for deployment in the human body.

Program Objectives

The MS, Biomedical Engineering program incorporates and develops oral and written communication skills, teamwork, and the ability to address and deal with ethical issues, all of which are essential for professional success in the global marketplace and for lifelong learning. The MS, Biomedical Engineering program is designed to produce graduates who will be able to:

- Solve complex biomedical engineering problems and tasks in areas including design, manufacturing and quality control.
- Use engineering, science, and relevant regulations to justify recommendations.
- Evaluate the impact of their work on their fellow human beings and society as expressed through regulatory, ethical, economic, global and environmental considerations.
- Deliver effective presentations of biomedical engineering results in written and oral formats.
- Engage in lifelong self-directed learning to maintain and enhance professional skills and capabilities and keep abreast of the rapid developments in biomedical engineering and science.
- Be effective leaders capable of working in diverse environments and teams, in a globally competitive landscape.

Requirements for Admission

Applicants must meet all university admission requirements. (Please see SJSU Admission Requirements). Applicants who have a major GPA of 3.0 or higher are not required to take the GRE. All others must take the GRE General Test and obtain a combined score of 315 or higher in the Verbal and Quantitative sections, and 3.5 or higher in the Analytical Writing section.

Students can be admitted to either classified or conditionally classified standing. To be admitted to classified standing, a student must possess a BS degree in biomedical engineering, or its equivalent from an accredited institution with a grade point average of 3.0 or better in the last 60 semester units, have met the GRE requirement if their major GPA is below 3.0; and have completed the Transition Courses, or their equivalents, with grades of B or better.

Conditionally Classified Admission

Students can be admitted to conditionally classified standing if they have a BS degree in an engineering discipline, chemistry, physics or biology from an accredited institution. Students with conditionally classified standing will take a series of Transition Courses. Once the series is completed satisfactorily, students can petition for transfer to classified standing. For more information on the transition courses contact the Biomedical Engineering Graduate Coordinator at biomedical-engineering@sjsu.edu.

Requirements for Candidacy

Students must meet the university requirements for candidacy, which include successful completion of a minimum of 9 units of graduate level classes. The University requires that all graduate students complete the Graduation Writing Assessment Requirement (GWAR) as a condition for advancement to candidacy. Please refer to the SJSU catalog section titled "Graduation Writing Assessment Requirement" for details.

Course Requirements

To meet the requirements for the MS, Biomedical Engineering degree, a student must complete 30 units of approved courses. Students must achieve a minimum of a "C" in each course, a cumulative GPA of 3.0 or better in all their coursework, AND a GPA of 3.0 or higher for the courses listed in the Candidacy form.

Culminating Experience

In addition to the 30 approved course units, students must also complete a written thesis or project report and an oral defense of their thesis or project. The candidate may choose either the Plan A (thesis) or Plan B (project) option.

Plan A (Thesis)

The student who opts to complete a master's thesis is responsible for securing the commitment of a full-time tenured or tenure-track BME faculty member who agrees to serve as thesis committee chair. The student must also secure the commitments of two additional university faculty members, one of whom must be a full-time tenure or tenure-track faculty member, to serve as the student's thesis committee. The student must write a thesis proposal and have it approved by the thesis committee and pass the BME 291, MS Thesis/Project Preparation Seminar (1 unit) and BME 298, MS Project (2 units) before enrolling in the 3-unit BME 299, MS Thesis. The thesis must meet university requirements as stipulated in this catalog and in the SJSU Master's Thesis and Doctoral Dissertation Guidelines. It will be written under the guidance of the candidate's thesis committee chair with the assistance of the thesis committee.

Plan B (Project)

Students opting to complete a master's project must pass the BME 291, MS Thesis/Project Preparation Seminar (1 unit) before enrolling in the 2-unit BME 298, MS Project (2 units). They will also take an additional 3-unit elective as part of their 6- units culminating experience.

The project proposal is prepared in BME 291 and must be approved by the student's reading committee at the culmination of that course. Once the proposal is approved, the student is required to (a) implement the approved research plan using appropriate methods for the investigation, (b) use appropriate statistical techniques for analysis of the data and drawing conclusions, (c) discuss the results in light of findings reported by other investigators, (d) write a professional report of appropriate length, and (e) present it and defend the project to the reading committee.

Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR). For information on the GWAR, please see http://info.sjsu.edu/gcw.html.

Preparation for the Masters

Students may be required to complete some or all of the following transition courses (or equivalent courses) prior to being admitted to Classified Standing in the major.

BME 065. Biomedical Applications of Statics		2
BME 068. Biomedical Applications of Metals and Ceramics		3
BME 115. Foundations of Biomedical Engineering		4
BME 147. Quantitative Methods for BME		3
BME 165. Applied Engineering Biomechanics		3
CHEM 001A. General Chemistry	B1+B3	5
CHEM 001B. General Chemistry	B1+B3	5
EE 098. Introduction to Circuit Analysis		3
MATH 133A. Ordinary Differential Equations		3
PHYS 050. General Physics/Mechanics	B1+B3	4
PHYS 051. General Physics/Electricity and Magnetism	B1+B3	4

Requirements of the Masters 30

Core Courses 15

BME 177. Physiology for Engineers	3
BME 207. Experimental Methods in BME	3
BME 210. Mathematical Methods in Biomedical Engineering	3
BME 272. Biomedical Device Design and Principles	3
BME 274. Regulatory, Clinical and Manufacturing Aspects of Medical Devices	3

Biomedical Engineering Electives 9

COMPLETE 9-UNITS FROM:

BME 117. Biotransport Phenomena	3
BME 168. Medical and Biological Polymers	3
BME 272. Biomedical Device Design and Principles	3
BME 254. Microscale Biomedical Systems: Physics and Applications	3
BME 256. Biomedical Applications of Nanoplatforms	3
BME 258. Medical Imaging for Engineers	3
BME 288. Tissue Engineering	3
CHE 293. Applied Bioinformatics	3
EE 127. Electronics for Biomedical Applications	3
ME 267. Engineering Biomechanics	3

Other approved electives

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Culminating Experience	**6**
Plan A (Thesis Option)	**6**
BME 291. MS Thesis/Project Preparation Seminar	1
BME 298. MS Project	2
BME 299. MS Thesis	3
Plan B (Project Option)	**3**
BME 291. MS Thesis/Project Preparation Seminar	1
BME 298. MS Project	2
Additional 3-unit elective selected in consultation with graduate advisor	
Total Units Required	**30**

MS - Biomedical Engineering, Concentration in Biomedical Devices

The concentration in Biomedical Devices offers the student the opportunity to focus on the design, development and manufacture of medical devices that either come into contact with the human body or are implanted within the human body. This is an inherently interdisciplinary field. The concentration area has been created to provide individuals with B.S. degrees in an engineering field or chemistry or physics with the necessary graduate level education that prepares them to function effectively in this environment.

A student must meet all of the requirements for entry into the Master of Science in Biomedical Engineering Program. The transition courses required for admission to this concentration are:

- BME 115- Fundamentals of Biomedical Engineering (4 units)
- BME 065 - Biomedical Applications of Statics (2 units)
- BME 068 - Biomedical Applications of Metals and Ceramics(3 units)
- BME 165 - Applied Engineering Biomechanics (3 units)
- BME 147- Quantitative and Statistical Methods for Biomedical Engineers(3 units)
- CHEM 1A - General Chemistry (5 units)
- CHEM 1B - General Chemistry (5 units)
- EE 98 - Circuit Analysis (3 units)
- MATH 133A- Ordinary Differential Equations (3 units)
- PHYS 50 - General Physics/Mechanics (4 units)
- PHYS 51 - General Physics/Electricity and Magnetism (4 units)

Students who have not completed these classes or their equivalents during their undergraduate program will be required to complete these classes with a grade of B or better. This is in addition to the 30 semester units required for the Master of Science degree.

Requirements for Admission

Applicants must meet all university admission requirements. (Please see SJSU Admission Requirements). Applicants who have a major GPA of 3.0 or higher are not required to take the GRE. All others must take the GRE General Test and obtain a combined score of 315 or higher in the Verbal and Quantitative sections, and 3.5 or higher in the Analytical Writing section.

Students can be admitted to either classified or conditionally classified standing. To be admitted to classified standing, a student must possess a BS degree in biomedical engineering, or its equivalent from an accredited institution with a grade point average of 3.0 or better in the last 60 semester units, have met the GRE requirement if their major GPA is below 3.0; and have completed the Transition Courses, or their equivalents, with grades of B or better.

Conditionally Classified Admission

Students can be admitted to conditionally classified standing if they have a BS degree in an engineering discipline, chemistry, physics or biology from an accredited institution. Students with conditionally classified standing will take a series of Transition Courses. Once the series is completed satisfactorily, students can petition for transfer to classified standing. For more information on the transition courses contact the Biomedical Engineering Graduate Coordinator at biomedical-engineering@sjsu.edu.

Requirements for Candidacy

Students must meet the university requirements for candidacy, which include successful completion of a minimum of 9 units of graduate level classes. The University requires that all graduate students complete the Graduation Writing Assessment Requirement (GWAR) as a condition for advancement to candidacy. Please refer to the SJSU catalog section titled "Graduation Writing Assessment Requirement" for details.

Course Requirements

To meet the requirements for the MS, Biomedical Engineering degree, a student must complete 30 units of approved courses. Students must achieve a minimum of a "C" in each course, a cumulative GPA of 3.0 or better in all their coursework, AND a GPA of 3.0 or higher for the courses listed in the Candidacy form.

Culminating Experience

In addition to the 30 approved course units, students must also complete a written thesis or project report and an oral defense of their thesis or project. The candidate may choose either the Plan A (thesis) or Plan B (project) option.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

For Legend please see page 2

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CATALOG CONTENTS

Plan A (Thesis)

The student who opts to complete a master's thesis is responsible for securing the commitment of a full-time tenured or tenure-track BME faculty member who agrees to serve as thesis committee chair. The student must also secure the commitments of two additional university faculty members, one of whom must be a full-time tenure or tenure-track faculty member, to serve as the student's thesis committee. The student must write a thesis proposal and have it approved by the thesis committee and pass the BME 291, MS Thesis/Project Preparation Seminar (1 unit) and BME 298, MS Project (2 units) before enrolling in the 3-unit BME 299, MS Thesis. The thesis must meet university requirements as stipulated in this catalog and in the SJSU Master's Thesis and Doctoral Dissertation Guidelines. It will be written under the guidance of the candidate's thesis committee chair with the assistance of the thesis committee.

Plan B (Project)

Students opting to complete a master's project must pass the BME 291, MS Thesis/Project Preparation Seminar (1 unit) before enrolling in the 2-unit BME 298, MS Project (2 units). They will also take an additional 3-unit elective as part of their 6- units culminating experience.

The project proposal is prepared in BME 291 and must be approved by the student's reading committee at the culmination of that course. Once the proposal is approved, the student is required to (a) implement the approved research plan using appropriate methods for the investigation, (b) use appropriate statistical techniques for analysis of the data and drawing conclusions, (c) discuss the results in light of findings reported by other investigators, (d) write a professional report of appropriate length, and (e) present it and defend the project to the reading committee.

Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR). For information on the GWAR, please see http://info.sjsu.edu/gcw.html.

Requirements of the Masters — 30

Core Courses — 12

BME 177. Physiology for Engineers	3
BME 207. Experimental Methods in BME	3
BME 210. Mathematical Methods in Biomedical Engineering	3
BME 274. Regulatory, Clinical and Manufacturing Aspects of Medical Devices	3

Concentration Requirements — 9

BME 168. Medical and Biological Polymers	3
BME 272. Biomedical Device Design and Principles	3
ME 267. Engineering Biomechanics	3

Electives — 3

COMPLETE 3 UNITS FROM:

BME 117. Biotransport Phenomena	3
BME 254. Microscale Biomedical Systems: Physics and Applications	3
BME 256. Biomedical Applications of Nanoplatforms	3
BME 258. Medical Imaging for Engineers	3
BME 288. Tissue Engineering	3

Culminating Experience — 6

Plan A (Thesis Option) — 6

BME 291. MS Thesis/Project Preparation Seminar	1
BME 298. MS Project	2
BME 299. MS Thesis	3

Plan B (Project Option) — 6

BME 291. MS Thesis/Project Preparation Seminar	1
BME 298. MS Project	2
Additional 3-unit elective selected in consultation with graduate advisor	3

Total Units Required — 30

Business

Lucas College and Graduate School of Business

BUSINESS TOWER 850 (ACCOUNTING AND FINANCE)

BUSINESS TOWER 250 (SCHOOL OF INFORMATION SYSTEMS AND TECHNOLOGY)

BUSINESS TOWER 750 (MARKETING AND BUSINESS ANALYTICS)

BUSINESS TOWER 650 (SCHOOL OF MANAGEMENT)

BUSINESS TOWER 450 (SCHOOL OF GLOBAL INNOVATION AND LEADERSHIP)

BUSINESS TOWER 350 (GRADUATE PROGRAMS)

408-924-3460 (Accounting and Finance)
408-924-7790 (School of Information Systems and Technology)
408-924-3506 (Marketing and Business Analytics)
408-924-3550 (School of Management)
408-924-6880 (School of Global Innovation and Leadership)
408-924-3420 (Graduate Programs)

Marketing and Business Analytics

Professors

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Marilyn Easter
Jeffrey A. Fadiman
Kenneth C. Gehrt
Joseph J. Giglierano, Chair
Therese Louie
Sak Onkvisit
Mahesh Rajan

Associate Professors

Jennifer Bechkoff
David Czerwinski
Michael Merz
Miwa Merz
Robert Sibley
Jing Zhang

Assistant Professors

Michael Klein
Hyo Jin Lee
Shaonan Tian

School of Global Innovation and Leadership

Professors

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Arvinder Loomba
Asbjorn Osland
Joyce Osland
Taeho Park, Director
Carol Reade
Ming Zhou

Associate Professors

Xiaohong Quan
Shu Zhou

Assistant Professors

Tanvi Kothari
Seung Jun Lee
Kyoung-Ah Nam
Sarika Pruthi
Alexey Semenov
Tianqin Shi
Ju Myung Song

School of Information Systems and Technology

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Subhankar Dhar
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Malu Roldan
Ashraf Shirani
G. Kent Webb

Associate Professors

Nitin Aggarwal
Leslie Albert
Shailaja Venkatsubramanyan

Assistant Professors

Yu Chen
Scott Jensen

School of Management

Professors

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Camille Johnson, Director
Stanley B. Malos
Gita Mathur
Simon Rodan
Meghna Virick
Robert C. Wood

Associate Professors

Alaka Rao
Chunlei Wang

Assistant Professors

Thomas Altura
Monica Gavino
M-C Ingerson
Gretchen Vogelsang Lester
Matthew Maguire
Elizabeth Mullen

Accounting and Finance

Professors

Billy J. Campsey
Elizabeth Grace, Chair
Daoping (Steven) He
Frank Jones
Annette Nellen
Marco Pagani, Associate Dean, Graduate Programs

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Maria Bullen
Mary Calegari
Jang-Hyung Cho
Esperanza Huerta
Stoyu Ivanov
Yao Tian
Jian Zhang

Assistant Professors

Benjamin Anderson
Joel Busch
Caroline Chen
Artem Mescheryakov
Colin Onita
Tijana Rajkovich

Curricula

BS, Business Administration, Concentration in Accounting
BS, Business Administration, Concentration in Accounting Information Systems
BS, Business Administration, Concentration in Business Analytics
BS, Business Administration, Concentration in Corporate Accounting and Finance
BS, Business Administration, Concentration in Entrepreneurship
BS, Business Administration, Concentration in Finance
BS, Business Administration, Concentration in General Business
BS, Business Administration, Concentration in Global Operations Management
BS, Business Administration, Concentration in Human Resource Management
BS, Business Administration, Concentration in International Business

BS, Business Administration, Concentration in Management
BS, Business Administration, Concentration in Management Information Systems
BS, Business Administration, Concentration in Marketing
Minor, Business
Minor, Global Leadership and Innovation (Not Accepting Students)
Certificate, Advanced Accounting Topics
Certificate, Accounting Fundamentals (Special Session Program)
Certificate, Business Analytics (Special Session Program)
Certificate, Advanced Global Leadership (Special Session Program)
Certificate, Tax Practice (Special Session Program)
Certificate, International Taxation (Special Session Program)
Certificate, High Technology Taxation (Special Session Program)
Certificate, Advanced Taxation (Special Session Program)
Certificate, High-Speed Rail Management (Special Session Program)
Certificate, Transportation Management (Special Session Program)
Certificate, Transportation Security Management (Special Session Program)
MBA, Early Career MBA
MBA, MBA for Professionals
MS, Accountancy
MS, Taxation (Special Session Program)
MS, Transportation Management (Special Session Program)

Introduction

Since 1928, the College of Business has served the business education needs of our community. We provide San José and Silicon Valley with talent, thought leadership and service, ensuring our region's growth in the global marketplace. An institution of opportunity, our accessible, high-value education empowers and transforms the lives of people of all ages and backgrounds. Both our challenging undergraduate curriculum and our innovative graduate program in the Donald and Sally Lucas Graduate School of Business equip graduates with the tools, work ethic and skills to succeed in the ever-changing global economy. The college is accredited by the Western Association of Schools and Colleges, the California State Board of Education, and the prestigious AACSB International (www.aacsb.edu). Fewer than five percent of business programs worldwide have earned the AACSB's certification of excellence.

The Gary J. Sbona Honors Practicum

The Gary J. Sbona Honors Practicum provides the best students in the College of Business with the opportunity to apply what they have learned in the classroom to real business problems. Students are selected based on a combination of high GPA, prerequisites, and excellent communication skills. Students are typically placed in groups of three to work on projects at Silicon Valley businesses for college course credit. The program also includes international study trips, executive level guest speakers, and networking events. Through seminar sessions students are also exposed to current issues, ideas, and practices in their own disciplines and other fields of business. Students who complete two semesters in the program, have a 3.5 GPA or above and write a scholarly paper qualify to graduate with honors from the College of Business.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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BS - Business Administration, Concentration in Accounting

Accounting is a recognized profession concerned with the measurement, analysis, interpretation and communication of economic data. Students are prepared for careers as certified public accountants and managerial accountants for both the private and public sectors of the economy. The curriculum is designed to develop a basic understanding of the conceptual framework underlying the measurement and communication of economic data; a technical competence for effectively measuring, assimilating and communicating economic data; an awareness of the moral and ethical considerations involved; and incentives to grow and keep pace with ever-changing issues, conditions, forces and ideas.

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

Major-Specific Graduation Requirements

All courses in the Concentration Requirements for the Accounting Foundation Courses must be completed with a grade of "C or better". The following Preparation for the Major and Required for the Major courses must be completed with a grade of "C or better": ENGL 2, MATH 71, BUS1 20, BUS2 90.

University Graduation Requirements 35

Core Lower Division General Education 24

Of the 39 units required by the university, 15 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

Upper Division General Education 3

Of the 9 units required by the university, 6 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 6

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

COMPLETE ONE SEQUENCE FROM:

African American Studies **6**

AFAM 002A. African Americans and the Development of America's History and Government	D2	3
AFAM 002B. African Americans and the Development of America's History and Government	M7	3

Asian American Studies **6**

AAS 033A. Asian Americans in U.S. History I	D2	3
AAS 033B. Asian Americans in U.S. History II	M7	3

U.S. History and Government **6**

HIST 015. Essentials of U.S. History	M12	3
POLS 015. Essentials of U.S. & California Government	M11	3

Chicana and Chicano Studies **6**

CCS 010A. Mexican Americans and the Development of U.S. History and Government	D2	3
CCS 010B. Mexican Americans and the Development of U.S. History and Government	M7	3

Physical Education 2

Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Preparation for the Major 17

ECON 001A. Principles of Economics: Macroeconomics 4
ECON 001B. Principles of Economics: Microeconomics D1 4
ENGL 002. Critical Thinking and Writing A3 3

or equivalent

MATH 071. Calculus for Business and Aviation B4 3

Transfer students with MATH 30 (C or better) may use this in lieu of MATH 71.

COMPLETE ONE COURSE FROM:

ENGL 100WB. Written Communication: Business ..... Z 3
COMM 100W. Writing Workshop: Writing for Influence ..... Z 3
LLD 100WB. Writing Workshop for Business Students ..... Z 3

Requirements of the Major 64

Core Courses 40

Lower Division Courses 10

BUS3 010. Discovering Business 0

BUS3 010 is not required, but recommended.

BUS1 020. Financial Accounting 3
BUS3 080. Legal Environment of Business 3
BUS2 090. Business Statistics 3

Transfer students with STAT 095 (C or better) may use this in lieu of BUS2 090.

BUS4 091L. Computer Tools for Business 1

Upper Division Business Fundamentals Courses 15

BUS2 130. Introduction to Marketing 3
BUS5 140. Fundamentals of Operations Management 3
BUS3 160. Fundamentals of Management and Organizational Behavior 3
BUS1 170. Fundamentals of Finance 3
BUS2 190. Quantitative Business Analysis 3

Upper Division Business Integration and Perspectives Courses 15

BUS5 187. Global Dimensions of Business 3
BUS4 188. Business Systems and Policy 3
BUS3 189. Strategic Management 3
PHIL 186. Professional and Business Ethics ..... S 3
One non-business global perspectives course in Area V 3

Concentration Requirements 24

Additionally, to qualify for a baccalaureate degree in business administration with an Accounting concentration, all courses in the Accounting foundation classes must be completed with a grade of "C" or better. A cumulative 2.0 GPA is required in all business classes.

Accounting Foundation Courses 15

BUS1 120A. Accounting Information Systems 3
BUS1 121A. Intermediate Accounting I 3
BUS1 121B. Intermediate Accounting II 3
BUS1 122A. Management Accounting and Control Systems 3
BUS1 123A. Tax Factors of Business and Investment Decision 3

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Required Electives	**9**
COMPLETE THREE COURSES FROM:	
BUS1 120B. Advanced AIS and IS Risk Assessment	3
BUS1 120G. Programming and Systems Development in AIS	3
BUS1 123C. Taxation of Individuals and Pass Through Entities	3
BUS1 124. Forensic Accounting	3
BUS1 125. Special Financial Reporting Topics	3
BUS1 126. Advanced Accounting	3
BUS1 127A. Honors Practicum in Corporate Financial Management	3
BUS1 128. Accounting for Nonprofit Organizations	3
BUS1 129A. Financial Auditing	3
BUS1 129B. Operational Auditing	3
University Electives	4
Total Units Required	**120**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

BS - Business Administration, Concentration in Accounting Information Systems

This unique program prepares students to bridge the gap between two disciplines that are critical to business operations: Accounting and Management Information Systems. The program is taught exclusively within the Department of Accounting and Finance which strengthens the curriculum structure of the program focusing on important, relevant accounting, internal controls, and information technology issues. AIS students take courses in database design, networking and data communications, systems analysis and design, and IT audit, all with an accounting emphasis.

Students who complete this concentration will be entering into one of the fastest growing, most dynamic areas in accounting. Graduates are attractive to public accounting firms and corporations with jobs such as liaisons between the accounting/financial systems users and the information systems technical staff or to design and deploy information technology to improve the accounting systems of an organization. Careers might take paths in areas such as IT or internal audit, forensic accounting, risk management, or litigation services. This qualifies students to sit for the CISA (Computer Information Systems Auditor) examination.

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

Major-Specific Graduation Requirements

All courses in the Concentration Requirements for Accounting Information Systems must be completed with a grade of "C or better". The following Preparation for the Major and Required for the Major courses must be completed with a grade of "C or better": ENGL 2, MATH 71, BUS1 20, BUS2 90.

University Graduation Requirements 35

Core Lower Division General Education 24

Of the 39 units required by the university, 15 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

Upper Division General Education 3

Of the 9 units required by the university, 6 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 6

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

COMPLETE ONE SEQUENCE FROM:

African American Studies **6**

AFAM 002A. African Americans and the Development of America's History and Government	D2	3
AFAM 002B. African Americans and the Development of America's History and Government	M7	3

Asian American Studies **6**

AAS 033A. Asian Americans in U.S. History I	D2	3
AAS 033B. Asian Americans in U.S. History II	M7	3

U.S. History and Government **6**

HIST 015. Essentials of U.S. History	M12	3
POLS 015. Essentials of U.S. & California Government	M11	3

Chicana and Chicano Studies **6**

CCS 010A. Mexican Americans and the Development of U.S. History and Government	D2	3
CCS 010B. Mexican Americans and the Development of U.S. History and Government	M7	3

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Physical Education 2

Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Preparation for the Major 17

ECON 001A. Principles of Economics: Macroeconomics		4
ECON 001B. Principles of Economics: Microeconomics	D1	4
ENGL 002. Critical Thinking and Writing	A3	3
or equivalent		
MATH 071. Calculus for Business and Aviation	B4	3
Transfer students with MATH 30 (C or better) may use this in lieu of MATH 71.		

COMPLETE ONE COURSE FROM:

COMM 100W. Writing Workshop: Writing for Influence	Z	3
ENGL 100WB. Written Communication: Business	Z	3
LLD 100WB. Writing Workshop for Business Students	Z	3

Requirements of the Major 67

Core Courses 40

Lower Division Courses 10

BUS3 010. Discovering Business		0
BUS3 010 is not required, but recommended.		
BUS1 020. Financial Accounting		3
BUS3 080. Legal Environment of Business		3
BUS2 090. Business Statistics		3
Transfer students with STAT 095 (C or better) may use this in lieu of BUS2 090.		
BUS4 091L. Computer Tools for Business		1

Business Fundamentals 15

BUS2 130. Introduction to Marketing		3
BUS5 140. Fundamentals of Operations Management		3
BUS3 160. Fundamentals of Management and Organizational Behavior		3
BUS1 170. Fundamentals of Finance		3
BUS2 190. Quantitative Business Analysis		3

Business Integration and Perspectives Courses 15

BUS5 187. Global Dimensions of Business		3
BUS4 188. Business Systems and Policy		3
BUS3 189. Strategic Management		3
PHIL 186. Professional and Business Ethics	S	3
One non-business global perspectives course in Area V		3

Concentration Requirements 27

Additionally, to qualify for a baccalaureate degree in business administration with an accounting information systems concentration, all courses in the concentration must be completed with a grade of "C" or better. A cumulative 2.0 GPA is required in all business classes.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Accounting Information Systems Foundation Courses	**24**
BUS1 120A. Accounting Information Systems	3
BUS1 120B. Advanced AIS and IS Risk Assessment	3
BUS1 120C. Network Environment and Accounting Controls	3
BUS1 120D. Accounting Topics in IT Audit	3
BUS1 120G. Programming and Systems Development in AIS	3
BUS1 121A. Intermediate Accounting I	3
BUS1 121B. Intermediate Accounting II	3
BUS1 122A. Management Accounting and Control Systems	3
Required Electives	**3**
COMPLETE ONE COURSE FROM:	
BUS1 123A. Tax Factors of Business and Investment Decision	3
BUS1 124. Forensic Accounting	3
BUS1 127A. Honors Practicum in Corporate Financial Management	3
BUS1 129A. Financial Auditing	3
BUS1 129B. Operational Auditing	3
University Electives	1
Total Units Required	**120**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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BS - Business Administration, Concentration in Business Analytics

Business Analytics is a quantitative approach to business, driven by the intelligent use of data and mathematical models. Practitioners leverage methods from statistics and operations research to form insights and make decisions that improve business performance. Business analytics is crucial to a broad range of industries. Banks need to perform credit risk analysis and analyze streaming transactions in real time to quickly identify potential fraud. Utility companies need to analyze energy usage data to gain a better understanding of demand patterns. Retailers need to perform markdown optimizations, firm-wide liquidity management, and understand the social sentiment around their products and markets to develop more effective campaigns and promotions. Business Analytics helps such organizations uncover insights from big data, build models that relate actions to consequences, and perform optimization and simulation analyses that lead to quality decisions and better outcomes in shorter times. The job opportunities for graduates with data analytical skills have never been more numerous. The business analytics concentration is designed to cater to this need by equipping our undergraduates with the skills needed to crunch huge data sets into meaningful information to further facilitate smart business decision-making

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

Major-Specific Graduation Requirements

All courses in the Concentration Requirements for Business Analytics must be completed with a grade of "C- or better". The following Preparation for the Major and Required for the Major courses must be completed with a grade of "C or better": ENGL 2, MATH 71, BUS1 20, BUS2 90.

University Graduation Requirements 35

Core Lower Division General Education 24

Of the 39 units required by the university, 15 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

NOTE: STUDENTS WHO HAVE COMPLETED THE ADT TRANSFER DEGREE (UNDER SB 1440) FOR THIS MAJOR WILL HAVE COMPLETED ALL LOWER DIVISION GE REQUIREMENTS AND SHOULD FOLLOW THE 60 UNIT GUARANTEE ROADMAP. MEET WITH AN ADVISOR PRIOR TO REGISTERING FOR YOUR FIRST SEMESTER FOR THE 60 UNIT ROADMAP OR SPECIFIC QUESTIONS.

Upper Division General Education 3

Of the 9 units required by the university, 6 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 6

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

COMPLETE ONE SEQUENCE FROM:

African American Studies 6

AFAM 002A. African Americans and the Development of America's History and Government	D2	3
AFAM 002B. African Americans and the Development of America's History and Government	M7	3

Asian American Studies 6

AAS 033A. Asian Americans in U.S. History I	D2	3
AAS 033B. Asian Americans in U.S. History II	M7	3

U.S. History and Government 6

HIST 015. Essentials of U.S. History	M12	3
POLS 015. Essentials of U.S. & California Government	M11	3

Chicana and Chicano Studies 6

CCS 010A. Mexican Americans and the Development of U.S. History and Government	D2	3
CCS 010B. Mexican Americans and the Development of U.S. History and Government	M7	3

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Physical Education 2

Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Preparation for the Major 17

ECON 001A. Principles of Economics: Macroeconomics 4
ECON 001B. Principles of Economics: Microeconomics D1 4
ENGL 002. Critical Thinking and Writing A3 3

or equivalent.

MATH 071. Calculus for Business and Aviation B4 3

Transfer students with MATH 30 (C or better) may use this in lieu of MATH 71.

COMPLETE ONE COURSE FROM:

COMM 100W. Writing Workshop: Writing for Influence ..... Z 3
ENGL 100WB. Written Communication: Business ..... Z 3
LLD 100WB. Writing Workshop for Business Students ..... Z 3

Requirements of the Major 61

Core Courses 43

Lower Division Courses 13

BUS3 010. Discovering Business 0

BUS3 010 is not required, but recommended.

BUS1 020. Financial Accounting 3
BUS1 021. Managerial Accounting 3
BUS3 080. Legal Environment of Business 3
BUS2 090. Business Statistics 3

Transfer students with STAT 095 (C or better) may use this in lieu of BUS2 090.

BUS4 091L. Computer Tools for Business 1

Business Fundamentals 15

BUS2 130. Introduction to Marketing 3
BUS5 140. Fundamentals of Operations Management 3
BUS3 160. Fundamentals of Management and Organizational Behavior 3
BUS1 170. Fundamentals of Finance 3
BUS2 190. Quantitative Business Analysis 3

Business Integration and Perspective Courses 15

BUS5 187. Global Dimensions of Business 3
BUS4 188. Business Systems and Policy 3
BUS3 189. Strategic Management 3
PHIL 186. Professional and Business Ethics ..... S 3
One non-business global perspectives course in Area V 3

Concentration Requirements 18

Additionally, to qualify for a baccalaureate degree in Business Administration with concentration in Business Analytics, all courses in the concentration must be completed with a grade of "C-" or better. A cumulative 2.0 GPA is required in all business classes.

BUS2 194A. Statistical Analysis 3
BUS2 194B. Business Analytics 3

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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COMPLETE FOUR COURSES FROM:

BUS2 132B. Business Logistics	3
BUS2 137A. Soft Skills	3
BUS2 138. Marketing Research	3
BUS2 191. Decision Making Under Uncertainty	3
BUS2 193. Data Mining	3
BUS2 195A. Spreadsheet Modeling	3
BUS2 195B. Data Visualization	3
BUS2 195C. Simulation Modeling and Analysis	3
BUS2 195D. Analytic Strategy	3
BUS4 116. Advanced Database Management Systems	3
BUS4 118S. Special Topics in MIS	3

University Electives	7
Total Units Required	**120**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

BS - Business Administration, Concentration in Corporate Accounting and Finance

This unique concentration is designed for students who are attracted to career opportunities in corporate financial management. The concentration integrates two highly valued disciplines, Accounting and Finance.

The curriculum design develops a basic understanding of the conceptual framework underlying the measurement and communication of accounting data; a technical competence for effectively measuring, and assimilating and communicating economic data, ultimately to make sound financial decisions. Awareness of moral and ethical considerations in business is emphasized along with identifying incentives to grow and keep paced with ever-changing issues, conditions, forces, and ideas. The curriculum significantly enhances the attractiveness of its graduates to corporate finance groups as entry-level hires, and for the long-term, positions them to compete for roles in management. Required courses include four accounting and three finance courses. CFM graduates are able to move seamlessly between accounting and finance careers increasing their marketability in a field that has limitless opportunities.

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

Major-Specific Graduation Requirements

All courses in the Concentration Requirements for Corporate Accounting Finance must be completed with a grade of "C or better".The following Preparation for the Major and Required for the Major courses must be completed with a grade of "C or better": ENGL 2, MATH 71, BUS1 20, BUS2 90.

University Graduation Requirements 35

Core Lower Division General Education 24

Of the 39 units required by the university, 15 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

Upper Division General Education 3

Of the 9 units required by the university, 6 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 6

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

COMPLETE ONE SEQUENCE FROM:

African American Studies 6

AFAM 002A. African Americans and the Development of America's History and Government	D2	3
AFAM 002B. African Americans and the Development of America's History and Government	M7	3

Asian American Studies 6

AAS 033A. Asian Americans in U.S. History I	D2	3
AAS 033B. Asian Americans in U.S. History II	M7	3

U.S. History and Government 6

HIST 015. Essentials of U.S. History	M12	3
POLS 015. Essentials of U.S. & California Government	M11	3

Chicana and Chicano Studies 6

CCS 010A. Mexican Americans and the Development of U.S. History and Government	D2	3
CCS 010B. Mexican Americans and the Development of U.S. History and Government	M7	3

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Physical Education 2

Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Preparation for the Major 17

ECON 001A. Principles of Economics: Macroeconomics		4
ECON 001B. Principles of Economics: Microeconomics	D1	4
ENGL 002. Critical Thinking and Writing	A3	3
or equivalent.		
MATH 071. Calculus for Business and Aviation	B4	3
Transfer students with MATH 30 (C or better) may use this in lieu of MATH 71.		

COMPLETE ONE COURSE FROM:

COMM 100W. Writing Workshop: Writing for Influence	Z	3
ENGL 100WB. Written Communication: Business	Z	3
LLD 100WB. Writing Workshop for Business Students	Z	3

Requirements of the Major 67

Core Courses 40

Lower Division Courses **10**

BUS3 010. Discovering Business		0
BUS3 010 is not required, but recommended.		
BUS1 020. Financial Accounting		3
BUS3 080. Legal Environment of Business		3
BUS2 090. Business Statistics		3
Transfer students with STAT 095 (C or better) may use this in lieu of BUS2 090.		
BUS4 091L. Computer Tools for Business		1

Business Fundamentals Courses **15**

BUS2 130. Introduction to Marketing		3
BUS5 140. Fundamentals of Operations Management		3
BUS3 160. Fundamentals of Management and Organizational Behavior		3
BUS1 170. Fundamentals of Finance		3
BUS2 190. Quantitative Business Analysis		3

Business Integration and Perspectives Courses **15**

BUS5 187. Global Dimensions of Business		3
BUS4 188. Business Systems and Policy		3
BUS3 189. Strategic Management		3
PHIL 186. Professional and Business Ethics	S	3
One non-business global perspectives course in Area V		3

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Concentration Requirements	27

Additionally, to qualify for a baccalaureate degree in business administration with a Corporate Finance Management concentration, all courses in the concentration must be completed with a grade of "C" or better. A cumulative 2.0 GPA is required in all business classes.

Required Accounting Courses	12
BUS1 120A. Accounting Information Systems	3
BUS1 121A. Intermediate Accounting I	3
BUS1 121B. Intermediate Accounting II	3
BUS1 122A. Management Accounting and Control Systems	3

Required Finance Courses	9
BUS1 171A. Financial Institutions and Markets	3
BUS1 173A. Financial Management: Theory and Policy	3
BUS1 173B. Problems in Financial Management	3

Concentration Electives	6
COMPLETE TWO COURSES FROM:	
BUS1 120B. Advanced AIS and IS Risk Assessment	3
BUS1 123A. Tax Factors of Business and Investment Decision	3
BUS1 124. Forensic Accounting	3
BUS1 125. Special Financial Reporting Topics	3
BUS1 126. Advanced Accounting	3
BUS1 127A. Honors Practicum in Corporate Financial Management	3
BUS1 127B. Advanced Honors Practicum	3
BUS1 128. Accounting for Nonprofit Organizations	3
BUS1 129B. Operational Auditing	3
BUS1 171B. Commercial Banking	3
BUS1 172A. Investment Analysis	3
BUS1 172B. Portfolio Management	3
BUS1 172C. Futures and Options	3
BUS1 173C. Entrepreneurial Finance	3
BUS1 175. Real Estate Finance	3
BUS1 177. International Business Finance	3
BUS1 179B. Selected Topics in Business Finance	3

University Electives	1

Total Units Required	120

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

BS - Business Administration, Concentration in Entrepreneurship

The concentration in entrepreneurship prepares students with a drive for innovation and the passion to create new businesses to be entrepreneurs or corporate innovators. Students who complete the program will gain a global perspective of entrepreneurship, an understanding of the key management principles across business functions and the need to embrace change in a rapidly evolving environment due to global competition, new technology and changing customer requirements.

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

Major-Specific Graduation Requirements

All courses in the Concentration Requirements for Entrepreneurship must be completed with a grade of "C- or Better".The following Preparation for the Major and Required for the Major courses must be completed with a grade of "C or better": ENGL 2, MATH 71, BUS1 20, BUS2 90.

University Graduation Requirements 35

Core Lower Division General Education 24

Of the 39 units required by the university, 15 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

NOTE: STUDENTS WHO HAVE COMPLETED THE ADT TRANSFER DEGREE (UNDER SB 1440) FOR THIS MAJOR WILL HAVE COMPLETED ALL LOWER DIVISION GE REQUIREMENTS AND SHOULD FOLLOW THE 60 UNIT GUARANTEE ROADMAP. MEET WITH AN ADVISOR PRIOR TO REGISTERING FOR YOUR FIRST SEMESTER FOR THE 60 UNIT ROADMAP OR SPECIFIC QUESTIONS.

Upper Division General Education 3

Of the 9 units required by the university, 6 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 6

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

COMPLETE ONE SEQUENCE FROM:

African American Studies 6

AFAM 002A. African Americans and the Development of America's History and Government D2 3
AFAM 002B. African Americans and the Development of America's History and Government M7 3

Asian American Studies 6

AAS 033A. Asian Americans in U.S. History I D2 3
AAS 033B. Asian Americans in U.S. History II M7 3

U.S. History and Government 6

HIST 015. Essentials of U.S. History M12 3
POLS 015. Essentials of U.S. & California Government M11 3

Chicana and Chicano Studies 6

CCS 010A. Mexican Americans and the Development of U.S. History and Government D2 3
CCS 010B. Mexican Americans and the Development of U.S. History and Government M7 3

Physical Education 2

Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Preparation for the Major 17

ECON 001A. Principles of Economics: Macroeconomics 4
ECON 001B. Principles of Economics: Microeconomics D1 4
ENGL 002. Critical Thinking and Writing A3 3
or equivalent.
MATH 071. Calculus for Business and Aviation B4 3
Transfer students with MATH 30 (C or better) may use this in lieu of MATH 71.

COMPLETE ONE COURSE FROM:

COMM 100W. Writing Workshop: Writing for Influence ..... Z 3
ENGL 100WB. Written Communication: Business ..... Z 3
LLD 100WB. Writing Workshop for Business Students ..... Z 3

Requirements of the Major 61

Core Courses 43

Lower Division Courses 13

BUS3 010. Discovering Business 0
BUS3 010 is not required, but recommended
BUS1 020. Financial Accounting 3
BUS1 021. Managerial Accounting 3
BUS3 080. Legal Environment of Business 3
BUS2 090. Business Statistics 3
Transfer students with STAT 095 (C or better) may use this in lieu of BUS2 090.
BUS4 091L. Computer Tools for Business 1

Upper Division Business Fundamentals Courses 15

BUS2 130. Introduction to Marketing 3
BUS5 140. Fundamentals of Operations Management 3
BUS3 160. Fundamentals of Management and Organizational Behavior 3
BUS1 170. Fundamentals of Finance 3
BUS2 190. Quantitative Business Analysis 3

Upper Division Business Integration and Perspectives Courses 15

BUS5 187. Global Dimensions of Business 3
BUS4 188. Business Systems and Policy 3
BUS3 189. Strategic Management 3
PHIL 186. Professional and Business Ethics ..... S 3
One non-business global perspectives course in Area V 3

Concentration Requirements 18

Additionally, to qualify for a baccalaureate degree in business administration with an entrepreneurship concentration, all courses in the concentration must be completed with a grade of "C- or Better".

Required Courses 9

BUS2 131D. Marketing in New Ventures 3
BUS5 181. Introduction to Entrepreneurship 3
BUS5 182. Business Plans for New Ventures 3

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Concentration Electives	**9**
COMPLETE THREE COURSES FROM:	
BUS1 173C. Entrepreneurial Finance	3
BUS5 183. Global Entrepreneurship	3
BUS5 184A. Management of Innovation	3
BUS5 185. Family Business Dynamics	3
BUS5 186H. Entrepreneurship Laboratory *Instructor permission only*	3
BUS5 186S. Current Issues in Entrepreneurship	3
BUS5 186V. Venture Lab	3
NO MORE THAN ONE OF THE THREE ELECTIVE COURSES MAY BE COMPLETED FROM:	
BUS1 171B. Commercial Banking	3
BUS1 177. International Business Finance	3
BUS2 131A. Business to Business Marketing	3
BUS2 131B. Retail Marketing Management	3
BUS2 134C. Social Media Marketing	3
BUS2 136. Product Development	3
BUS3 153. Management of Diversity	3
BUS5 146. Fundamentals of Project Management	3
BUS5 162. International and Comparative Management	3
BUS5 163. Management Issues in High Technology Companies	3
BUS5 165A. Global Leadership	3
BUS5 167. Managing Environmental Issues	3
BUS5 169B. Honors Practicum in Organization and Management	3
University Electives	**7**
Total Units Required	**120**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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BS - Business Administration, Concentration in Finance

Three areas of financial decision-making are emphasized: corporate finance, investments and financial institutions. Corporate finance courses are designed to prepare the student for financial analysis and planning as essential functions of a business enterprise. The investments area emphasizes the decision-making processes required to analyze the valuation of securities such as stocks or bonds and the principles of managing an investment portfolio. Financial institutions are studied both from an external viewpoint that emphasizes the function of money and capital markets, and from the internal perspective of a manager of a financial institution such as a commercial bank, savings and loan, mutual fund or life insurance company. The objective is to prepare students for careers such as financial officer of a corporation or a financial institution responsible for investment and financing decisions.

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

Major-Specific Graduation Requirements

All courses in the Concentration Requirements for Finance must be completed with a grade of "C or better". The following Preparation for the Major and Required for the Major courses must be completed with a grade of "C or better": ECON 1A, ECON 1B, ENGL 2, MATH 71, BUS1 20, BUS1 21, BUS2 90, BUS1 170.

University Graduation Requirements 35

Core Lower Division General Education 24

Of the 39 units required by the university, 15 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

NOTE: STUDENTS WHO HAVE COMPLETED THE ADT TRANSFER DEGREE (UNDER SB 1440) FOR THIS MAJOR WILL HAVE COMPLETED ALL LOWER DIVISION GE REQUIREMENTS AND SHOULD FOLLOW THE 60 UNIT GUARANTEE ROADMAP. MEET WITH AN ADVISOR PRIOR TO REGISTERING FOR YOUR FIRST SEMESTER FOR THE 60 UNIT ROADMAP OR SPECIFIC QUESTIONS.

Upper Division General Education 3

Of the 9 units required by the university, 6 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 6

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

COMPLETE ONE SEQUENCE FROM:

African American Studies 6

AFAM 002A. African Americans and the Development of America's History and Government	D2	3
AFAM 002B. African Americans and the Development of America's History and Government	M7	3

Asian American Studies 6

AAS 033A. Asian Americans in U.S. History I	D2	3
AAS 033B. Asian Americans in U.S. History II	M7	3

U.S. History and Government 6

HIST 015. Essentials of U.S. History	M12	3
POLS 015. Essentials of U.S. & California Government	M11	3

Chicana and Chicano Studies 6

CCS 010A. Mexican Americans and the Development of U.S. History and Government	D2	3
CCS 010B. Mexican Americans and the Development of U.S. History and Government	M7	3

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Physical Education 2

Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Preparation for the Major 17

All of the following courses must be completed with a grade of "C" or better prior to taking any upper division major coursework.

ECON 001A. Principles of Economics: Macroeconomics		4
ECON 001B. Principles of Economics: Microeconomics	D1	4
ENGL 002. Critical Thinking and Writing	A3	3
or equivalent.		
MATH 071. Calculus for Business and Aviation	B4	3
Transfer students with MATH 30 (C or better) may use this in lieu of MATH 71.		

COMPLETE ONE COURSE FROM:

COMM 100W. Writing Workshop: Writing for Influence	Z	3
ENGL 100WB. Written Communication: Business	Z	3
LLD 100WB. Writing Workshop for Business Students	Z	3

Requirements of the Major 61

Core Courses 43

Lower Division Courses **13**

BUS3 010. Discovering Business		0
BUS3 010 is not required, but recommended		
BUS1 020. Financial Accounting		3
BUS1 021. Managerial Accounting		3
BUS3 080. Legal Environment of Business		3
BUS2 090. Business Statistics		3
Transfer students with STAT 095 (C or better) may use this in lieu of BUS2 090.		
BUS4 091L. Computer Tools for Business		1

Upper Division Business Fundamentals Courses **15**

BUS1 170. Fundamentals of Finance		3
BUS2 130. Introduction to Marketing		3
BUS5 140. Fundamentals of Operations Management		3
BUS3 160. Fundamentals of Management and Organizational Behavior		3
BUS2 190. Quantitative Business Analysis		3

Upper Division Business Integration and Perspectives Courses **15**

BUS5 187. Global Dimensions of Business		3
BUS4 188. Business Systems and Policy		3
BUS3 189. Strategic Management		3
PHIL 186. Professional and Business Ethics	S	3
One non-business global perspectives course in Area V		3

Concentration Requirements 18

Must achieve a grade of "C" or better in the following required courses

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Required Courses	**9**
BUS1 171A. Financial Institutions and Markets	3
BUS1 172A. Investment Analysis	3
BUS1 173A. Financial Management: Theory and Policy	3
Concentration Electives	**9**
COMPLETE THREE COURSES FROM:	
BUS1 127A. Honors Practicum in Corporate Financial Management	3
BUS1 127B. Advanced Honors Practicum	3
Choose 127A or 127B do not take both	
BUS1 171B. Commercial Banking	3
BUS1 172B. Portfolio Management	3
BUS1 172C. Futures and Options	3
BUS1 172D. Student Managed Investment Fund	3
BUS1 173B. Problems in Financial Management	3
BUS1 173C. Entrepreneurial Finance	3
BUS1 175. Real Estate Finance	3
BUS1 177. International Business Finance	3
BUS1 179B. Selected Topics in Business Finance	3
University Electives	7
Total Units Required	**120**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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BS - Business Administration, Concentration in General Business

The general business concentration offers students a broad spectrum of courses to prepare them for careers in small, medium-sized or family businesses and for jobs with companies that train new employees in a specific job largely unrelated to a functional area such as managing a large retail store or servicing technology company's customers.

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

Major-Specific Graduation Requirements

All courses in the Concentration Requirements for General Business must be completed with a grade of "C- or better". The following Preparation for the Major and Required for the Major courses must be completed with a grade of "C or better": ENGL 2, MATH 71, BUS1 20, BUS2 90.

University Graduation Requirements 35

Core Lower Division General Education 24

Of the 39 units required by the university, 15 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

NOTE: STUDENTS WHO HAVE COMPLETED THE ADT TRANSFER DEGREE (UNDER SB 1440) FOR THIS MAJOR WILL HAVE COMPLETED ALL LOWER DIVISION GE REQUIREMENTS AND SHOULD FOLLOW THE 60 UNIT GUARANTEE ROADMAP. MEET WITH AN ADVISOR PRIOR TO REGISTERING FOR YOUR FIRST SEMESTER FOR THE 60 UNIT ROADMAP OR SPECIFIC QUESTIONS.

Upper Division General Education 3

Of the 9 units required by the university, 6 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 6

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

COMPLETE ONE SEQUENCE FROM:

African American Studies 6

AFAM 002A. African Americans and the Development of America's History and Government	D2	3
AFAM 002B. African Americans and the Development of America's History and Government	M7	3

Asian American Studies 6

AAS 033A. Asian Americans in U.S. History I	D2	3
AAS 033B. Asian Americans in U.S. History II	M7	3

U.S. History and Government 6

HIST 015. Essentials of U.S. History	M12	3
POLS 015. Essentials of U.S. & California Government	M11	3

Chicana and Chicano Studies 6

CCS 010A. Mexican Americans and the Development of U.S. History and Government	D2	3
CCS 010B. Mexican Americans and the Development of U.S. History and Government	M7	3

Physical Education 2

Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Preparation for the Major 17

ECON 001A. Principles of Economics: Macroeconomics 4
ECON 001B. Principles of Economics: Microeconomics D1 4
ENGL 002. Critical Thinking and Writing A3 3
or equivalent.
MATH 071. Calculus for Business and Aviation B4 3
Transfer students with MATH 30 (C or better) may use this in lieu of MATH 71.

COMPLETE ONE COURSE FROM:

ENGL 100WB. Written Communication: Business ..... Z 3
COMM 100W. Writing Workshop: Writing for Influence ..... Z 3
LLD 100WB. Writing Workshop for Business Students ..... Z 3

Requirements of the Major 61

Core Courses 43

Lower Division Courses 13

BUS3 010. Discovering Business 0
BUS3 010 is not required, but recommended
BUS1 020. Financial Accounting 3
BUS1 021. Managerial Accounting 3
BUS3 080. Legal Environment of Business 3
BUS2 090. Business Statistics 3
Transfer students with STAT 095 (C or better) may use this in lieu of BUS2 090.
BUS4 091L. Computer Tools for Business 1

Upper Division Business Fundamentals Courses 15

BUS2 130. Introduction to Marketing 3
BUS5 140. Fundamentals of Operations Management 3
BUS3 160. Fundamentals of Management and Organizational Behavior 3
BUS1 170. Fundamentals of Finance 3
BUS2 190. Quantitative Business Analysis 3

Upper Division Business Integration and Perspectives Courses 15

BUS5 187. Global Dimensions of Business 3
BUS4 188. Business Systems and Policy 3
BUS3 189. Strategic Management 3
PHIL 186. Professional and Business Ethics ..... S 3
One non-business global perspectives course in Area V 3

Concentration Requirements 18

Required Courses 12

Courses selected must include at least one each from Marketing and Organization and Management. There could be as many as 12 units from any one department and as many as 6 units of advisor approved transfer credit. All these courses require grades of "C-" or better.

Additional Courses 6

Any upper division business courses. Please see an advisor for a current list of acceptable courses. All these courses require grades of "C-" or better.

University Electives 7

Total Units Required 120

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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BS - Business Administration, Concentration in Global Operations Management

The Global Operations Management (GOM) concentration prepares graduates with state-of-the-art knowledge of managing operations in a global context. The focus will be on contemporary issues related to operations function which are of relevance in a firm's ability to effectively collaborate with its supply chain partners in order to remain competitive in a global economy. The GOM concentration prepares students for careers with global manufacturing, service, and consulting organizations by offering a variety of courses in management of materials, quality, supply chains, services, global projects, and operations strategy. As part of this concentration, students have an opportunity to interact with GOM-related industry professionals as facilitated by the Global Operations Management Association, a GOM-affiliated student club at SJSU. They can also work on real-world consulting projects or explore internships in operations as facilitated by Silicon Valley Center of Operations and Technology Management.

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

Major-Specific Graduation Requirements

All courses in the Concentration Requirements for Global Operations Management must be completed with a grade of "C- or better".The following Preparation for the Major and Required for the Major courses must be completed with a grade of "C or better": ENGL 2, MATH 71, BUS1 20, BUS2 90.

University Graduation Requirements 35

Core Lower Division General Education 24

Of the 39 units required by the university, 15 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

NOTE: STUDENTS WHO HAVE COMPLETED THE ADT TRANSFER DEGREE (UNDER SB 1440) FOR THIS MAJOR WILL HAVE COMPLETED ALL LOWER DIVISION GE REQUIREMENTS AND SHOULD FOLLOW THE 60 UNIT GUARANTEE ROADMAP. MEET WITH AN ADVISOR PRIOR TO REGISTERING FOR YOUR FIRST SEMESTER FOR THE 60 UNIT ROADMAP OR SPECIFIC QUESTIONS.

Upper Division General Education 3

Of the 9 units required by the university, 6 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 6

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

COMPLETE ONE SEQUENCE FROM:

African American Studies 6

AFAM 002A. African Americans and the Development of America's History and Government	D2	3
AFAM 002B. African Americans and the Development of America's History and Government	M7	3

Asian American Studies 6

AAS 033A. Asian Americans in U.S. History I	D2	3
AAS 033B. Asian Americans in U.S. History II	M7	3

U.S. History and Government 6

HIST 015. Essentials of U.S. History	M12	3
POLS 015. Essentials of U.S. & California Government	M11	3

Chicana and Chicano Studies 6

CCS 010A. Mexican Americans and the Development of U.S. History and Government	D2	3
CCS 010B. Mexican Americans and the Development of U.S. History and Government	M7	3

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Physical Education 2

Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Preparation of the Major 17

ECON 001A. Principles of Economics: Macroeconomics		4
ECON 001B. Principles of Economics: Microeconomics	D1	4
ENGL 002. Critical Thinking and Writing	A3	3
or equivalent.		
MATH 071. Calculus for Business and Aviation	B4	3
Transfer students with MATH 30 (C or better) may use this in lieu of MATH 71.		

COMPLETE ONE COURSE FROM:

COMM 100W. Writing Workshop: Writing for Influence	Z	3
ENGL 100WB. Written Communication: Business	Z	3
LLD 100WB. Writing Workshop for Business Students	Z	3

Requirements of the Major 64

Core Courses 43

Lower Division Courses **13**

BUS3 010. Discovering Business	0
BUS3 010 is not required, but recommended	
BUS1 020. Financial Accounting	3
BUS1 021. Managerial Accounting	3
BUS3 080. Legal Environment of Business	3
BUS2 090. Business Statistics	3
Transfer students with STAT 095 (C or better) may use this in lieu of BUS2 090.	
BUS4 091L. Computer Tools for Business	1

Upper Division Business Fundamentals Courses **15**

BUS1 170. Fundamentals of Finance	3
BUS2 130. Introduction to Marketing	3
BUS2 190. Quantitative Business Analysis	3
BUS3 160. Fundamentals of Management and Organizational Behavior	3
BUS5 140. Fundamentals of Operations Management	3

Upper Division Business Integration and Perspectives Courses **15**

BUS3 189. Strategic Management		3
BUS4 188. Business Systems and Policy		3
BUS5 187. Global Dimensions of Business		3
PHIL 186. Professional and Business Ethics	S	3
One non-business global perspectives course in Area V		3

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Concentration Requirements 21

All concentration courses must be passed with a C- or better.

Required Courses 15

BUS5 142. Total Quality Management 3
BUS5 144. Supply Chain Management 3
BUS5 146. Fundamentals of Project Management 3

COMPLETE TWO COURSE FROM:

BUS5 141. Procurement and Supply Management 3
BUS5 142B. Business Process Management 3
BUS5 144B. Global Operations Analytics 3
BUS5 145. Global Operations Strategy 3
BUS5 147. Service Operations Management 3

Concentration Electives 6

COMPLETE TWO COURSES FROM THE FOLLOWING LIST OR FROM REQUIRED COURSES LISTED ABOVE IF NOT ALREADY COUNTED:

BUS2 131A. Business to Business Marketing 3
BUS3 153. Management of Diversity 3
BUS5 141B. Transportation & Logistics Management 3
BUS5 145B. Healthcare Operations Management 3
BUS5 148. Sustainable Operations Management 3
BUS5 162. International and Comparative Management 3
BUS5 163A. Negotiating Globally 3
BUS5 165A. Global Leadership 3
BUS5 167. Managing Environmental Issues 3
BUS5 169B. Honors Practicum in Organization and Management 3
BUS5 183. Global Entrepreneurship 3
BUS5 184A. Management of Innovation 3

University Electives 4

Total Units Required 120

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

For Legend please see page 2

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CATALOG CONTENTS

BS - Business Administration, Concentration in Human Resource Management

The program provides the academic foundation for careers concerned with activities related to creating and sustaining the competitive advantage of organizations through the effective management of human capital. This area of study is concerned with both the strategic and current day-to-day activities in areas such as performance management, human resource planning and information systems, recruitment and staffing, training and employee development, compensation and benefits and union-management relations in an environment that changes rapidly due to competition, globalization, diversity, technology and laws. The program qualifies graduates for positions in private sector, non-profit and public sector organizations.

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

Major-Specific Graduation Requirements

All courses in the Concentration Requirements for Human Resource Management must be completed with a grade of "C- or better". The following Preparation for the Major and Required for the Major courses must be completed with a grade of "C or better": ENGL 2, MATH 71, BUS1 20, BUS2 90.

University Graduation Requirements 35

Core Lower Division General Education 24

Of the 39 units required by the university, 15 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

NOTE: STUDENTS WHO HAVE COMPLETED THE ADT TRANSFER DEGREE (UNDER SB 1440) FOR THIS MAJOR WILL HAVE COMPLETED ALL LOWER DIVISION GE REQUIREMENTS AND SHOULD FOLLOW THE 60 UNIT GUARANTEE ROADMAP. MEET WITH AN ADVISOR PRIOR TO REGISTERING FOR YOUR FIRST SEMESTER FOR THE 60 UNIT ROADMAP OR SPECIFIC QUESTIONS.

Upper Division General Education 3

Of the 9 units required by the university, 6 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 6

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

COMPLETE ONE SEQUENCE FROM:

African American Studies 6

AFAM 002A. African Americans and the Development of America's History and Government	D2	3
AFAM 002B. African Americans and the Development of America's History and Government	M7	3

Asian American Studies 6

AAS 033A. Asian Americans in U.S. History I	D2	3
AAS 033B. Asian Americans in U.S. History II	M7	3

U.S. History and Government 6

HIST 015. Essentials of U.S. History	M12	3
POLS 015. Essentials of U.S. & California Government	M11	3

Chicana and Chicano Studies 6

CCS 010A. Mexican Americans and the Development of U.S. History and Government	D2	3
CCS 010B. Mexican Americans and the Development of U.S. History and Government	M7	3

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Physical Education 2

Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Preparation for the Major 17

ECON 001A. Principles of Economics: Macroeconomics 4
ECON 001B. Principles of Economics: Microeconomics D1 4
ENGL 002. Critical Thinking and Writing A3 3

or equivalent

MATH 071. Calculus for Business and Aviation B4 3

Transfer students with MATH 30 (C or better) may use this in lieu of MATH 71.

COMPLETE ONE COURSE FROM:

ENGL 100WB. Written Communication: Business ..... Z 3
COMM 100W. Writing Workshop: Writing for Influence ..... Z 3
LLD 100WB. Writing Workshop for Business Students ..... Z 3

Requirements of the Major 61

Core Courses 43

Lower Division Courses 13

BUS3 010. Discovering Business 0

BUS3 010 is not required, but recommended

BUS1 020. Financial Accounting 3
BUS1 021. Managerial Accounting 3
BUS3 080. Legal Environment of Business 3
BUS2 090. Business Statistics 3

Transfer students with STAT 095 (C or better) may use this in lieu of BUS2 090.

BUS4 091L. Computer Tools for Business 1

Upper Division Business Fundamentals Courses 15

BUS2 130. Introduction to Marketing 3
BUS5 140. Fundamentals of Operations Management 3
BUS3 160. Fundamentals of Management and Organizational Behavior 3
BUS1 170. Fundamentals of Finance 3
BUS2 190. Quantitative Business Analysis 3

Upper Division Business Integration and Perspectives Courses 15

BUS5 187. Global Dimensions of Business 3
BUS4 188. Business Systems and Policy 3
BUS3 189. Strategic Management 3
PHIL 186. Professional and Business Ethics ..... S 3
One non-business global perspectives course in Area V 3

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Concentration Requirements	**18**

Additionally, to qualify for a baccalaureate degree in business administration with a Human Resource Management concentration, all courses in the concentration must be completed with a grade of "C- or Better".

Required Courses	**15**
BUS3 150. Fundamentals of Human Resource Management	3
BUS3 154. Workforce Planning, Staffing and Training	3
BUS3 157. Legal Issues in Human Resource Management	3
BUS3 158. Compensation and Reward Systems	3
BUS3 159. Senior Seminar in Human Resource Management	3
Additional Courses	**3**
COMPLETE ONE COURSE FROM:	
BUS3 151. Labor Relations	3
BUS3 152. Human Resource Information Systems	3
BUS3 153. Management of Diversity	3
BUS3 155. Performance Management and Development	3
BUS3 156. International Issues in Human Resource Management	3
University Electives	7
Total Units Required	**120**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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BS - Business Administration, Concentration in International Business

The concentration in International Business (IB) is designed to prepare students for today's global business environment. IB as an interdisciplinary program builds capacity around key challenges and opportunities confronting all global businesses, including managing across borders, fostering innovation and entrepreneurship, and developing effective global strategies. In addition students may select an area of specialization, either a business functional area, an industry area, a geographic area of study, or language studies. Study abroad is required with one of three options: 1) a short-term faculty-led program; 2) a semester of study at a foreign university approved by CSU; or 3) an internship through AIESEC or other international internship program. The Director of the School of Global Innovation and Leadership can waive this requirement (e.g., international students need not study abroad). Study abroad courses that are regarded as equivalent can be substituted for IB program course requirements. This interdisciplinary approach provides a foundation for starting an international career. Graduates work in a variety of international areas and industries such as import/export, global operations, marketing, finance, hospitality and tourism, consulting, and project management, in both the private sector as well as governmental and non-governmental organizations.

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

Major-Specific Graduation Requirements

All courses in the Concentration Requirements for International Business must be completed with a grade of "C- or better".The following Preparation for the Major and Required for the Major courses must be completed with a grade of "C or better": ENGL 2, MATH 71, BUS1 20, BUS2 90.

University Graduation Requirements 35

Core Lower Division General Education 24

Of the 39 units required by the university, 15 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

Upper Division General Education 3

Of the 9 units required by the university, 6 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 6

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

COMPLETE ONE SEQUENCE FROM:

African American Studies 6

AFAM 002A. African Americans and the Development of America's History and Government	D2	3
AFAM 002B. African Americans and the Development of America's History and Government	M7	3

Asian American Studies 6

AAS 033A. Asian Americans in U.S. History I	D2	3
AAS 033B. Asian Americans in U.S. History II	M7	3

U.S. History and Government 6

HIST 015. Essentials of U.S. History	M12	3
POLS 015. Essentials of U.S. & California Government	M11	3

Chicana and Chicano Studies 6

CCS 010A. Mexican Americans and the Development of U.S. History and Government	D2	3
CCS 010B. Mexican Americans and the Development of U.S. History and Government	M7	3

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Physical Education 2

Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Preparation for the Major 17

ECON 001A. Principles of Economics: Macroeconomics 4
ECON 001B. Principles of Economics: Microeconomics D1 4
ENGL 002. Critical Thinking and Writing A3 3

Or equivalent.

MATH 071. Calculus for Business and Aviation B4 3

Transfer students with MATH 30 (C or better) may use this in lieu of MATH 71.

COMPLETE ONE COURSE FROM:

ENGL 100WB. Written Communication: Business ..... Z 3
COMM 100W. Writing Workshop: Writing for Influence ..... Z 3
LLD 100WB. Writing Workshop for Business Students ..... Z 3

Requirements of the Major 67

Core Courses 43

Lower Division Courses 13

BUS3 010. Discovering Business 0

BUS3 010 is not required, but recommended

BUS1 020. Financial Accounting 3
BUS1 021. Managerial Accounting 3
BUS3 080. Legal Environment of Business 3
BUS2 090. Business Statistics 3

Transfer students with STAT 095 (C or better) may use this in lieu of BUS2 090.

BUS4 091L. Computer Tools for Business 1

Upper Division Business Fundamentals Courses 15

BUS1 170. Fundamentals of Finance 3
BUS2 130. Introduction to Marketing 3
BUS2 190. Quantitative Business Analysis 3
BUS3 160. Fundamentals of Management and Organizational Behavior 3
BUS5 140. Fundamentals of Operations Management 3

Upper Division Business Integration and Perspectives Courses 15

BUS3 189. Strategic Management 3
BUS4 188. Business Systems and Policy 3
BUS5 187. Global Dimensions of Business 3
PHIL 186. Professional and Business Ethics ..... S 3
One non-business global perspectives course in Area V 3

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Concentration Requirements **24**

Additional requirements for graduation: to qualify for a baccalaureate degree in business administration with an international business concentration all courses in the concentration must be completed with a grade of "C-" or better.

Required Courses **12**

BUS5 162. International and Comparative Management 3
BUS5 162A. International Business Strategy 3
BUS5 183. Global Entrepreneurship 3

COMPLETE ONE COURSE FROM:

BUS5 163A. Negotiating Globally 3
BUS5 163B. Globalization and Innovation in Emerging and Developing Markets 3
BUS5 164A. Country Perspectives on Business and Management 3
BUS5 164B. Doing Business Globally 3

Concentration Electives **12**

SELECT 12 UNITS OF CONCENTRATION ELECTIVES OR AN AREA OF SPECIALIZATION

Do not take course if taken as part of required courses

BUS1 177. International Business Finance 3
BUS2 133A. International Marketing 3
BUS3 156. International Issues in Human Resource Management 3
BUS3 169A. Honors Seminar 3
BUS5 146. Fundamentals of Project Management 3
BUS5 163A. Negotiating Globally 3
BUS5 163B. Globalization and Innovation in Emerging and Developing Markets 3
BUS5 164A. Country Perspectives on Business and Management 3
BUS5 169B. Honors Practicum in Organization and Management 3
BUS5 186H. Entrepreneurship Laboratory 3
BUS5 197. Special Topics in International Business 3

Area of Specialization

Area of Specialization requires a minimum of 9 units. The additional 3 units may be taken from the same area of specialization or from the list of concentration electives. Consult a business advisor in BBC008 for details on the Areas of Specialization.

Choose a specialization area from: Business Functional Areas, Industry Areas, Area Studies, or Language Studies

University Electives 1

Total Units Required **120**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

BS - Business Administration, Concentration in Management

The Management Program prepares graduate for successful and innovative careers. We emphasize fundamental principles underlying high-performance in diverse organizations at the team, company, and industry levels. We teach analytical tools, decision-making processes, and best practices for leading and managing workplaces that are legally compliant, ethical, and financially sustainable. Attention is focused on evidence-based management, competitive strategy, behavioral science, and stakeholder management.

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

Major-Specific Graduation Requirements

All courses in the Concentration Requirements for Management must be completed with a grade of "C- or better". The following Preparation for the Major and Required for the Major courses must be completed with a grade of "C or better": ENGL 2, MATH 71, BUS1 20, BUS2 90.

University Graduation Requirements 35

Core Lower Division General Education 24

Of the 39 units required by the university, 15 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

NOTE: STUDENTS WHO HAVE COMPLETED THE ADT TRANSFER DEGREE (UNDER SB 1440) FOR THIS MAJOR WILL HAVE COMPLETED ALL LOWER DIVISION GE REQUIREMENTS AND SHOULD FOLLOW THE 60 UNIT GUARANTEE ROADMAP. MEET WITH AN ADVISOR PRIOR TO REGISTERING FOR YOUR FIRST SEMESTER FOR THE 60 UNIT ROADMAP OR SPECIFIC QUESTIONS.

Upper Division General Education 3

Of the 9 units required by the university, 6 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 6

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

COMPLETE ONE SEQUENCE FROM:

African American Studies **6**

AFAM 002A. African Americans and the Development of America's History and Government	D2	3
AFAM 002B. African Americans and the Development of America's History and Government	M7	3

Asian American Studies **6**

AAS 033A. Asian Americans in U.S. History I	D2	3
AAS 033B. Asian Americans in U.S. History II	M7	3

U.S. History and Government **6**

HIST 015. Essentials of U.S. History	M12	3
POLS 015. Essentials of U.S. & California Government	M11	3

Chicana and Chicano Studies **6**

CCS 010A. Mexican Americans and the Development of U.S. History and Government	D2	3
CCS 010B. Mexican Americans and the Development of U.S. History and Government	M7	3

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Physical Education 2

Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Preparation for the Major 17

ECON 001A. Principles of Economics: Macroeconomics 4
ECON 001B. Principles of Economics: Microeconomics D1 4
ENGL 002. Critical Thinking and Writing A3 3

Or equivalent.

MATH 071. Calculus for Business and Aviation B4 3

Transfer students with MATH 30 (C or better) may use this in lieu of MATH 71.

COMPLETE ONE COURSE FROM:

COMM 100W. Writing Workshop: Writing for Influence ..... Z 3
ENGL 100WB. Written Communication: Business ..... Z 3
LLD 100WB. Writing Workshop for Business Students ..... Z 3

Requirements of the Major 61

Core Courses 43

Lower Division Courses 13

BUS3 010. Discovering Business 0

BUS3 010 is not required, but recommended.

BUS1 020. Financial Accounting 3
BUS1 021. Managerial Accounting 3
BUS3 080. Legal Environment of Business 3
BUS2 090. Business Statistics 3

Transfer students with STAT 095 (C or better) may use this in lieu of BUS2 090.

BUS4 091L. Computer Tools for Business 1

Upper Division Business Fundamentals Courses 15

BUS1 170. Fundamentals of Finance 3
BUS2 130. Introduction to Marketing 3
BUS2 190. Quantitative Business Analysis 3
BUS3 160. Fundamentals of Management and Organizational Behavior 3
BUS5 140. Fundamentals of Operations Management 3

Upper Division Business Integration and Perspectives Courses 15

BUS5 187. Global Dimensions of Business 3
BUS4 188. Business Systems and Policy 3
BUS3 189. Strategic Management 3
PHIL 186. Professional and Business Ethics ..... S 3
One non-business global perspectives course in Area V 3

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Concentration Requirements	18

Additionally, to qualify for a baccalaureate degree in business administration with a Management concentration, all courses in the concentration must be completed with a grade of "C- or Better".

Required Courses	9
BUS3 161A. Applied Organizational Behavior	3
BUS3 161B. Organization Theory	3
BUS3 166. Business, Government, & Society	3

Additional Courses	9
COMPLETE ONE COURSE FROM:	
BUS3 150. Fundamentals of Human Resource Management	3
BUS5 146. Fundamentals of Project Management	3
COMPLETE TWO COURSES FROM:	
BUS2 191. Decision Making Under Uncertainty	3
BUS2 195A. Spreadsheet Modeling	3
BUS2 195B. Data Visualization	3
BUS3 149. Negotiation and Conflict Resolution	3
BUS3 152. Human Resource Information Systems	3
BUS3 153. Management of Diversity	3
BUS3 154. Workforce Planning, Staffing and Training	3
BUS3 155. Performance Management and Development	3
BUS3 169A. Honors Seminar	3
BUS5 141. Procurement and Supply Management	3
BUS5 142. Total Quality Management	3
BUS5 148. Sustainable Operations Management	3
BUS5 144. Supply Chain Management	3
BUS5 145. Global Operations Strategy	3
BUS5 147. Service Operations Management	3
BUS5 162. International and Comparative Management	3
BUS5 165A. Global Leadership	3
BUS5 165B. Leadership & Innovation Practicum	3
BUS5 169B. Honors Practicum in Organization and Management	3
BUS5 181. Introduction to Entrepreneurship	3
BUS5 183. Global Entrepreneurship	3

University Electives	7

Total Units Required	120

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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BS - Business Administration, Concentration in Management Information Systems

The Concentration in Management Information System merges the knowledge of information technologies, systems and management. Students gain practical knowledge and skills in integrating computers and other data/text/image/graphics/voice technologies into the management of business information. Computerized systems are developed as applied information tools for managerial decision making and action taking. Graduates of the MIS concentration will be prepared for careers in the rapidly expanding profession of using information technologies to support management planning and control.

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

Major-Specific Graduation Requirements

All courses in the Concentration Requirements for Management Information Systems must be completed with a grade of "C or better". The following Preparation for the Major and Required for the Major courses must be completed with a grade of "C or better": ENGL 2, MATH 71, BUS1 20, BUS2 90.

University Graduation Requirements 35

Core Lower Division General Education 24

Of the 39 units required by the university, 15 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

Upper Division General Education 3

Of the 9 units required by the university, 6 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 6

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

COMPLETE ONE SEQUENCE FROM:

African American Studies 6

AFAM 002A. African Americans and the Development of America's History and Government	D2	3
AFAM 002B. African Americans and the Development of America's History and Government	M7	3

Asian American Studies 6

AAS 033A. Asian Americans in U.S. History I	D2	3
AAS 033B. Asian Americans in U.S. History II	M7	3

U.S. History and Government 6

HIST 015. Essentials of U.S. History	M12	3
POLS 015. Essentials of U.S. & California Government	M11	3

Chicana and Chicano Studies 6

CCS 010A. Mexican Americans and the Development of U.S. History and Government	D2	3
CCS 010B. Mexican Americans and the Development of U.S. History and Government	M7	3

Physical Education 2

Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Preparation for the Major 17

ECON 001A. Principles of Economics: Macroeconomics 4
ECON 001B. Principles of Economics: Microeconomics D1 4
ENGL 002. Critical Thinking and Writing A3 3
or equivalent.
MATH 071. Calculus for Business and Aviation B4 3
Transfer students with MATH 30 (C or better) may use this in lieu of MATH 71.

COMPLETE ONE COURSE FROM:

COMM 100W. Writing Workshop: Writing for Influence ..... Z 3
ENGL 100WB. Written Communication: Business ..... Z 3
LLD 100WB. Writing Workshop for Business Students ..... Z 3

Requirements of the Major 67

Core Courses 40

Lower Division Courses 13

BUS3 010. Discovering Business 0
BUS3 010 is not required, but recommended
BUS1 020. Financial Accounting 3
BUS1 021. Managerial Accounting 3
BUS3 080. Legal Environment of Business 3
BUS2 090. Business Statistics 3
Transfer students with STAT 095 (C or better) may use this in lieu of BUS2 090.
BUS4 091L. Computer Tools for Business 1

Upper Division Business Fundamentals Courses 15

BUS2 130. Introduction to Marketing 3
BUS5 140. Fundamentals of Operations Management 3
BUS3 160. Fundamentals of Management and Organizational Behavior 3
BUS1 170. Fundamentals of Finance 3
BUS2 190. Quantitative Business Analysis 3

Upper Division Business Integration and Perspectives Courses 12

BUS5 187. Global Dimensions of Business 3
BUS3 189. Strategic Management 3
PHIL 186. Professional and Business Ethics ..... S 3
One non-business global perspectives course in Area V 3

Concentration Requirements 27

Additional requirements for graduation: to qualify for a baccalaureate degree in business administration with a management information systems concentration, all courses in the concentration must be completed with a grade of "C" (2.0) or better.

Required Courses 21

BUS4 092. Introduction to Business Programming 3
BUS4 110A. Fundamentals of Management Information Systems 3
BUS4 110B. Systems Analysis and Design 3
BUS4 111. Networking and Data Communications 3
BUS4 112. Database Management Systems 3
BUS4 119B. Business Strategy and Information Systems 3

COMPLETE ONE COURSE FROM:

BUS4 119A. Practicum in MIS	3
BUS4 119H. Honors Practicum in MIS II	3

Additional Courses **6**

COMPLETE TWO COURSES FROM:

BUS4 115. Advanced Networking and Data Communications	3
BUS4 116. Advanced Database Management Systems	3
BUS4 118C. Information Security and Assurance Management	3
BUS4 118D. Big Data	3
BUS4 118H. Honors Practicum in MIS I	3
BUS4 118S. Special Topics in MIS	3
BUS4 118W. Web Based Computing	3

University Electives	1
Total Units Required	**120**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

BS - Business Administration, Concentration in Marketing

Business graduates with a marketing concentration are prepared to pursue careers in small business and retail store management; in marketing, product or advertising management; also direct marketing, customer service and sales. The marketing program focuses on the business function concerned with market definition and objectives, product or service development, customer segmentation and product positioning, sales management, advertising and promotion, pricing and distribution.

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

Major-Specific Graduation Requirements

All courses in the Concentration Requirements for Marketing must be completed with a grade of "C- or better". The following Preparation for the Major and Required for the Major courses must be completed with a grade of "C or better": ENGL 2, MATH 71, BUS1 20, BUS2 90, BUS2 130.

University Graduation Requirements 35

Core Lower Division General Education 24

Of the 39 units required by the university, 15 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

Upper Division General Education 3

Of the 9 units required by the university, 6 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 6

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

COMPLETE ONE SEQUENCE FROM:

African American Studies 6

AFAM 002A. African Americans and the Development of America's History and Government	D2	3
AFAM 002B. African Americans and the Development of America's History and Government	M7	3

Asian American Studies 6

AAS 033A. Asian Americans in U.S. History I	D2	3
AAS 033B. Asian Americans in U.S. History II	M7	3

U.S. History and Government 6

HIST 015. Essentials of U.S. History	M12	3
POLS 015. Essentials of U.S. & California Government	M11	3

Chicana and Chicano Studies 6

CCS 010A. Mexican Americans and the Development of U.S. History and Government	D2	3
CCS 010B. Mexican Americans and the Development of U.S. History and Government	M7	3

Physical Education 2

Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Preparation for the Major 17

ECON 001A. Principles of Economics: Macroeconomics 4
ECON 001B. Principles of Economics: Microeconomics D1 4
ENGL 002. Critical Thinking and Writing A3 3
or equivalent.
MATH 071. Calculus for Business and Aviation B4 3
Transfer students with MATH 30 (C or better) may use this in lieu of MATH 71.

COMPLETE ONE COURSE FROM:

COMM 100W. Writing Workshop: Writing for Influence ..... Z 3
ENGL 100WB. Written Communication: Business ..... Z 3
LLD 100WB. Writing Workshop for Business Students ..... Z 3

Requirements of the Major 64

Core Courses 43

Lower Division Courses 13

BUS3 010. Discovering Business 0
BUS3 010 is not required, but recommended
BUS1 020. Financial Accounting 3
BUS1 021. Managerial Accounting 3
BUS3 080. Legal Environment of Business 3
BUS2 090. Business Statistics 3
Transfer students with STAT 095 (C or better) may use this in lieu of BUS2 090.
BUS4 091L. Computer Tools for Business 1

Upper Division Business Fundamentals Courses 15

BUS2 130. Introduction to Marketing 3
BUS5 140. Fundamentals of Operations Management 3
BUS3 160. Fundamentals of Management and Organizational Behavior 3
BUS1 170. Fundamentals of Finance 3
BUS2 190. Quantitative Business Analysis 3

Upper Division Business Integration and Perspectives Courses 15

BUS3 189. Strategic Management 3
BUS4 188. Business Systems and Policy 3
BUS5 187. Global Dimensions of Business 3
PHIL 186. Professional and Business Ethics ..... S 3
One non-business global perspectives course in Area V 3

Concentration Requirements 21

Additional requirements for graduation: to qualify for a baccalaureate degree in business administration with a marketing concentration, all marketing courses must be completed with a grade of "C-" or better. Marketing courses are those numbered in the BUS2 130 - 139 sequence.

Required Courses 12

BUS2 134A. Consumer Behavior 3
BUS2 134B. Integrated Marketing Communications 3
BUS2 138. Marketing Research 3
BUS2 139. Marketing Management 3

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Additional Courses	**9**
COMPLETE THREE COURSES FROM:	
BUS2 131D. Marketing in New Ventures	3
BUS2 131B. Retail Marketing Management	3
BUS2 131A. Business to Business Marketing	3
BUS2 132B. Business Logistics	3
BUS2 133A. International Marketing	3
BUS2 133B. Relationship Marketing: Pacific Rim	3
BUS2 133C. International Marketing: Developing Nations	3
BUS2 134C. Social Media Marketing	3
BUS2 135. Sales Management	3
BUS2 136. Product Development	3
BUS2 137A. Soft Skills	3
BUS2 137S. Special Topics in Marketing	3
University Electives	4
Total Units Required	**120**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Minor - Business

A minor consists of a minimum of 15 units and may be designed to fit the needs of a student majoring in any non-business department. The minor must include at least BUS 20N, Survey of Accounting, and BUS 160, Fundamentals of Management and Organizational Behavior, and nine additional units, three of which must be upper division courses. Six units must be completed in residence. Some majors have specific minor requirements.

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Requirements of the Minor	**15**
Core Courses	**15**
BUS1 020N. Survey of Accounting	3
BUS3 160. Fundamentals of Management and Organizational Behavior	3
2 Lower Division Courses	6
1 Upper Division Course	3
Total Units Required	**15**

Minor - Global Leadership and Innovation

The purpose of the Global Leadership and Innovation Minor is to: provide students with an opportunity to pursue their interest in global leadership and innovation; enable students to see themselves as leaders and innovators capable of visualizing future leadership roles in their profesion and other spheres of life; foster global citizenship; and prepare students to serve effectively in formal and informal leadership roles and make innovative contributions throughout their lives.

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Requirements of the Minor	**15**
Core Courses	**9**
BUS5 016. Introduction to Leadership & Innovation	3
BUS5 165A. Global Leadership	3
BUS5 165B. Leadership & Innovation Practicum	3
Electives	**6**
Any advisor approved leadership/innovation elective from a college other than the College of Business.	
Total Units Required	**15**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Certificate - Advanced Accounting Topics

The certificate in Advanced Accounting Topics provides in-depth study of topics useful for CPA exam preparation and a career in accounting. It supplements coursework in the Certificate in Accounting Fundamentals and in the MSA program with advanced issues and topics relevant for a career in accounting. Specialized issues covered in the certificate program deepen understanding of accounting practice, broaden career preparation and better equip students for the CPA examination.

Requirements of the Certificate	12
COMPLETE 12 UNITS FROM:	
BUS 220S. Financial Reporting and Analysis III	3
BUS 220L. Legal and Ethical Environment of Accounting Practice	3
BUS 220H. Auditing: Concepts/Practice	3
BUS 220U. IT Audit & Internal Controls	3
BUS 220I. Forensic Accounting	3
BUS 220V. Special Topics in Accounting	3
BUS 220X. Business Analysis and Valuation Using Financial Statements	3
BUS 220M. Accounting Ethics	3
BUS 220A. Financial Statement Analysis for Accountants	3
Total Units Required	**12**

Certificate - Accounting Fundamentals (Special Session)

The certificate in Accounting Fundamentals is an intensive program providing a broad foundation of concepts and practices in financial reporting, managerial accounting, accounting information systems and corporate taxation. Over the course of one semester, it covers essential topics needed both for a career in accounting and for graduate study. The program is taught in its entirety during the summer, with each course taught in either two- or five-week sessions. The program is designed for both non-matriculated students and those satisfying entrance requirements for both the MS in Accountancy program. As this certificate is comprised of fundamental accounting knowledge and skills, students entering MSA program without an undergraduate degree in accounting will be required to complete this certificate before enrolling in MSA classes.

Requirements of the Certificate	15
BUS 220B. Financial Reporting and Analysis I	3
BUS 220C. Accounting Information Systems I	3
BUS 220E. Financial Reporting and Analysis II	3
BUS 220F. Management Accounting and Control Systems	3
BUS 220G. Tax Factors of Business and Investment Decisions: Theory and Practice	3
Total Units Required	**15**

Certificate - Business Analytics (Special Session)

The Business Analytics Graduate Certificate is an intensive program, designed for business professionals and graduate students who want to transform terabytes of data into useful and timely business intelligence that will be used to develop knowledge-driven business decisions, whether the practitioner's functional area is marketing, operations, finance, strategy, international business or human resources.

Requirements of the Certificate	12
BUS 235A. Introduction to Business Analytics	3
BUS 235B. Business Research	3
BUS 235C. Data Mining	3
BUS 235D. Business Analytics Simulation	3
Total Units Required	**12**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Certificate - Advanced Global Leadership (Special Session)

The Global Leadership Graduate Certificate Program is a focused program designed for those who want to develop their global leadership skills and embark upon a career that will involve global work. This skill set has become a highly valued commodity in an environment that is growing increasingly globalized, but lags in the human capital necessary to succeed in this new environment.

Requirements of the Certificate	9
BUS 262A. Global Leadership and Innovation	3
BUS 262B. Global Leadership Development	3
BUS 268. Managing Across Cultures	3
Total Units Required	**9**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Certificate - Tax Practice (Special Session)

The Certificate in Tax Practice provides nine units of graduate level tax research and tax foundation skills and knowledge to students who already have either an undergraduate or graduate degree in accounting. This certificate can also assist someone seeking nine units to help meet the required 150 units to become a CPA. It can help with career advancement and passing the CPA examination. The nine units can be applied to the MST program (if within the required time limits for degree completion).

Requirements of the Certficate		9
BUS 223A. Tax Research and Decision Making	GWAR	3
COMPLETE SIX UNITS FROM:		
BUS 223F. Tax Accounting Methods/Periods		3
BUS 223G. Taxation of Business Entities		3
BUS 225F. State Taxation Fundamentals		3
BUS 225H. Taxation of Property Transactions		3
BUS 225L. Accounting for Income Taxes		3
BUS 225W. Introduction to International Taxation		3
BUS 227A. Individual Tax Compliance		3
BUS 227B. Ethics for Tax Practitioners		3
BUS 227C. Tax Symposium		3
BUS 227D. Employment Taxation and the Modern Workforce		3
BUS 227E. Foundation for Understanding Taxation		3
BUS 227F. Personal and Business Leadership Skills for Tax Practitioners		2
Total Units Required		**9**

Certificate - International Taxation (Special Session)

The advanced certificates in taxation provide in-depth study of topics to help a tax practitioner advance in his/her career or develop a specialization. The coursework supplements prior graduate study in the tax area, in essence, serving as a post-Master's program.

Requirements of the Certificate	9
COMPLETE THREE COURSES FROM BELOW IN CONSULTATION WITH MST PROGRAM DIRECTOR.	
BUS 225C. International Tax - US Corporations with Foreign Activities	3
BUS 225D. International Tax - Individuals and Foreign Corporations	3
BUS 225P. Advanced International Tax - US Corporations	3
BUS 225U. Fundamentals of Transfer Pricing	3
BUS 225X. International Taxation - US and Foreign Individuals	3
BUS 227C. Tax Symposium	3
Total Units Required	**9**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Certificate - High Technology Taxation (Special Session)

The advanced certificates in taxation provide in-depth study of topics to help a tax practitioner advance in his/her career or develop a specialization. The coursework supplements prior graduate study in the tax area, in essence, serving as a post-Master's program.

Requirements of the Certificate	9

COMPLETE THREE COURSES FROM BELOW IN CONSULTATION WITH MST PROGRAM DIRECTOR.

BUS 223B. Taxation of Partnerships	3
BUS 225B. Taxation of Corporate Reorganizations	3
BUS 225J. Taxation of Executive Compensation	3
BUS 225M. State Tax Planning	3
BUS 225N. Financing Options - New or Growing Bus	3
BUS 225S. Consolidated Returns	3
BUS 225T. Intermediate Acctg for Income Taxes	3
BUS 225V. Tax Considerations for High Tech Companies	3
BUS 227C. Tax Symposium	3
BUS 227D. Employment Taxation and the Modern Workforce	3

Any course listed for the International Taxation Certificate.

Total Units Required	9

Certificate - Advanced Taxation (Special Session)

The advanced certificates in taxation provide in-depth study of topics to help a tax practitioner advance in his/her career or develop a specialization. The coursework supplements prior graduate study in the tax area, in essence, serving as a post-Master's program.

Requirements of the Certificate	9

COMPLETE THREE COURSES FROM BELOW IN CONSULTATION WITH MST PROGRAM DIRECTOR.

Any course listed for the International or High Technology Taxation Certificates.

BUS 225A. Taxation of Estates and Trusts	3
BUS 225G. Taxation of S Corporations	3
BUS 225I. Tax Practices, Penalties and Procedures	3
BUS 225K. Advanced Individual Taxes	3
BUS 225O. Taxation of Tax Exempt Organizations	3

Total Units Required	9

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Certificate - High-Speed Rail Management (Special Session)

The Certificate in High-Speed Rail Management provides both an introduction to the graduate study of transportation management and more specialized knowledge concerning managing high-speed rail systems - particularly the planned California system. The certificate is intended primarily for professionals working in the field of public transportation who wish to enhance their qualifications for advancement and promotion in their existing agency, or to provide opportunities to advance at other agencies. The program enables students to earn 9 graduate units of course credit that may later be applied to the Master of Transportation Management (MSTM) program.

Requirements of the Certificate		12
MTM 245. High Speed Rail Mgmt I		3
MTM 246. High Speed Rail Mgmt II		3
COMPLETE TWO COURSES FROM:		
MTM 201. Transportation Systems and Society	GWAR	3
MTM 202. Introduction to Transportation Funding & Finance		3
MTM 203. Transportation Marketing and Communications Management		3
MTM 214. Transportation Policy and Regulation		3
MTM 215. Transportation Planning and Project Development		3
MTM 217. Leadership and Management of Transportation Organizations		3
Total Units Required		**12**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Certificate - Transportation Management (Special Session)

The Certificate in Transportation Management provides an introduction to the graduate study of transportation management. It is intended primarily for professionals working in the field of public transportation who wish to enhance their qualifications for advancement and promotion in their existing agency, or to provide opportunities to advance at other agencies. The program enables students to earn 9 units of course credit that may later be applied to the Master of Transportation Management (MSTM) program.

Requirements of the Certificate		12
COMPLETE 12 UNITS (OR FOUR COURSES) FROM:		
MTM 201. Transportation Systems and Society	GWAR	3
MTM 202. Introduction to Transportation Funding & Finance		3
MTM 203. Transportation Marketing and Communications Management		3
MTM 214. Transportation Policy and Regulation		3
MTM 215. Transportation Planning and Project Development		3
MTM 217. Leadership and Management of Transportation Organizations		3
MTM 236. Managing Technology Innovations in Transportation		3
MTM 250. Transportation and the Environment		3
Total Units Required		**12**

Certificate - Transportation Security Management (Special Session)

The Certificate in Transportation Security Management provides both an introduction to the graduate study of transportation management and more specialized knowledge concerning transportation security. It is intended primarily for professionals working in the field of transportation who wish to enhance their qualifications for advancement and promotion in their existing agency, or to provide opportunities to advance at other agencies. The program enables students to earn 9 units of course credit that may later be applied to the Master of Transportation Management (MSTM) program. Additionally, students who complete the transportation security sequence for this certificate become eligible to earn independent certification in National Incident Management System (NIMS) and the State Emergency Management System (SEMS).

Requirements of the Certificate		12
MTM 226A. Emergency Management Issues for Transportation Professionals		3
MTM 226B. Security Issues for Transportation Professionals		3
COMPLETE TWO COURSES FROM:		
MTM 201. Transportation Systems and Society	GWAR	3
MTM 202. Introduction to Transportation Funding & Finance		3
MTM 203. Transportation Marketing and Communications Management		3
MTM 214. Transportation Policy and Regulation		3
MTM 215. Transportation Planning and Project Development		3
MTM 217. Leadership and Management of Transportation Organizations		3
Total Units Required		**12**

Donald and Sally Lucas Graduate School of Business

The Donald and Sally Lucas Graduate School of Business offers the following graduate degree programs:

- Master of Business Administration
- Master of Science in Accountancy
- Master of Science in Taxation (Special Session)
- Master of Science in Transportation Management (Special Session)

All of the Lucas School's business degree programs are accredited by AACSB International - The Association to Advance Collegiate Schools of Business.

Mission of the Donald and Sally Lucas Graduate School of Business

The Lucas School provides advanced business and professional education to high potential individuals with diverse backgrounds and work experiences. We prepare our graduates to make responsible, personally enriching, and professionally advantageous decisions. The Lucas School's business programs bring together an interesting mix of full-time and part-time students from a variety of academic, career, and cultural backgrounds. Given SJSU's Silicon Valley location, students come to the classroom with a wealth of real-world experience, including technical expertise (in engineering or software, for example), and wanting to develop business acumen, advance in managerial positions, or deepen their knowledge base.

Our Programs

The programs are innovative in design and delivery and offer a range of academically challenging and multi-disciplinary opportunities that enable students to improve and keep pace continuously within the dynamic Silicon Valley environment.

1. The Master of Business Administration provides advanced management education with the opportunity for a generalist degree. The Lucas MBA programs offer high caliber applied learning in an enriching environment thoroughly integrated with the Silicon Valley Experience. Courses are taught by an optimal mix of academics involved in cutting-edge research and professionals with extensive experience in the mosaic of high-tech and service businesses that constitute Silicon Valley. Students are exposed to leading business practices in the classroom and networking opportunities as an integral part of an innovative educational experience. The Lucas MBA programs consist of forty-two semester units including thirty units of core courses and twelve units of elective courses. Within an MBA program, all students complete the same core courses whereas the elective courses are selected depending on the individual's interests and learning objectives.

1.1 The Early Career MBA is a program tailored for individuals with limited professional work experience (0-5 years). Classes meet on the vibrant San José State University Campus where students have access to a wealth of resources. Courses typically meet evenings and Saturdays in eight-week sessions during the Fall and Spring semesters and five-week sessions during the Summer semester. Students follow a pre-set sequence of core courses and select elective courses depending on their area of interest. An approved three unit Internship may count as one of the elective courses. This unique MBA program offers three different tracks that vary in length and pace:

- Accelerated Track - Designed for individuals who are willing to follow a very intense academic pace and wish to complete their MBA degree in 12 months.
- Full-Time Track - Designed for individuals who are interested in completing their MBA degree in 21-24 months. The full-time track is ideal for international students and complies with all student visa requirements.
- Part-Time Track - Designed for individuals who are working in full-time professional positions and are interested in completing their MBA degree in 33 to 36 months.

1.2. The MBA for Professionals is a Special Session program that is tailored for individuals with extensive professional work experience (5+ years). Offering a high level of flexibility, this program accommodates students with a demanding work and life schedule. Classes meet off-campus at the Lucas Business Complex in Santa Clara, an ideal location for many working professionals. The diverse educational and professional backgrounds of the students makes the Silicon Valley Experience an integral part of the MBA classroom. Courses typically meet evenings and Saturdays in eight-week sessions during the Fall and Spring semesters and six-week sessions during the Summer semester, with some courses available on-line. Students are able to choose and adjust the pace in which they complete their degree. This program can be completed in 2 to 3 years.

3. The MS - Accountancy (MSA) program is a full-time, daytime, 12-month program that admits non-accounting undergraduate majors in a competitive process that includes assessments by practitioners as well as faculty. Course work is structured around the accounting cycle to strongly encourage students to combine academic learning with accounting work experience (or internships) as well-rounded preparation for careers in professional accounting.

4. The MS - Taxation (MST) is a Special Session program that offers students technical knowledge, an understanding of tax policies and research and analytical skills development. Study of the tax law is enhanced through discussion of related accounting, legal and financial concepts and issues. The academic calendar is designed around the scheduling needs of working tax professionals. The extensive range of courses allows students flexibility in career specialization. The MST is offered at the Lucas School's Silicon Valley site.

5. The MS - Transportation Management (MSTM) is a Special Session program that provides opportunities for individuals from both technical and non-technical disciplines to obtain advanced specialization in surface transportation management. The program draws on the latest in transportation policy, administration and management concepts from several disciplines, and enables students to develop a fuller understanding of the diverse and sometimes conflicting needs of modern transportation management for better serving their employers, community and society. The degree is available through distance-learning facilities and electronic technologies, providing an opportunity for students to obtain the degree at remote locations.

6. The MBA/MS Engineering (with specializations in Systems Engineering and Software Engineering) - is a Special Session Off-Campus accelerated evening sequential degree program is a combined program for engineering professionals who wish to pursue technical and executive management positions.

MBA - Master of Business Administration

Purpose of the MBA Program

The MBA program provides a strong foundation of business concepts, models, skills and methods with which to face immediate and future managerial challenges. The basic program aims at creating a general management (rather than a functional specialist) perspective. Pragmatic in approach, the focus is on problem analysis and synthesis, decision making, action taking throughout the functional areas of business, and understanding the international context of business. The Lucas School's MBA prepares students through a broad curriculum of functional core courses, cross-functional and integrative courses, and elective courses

Educational Objectives

The educational objectives of the Donald and Sally Lucas Graduate School of Business MBA are threefold: to provide a solid base of interdisciplinary business theories and techniques; to apply theory and analytic tools to the practical improvement of organizational performance; and to explore personal beliefs and values as they affect ethical and economic organizational practices. Key processes involve: investigating opportunities and problems; defining causes or contributing factors to problems, including those that cut across organizational units; generating alternatives from which feasible programs of action are selected and implemented; and monitoring and changing, where necessary, the progress of enacted decisions.

These skills are developed using a combination of approaches including: the case method, experiential exercises, computer simulations, team projects and problem sets. Students are expected to develop competencies both as action-oriented leaders and as logical decision makers.

Benefits of the MBA

The program is geared to the professionally oriented person who aspires to move into middle management or to undertake greater managerial responsibility. It is designed to aid those who have the capabilities or potential to be action initiators rather than those who prefer to develop reports and recommendations for decision makers. The MBA program accommodates students with a variety of educational and work backgrounds. Business development projects are available to MBA students. The Lucas School has alliances with business incubator partners in Silicon Valley. Students have an opportunity to work with international businesses and entrepreneurial Silicon Valley start ups.

Lucas MBA Programs

Although SJSU grants one unique MBA degree, the Lucas Graduate School of Business offers two distinct MBA programs that differ according to student profile, flexibility, degree completion time, admission cycle and cost.

The Early Career MBA program is tailored to students who have fewer than five years of work experience. Classes are held on the SJSU campus during evenings and Saturdays in eight-week sessions. The Early Career Program offers three tracks that vary in length and pace: Accelerated Track (12 months), Full-Time Track (21-24 months), and Part-Time Track (33-36 months).

The MBA for Professionals is designed for working professionals with more than five years of work experience. This program offers a high level of flexibility in order to accommodate professionals with demanding life and work schedules. Classes meet evenings and Saturdays in eight-week sessions year round, with some courses available online. Class sessions are held off-campus at the Lucas Business Complex in Santa Clara.

Admission Requirements

Requirements for Admission to Classified Standing

To be fully accepted into classified standing, an applicant must have:

1. A bachelor's degree from an accredited university in the U.S. or the equivalent of a U.S. bachelor's degree earned from a recognized institution if the degree was earned outside of the U.S.

2. A 3.0 (on a 4.0 scale) grade point average (GPA) in the last 60 semester units or 90 quarter units of study. An absolute minimum GPA of 2.5 is required for graduate admission at SJSU.

3. Taken an English language proficiency examination if the previously earned degree was from an institution in which the principal language of instruction was not English. The university minimum entrance score for the TOEFL is 213 (computer-based) or 80 (internet-based). The minimum score required on the IELTS is 6.5, and the minimum PTE score is 53.

4. Taken the Graduate Management Admission Test (GMAT) or the Graduate Record Examination (GRE). Scores at the 50th percentile in both the quantitative 4. and verbal sections of either exam are considered competitive. Conditional on the approval of the MBA Director, the GMAT/GRE requirement may be waived if the applicant has any of following:

4.1. Earned a Master's degree or Ph.D. from an accredited institution in the United States.

4.2. Graduated with honors from the Lucas College of Business Gary J. Sbona Honors Program within the last five years.

4.3. A GPA of at least 3.2 AND completed at least 5 years of full-time professional work experience with increasing responsibilities and a managerial role over people and/or budgets. An interview with the MBA Director and/or a letter from the supervisor attesting to the level of work responsibilities may be required.

5. Completed three prerequisite courses (Introduction to Microeconomics; Introduction to Macroeconomics; and Business Statistics) with a grade of B or higher within the last seven years. An applicant may be admitted to the MBA program on a conditional admission basis prior to completion of these three courses but will need to provide proof of completion of all three prerequisites before the day of orientation.

6. A personal statement of one to two pages explaining how an MBA can help achieving the applicant's career objectives.

7. A resume detailing your professional and academic experiences.

8. (Optional) Two letters of recommendation.

The Lucas School does not follow a set formula for determining admission to the MBA programs. Our goal is to admit academically qualified candidates who show potential for completing the program and advancing into a successful business career. We seek to admit students whose backgrounds will enable them to contribute to the academic excellence and the demographic, educational and experiential diversity of each class.

An applicant's academic profile - undergraduate major and institution, any graduate level work, GPA, and GMAT or GRE scores - is a major factor in the admission decision. Other important areas of evaluation include personal statement, work experience, letters of recommendation, writing skills, and extracurricular, community and professional activities. From this overall review, we assess an applicant's potential for success and compatibility with our MBA program.

The GMAT or GRE score is just on part of a candidate's overall profile. We realize that the GMAT/GRE has certain limitations, as does any standardized test; however, these exams do allow comparison among applicants from different schools, different countries and different majors. We encourage all applicants to prepare for the exam, take it as early as possible, and retake it if their score is not competitive.

The average GPA of admitted candidates is 3.3. Ideally a candidate's GPA will be at 3.0 or above. Many circumstances may exist which offer explanation for a GPA below 3.0; candidates are encouraged to submit a statement of explanation if this is the case. However, please note that an absolute minimum GPA of 2.5 is required for graduate admission at San José State University.

Program of Study Requirements for the MBA Degree

To earn the MBA degree, all students must satisfy the following requirements:

1. Business Prerequisite Courses

- Introduction of Macroeconomics (at SJSU this course is ECON 001A, Principles of Economics Macro)
- Introduction to Microeconomics (at SJSU this course is ECON 001B, Principles of Economics Micro)
- Business Statistics (at SJSU this course is BUS 90, Business Statistics)

2. Advanced Management Courses (Core Courses)

In the Early Career MBA, all students are required to successfully complete eleven core courses for a total of thirty semester units. In the MBA for Professionals, all students are required to successfully complete ten core courses for a total of thirty semester units. Although the total units of core courses are identical across the two MBA programs, the composition of the core curriculum is slightly different to account for the differences in student academic and professional profiles. The advanced graduate courses (core courses - 30 units) ensure breadth in general management knowledge and help the student to develop mastery in applying essential business skills.

3. Elective Courses

Four elective courses (12 units) are required of all students. As an elective course, a graduate student can select a maximum of one upper-division business undergraduate course (100-level) OR one graduate non-business course (200-level). Enrollment in such elective course is conditional on the written approval by the MBA Director and it is specific to a given course and a given semester.

4. Comprehensive Project

The comprehensive project is incorporated in the Strategic Thinking course (BUS 290). The comprehensive project is a culminating experience integrating business functional and interdisciplinary areas. An individual written project report is required and an oral examination may be included. The project may take the form of a field study, research project, business simulation, or a strategic plan for an organization, as assigned by the Business 290 instructor. Students must receive an overall equivalent grade of "B" or better on the comprehensive project, and may be given a maximum of two opportunities to satisfy requirements.

5. Graduation Writing Assessment Requirement

The University requires that all graduate students complete the Graduation Writing Assessment Requirement (GWAR) as a condition for advancement to candidacy. Please refer to the SJSU catalog section titled "Graduation Writing Assessment Requirement" for details. For graduate courses that meet the GWAR, please refer to the Graduate Admissions and Program Evaluations website at www.sjsu.edu/gape.

6. Maintenance of 3.0 GPA

Students must maintain a grade point average of 3.0 or better on all graduate level course work. Students who receive grades of "C-", "D", "F" or "WU" in any business graduate course must repeat that course to achieve a grade of "C" or better.

7. Transfer Credit

Subject to the approval of the Donald and Sally Lucas Graduate School of Business MBA Program Director and validation by the College of Graduate Studies, students may transfer a maximum of twelve semester units of business graduate course work from another regionally accredited institution. Grades in the transfer courses must be "B" or better.

8. Other University Requirements

Students must comply with all other graduate requirements contained in this catalog.

Early Career MBA

Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR). For information on the GWAR, please see http://info.sjsu.edu/gcw.html.

Requirements for the Early Career MBA		42
Advanced Management Courses (Breadth Requirements)		**27**
BUS 201. Business Communications	1	
BUS 202. Managing in the Global Economy	3	
BUS 210. Developing and Managing People GWAR	3	
BUS 220. Financial and Managerial Accounting	3	
BUS 230. Marketing Management	3	
BUS 250. Law and Ethics	3	
BUS 260. Managerial Decision Analysis	3	
BUS 265. Silicon Valley Experience	2	
BUS 270. Financial Management	3	
BUS 280. Operations and Supply Chain Management	3	
Electives		**12**
Four elective courses. Students may take a maximum of one 100-level business course OR 200-level non-business course with written approval of MBA director.		
Culminating Experience		**3**
Plan B (Project)		
BUS 290. Strategic Thinking	3	
Total Units Required		**42**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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MBA for Professionals (Special Session Program)

Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR). For information on the GWAR, please see http://info.sjsu.edu/gcw.html.

Requirements for the MBA for Professionals 42

Advanced Management Courses (Breadth Requirements) 27

BUS 200W. Business Research and Communications	GWAR	3
BUS 210. Developing and Managing People	GWAR	3
BUS 220. Financial and Managerial Accounting		3
BUS 230. Marketing Management		3
BUS 250. Law and Ethics		3
BUS 260. Managerial Decision Analysis		3
BUS 270. Financial Management		3
BUS 280. Operations and Supply Chain Management		3

COMPLETE ONE COURSE FROM:

BUS 202. Managing in the Global Economy		3
BUS 203. International Experience for American Executives		3

Electives 12

Four elective courses. Students may take a maximum of one 100-level business course OR 200-level non-business course with written approval of MBA director.

Culminating Experience 3

Plan B (Project)

BUS 290. Strategic Thinking		3

Total Units Required 42

Note: Four elective courses must be taken in addition to the Advanced Management Courses (Core Courses) in order to achieve the total of 42 semester units. A graduate student can select a maximum of one upper-division business undergraduate course OR one graduate non-business course conditional upon the written approval of a given course and a given semester by the MBA Director. Enrollment in BUS 203 is conditional on the approval of the MBA Director and the BUS 203 instructor.

Special Session Program Information

Academic Programs offered through Special Session are operated by the College of Professional and Global Education (CPGE). Registration and enrollment in a Special Session course or program must use the special session application form and will follow special session fee and course schedules. Note that regular session students seeking to enroll simultaneously in a special session course or program will trigger a separate and additional set of fees. This may require an additional enrollment appointment from the Registrar and it may have implications for financial aid status or requirements. Please visit the CPGE website for more information.

MS - Accountancy

The Master of Science in Accountancy is a flexible 30-unit degree program designed for both accounting and non-accounting undergraduates who aspire to a profession in accounting. Coursework includes advanced financial reporting, auditing, taxation, IT auditing and financial statement analysis. Students with an undergraduate degree in accounting enroll in a course of study to earn a masters degree that fulfills the 30 additional units required for CPA licensure. Ambitious, highly motivated people with undergraduate degrees in liberal arts, sciences or business will need to complete the intensive Certificate in Accounting Fundamentals summer program before they can be admitted into the MSA degree program.

For more information, see the Lucas Graduate School of Business website at http://www.sjsu.edu/lucasgsb/programs/msa

Purpose of the MSA Program

The MSA program prepares students for a career in public or corporate accounting by providing them with a strong foundation for both public accounting certification (CPA) and career advancement.

Educational Objectives

Students with an MSA degree should understand the accounting principles and procedures involved in measuring, recording, summarizing and reporting financial and nonfinancial data for business organizations; taxation concepts; auditing and control procedures; and the ethical and legal challenges in an accounting career. They should communicate effectively, both orally and in writing, evaluate information technology, and demonstrate analytical proficiency.

Benefits of the MSA

The program is designed for people with undergraduate degrees in accounting who want to further their studies in accounting while acquiring an additional 30 units needed for CPA licensure. It also allows liberal arts /sciences/business undergraduates who are interested in changing careers an entrance into the accounting profession. The course work and optional internship provide opportunities to build a framework for a successful and rewarding career in public or corporate accounting.

Admissions Requirements

University Admissions

Applicants must submit a complete graduate application by applying through the CSU Cal State Apply system at calstate.edu/apply and meet all the university admission requirements. Applicants apply separately to the department to obtain admission into the MSA program.

Applicants from countries in which the native language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirements webpage at GAPE.

Requirements for Admission to Classified Standing

To be fully accepted into the MSA in classified standing, an applicant must have:

- A four-year bachelor's degree from an accredited an accredited college or university in the United States or from a recognized institution if the degree was earned outside of the United States.
- A GPA of 3.0 or better (on a 4.0 scale) in the last 60 semester units or 90 quarter units of course work (Professional Development and Certificate Program course work cannot be included in this calculation);
- A Graduate Management Admission Test (GMAT) or the Graduate Record Examination (GRE) exam. Scores at the 50th percentile in both the quantitative and verbal sections of the exam are considered competitive. Conditional on the approval of the MSA Director, SJSU students who achieve a 3.5 GPA in upper division prerequisite courses 2 through 6 below may be granted a waiver from the GMAT/GRE requirement; and
- Taken an English proficiency exam if the applicant graduated from a postsecondary institution in a country where English is not the principal language. Accepted exams include the TOEFL (Test of English as a Foreign Language) with a preferred score of 90, the International English Language Testing System (IELTS) with a preferred score of 7.5, and the Pearson Test of English (PTE) with a preferred score of 75.

In addition, a personal interview may be conducted for each applicant.

Requirements for Admission to Conditionally Classified Standing

If not accepted into classified standing, the applicant may qualify for conditionally classified status. Ambitious, highly motivated applicants with undergraduate degrees in liberal arts, sciences or business will need to complete the intensive Certificate in Accounting Fundamentals program during the summer semester before matriculation into the MSA degree program. The individual admission letter will explain required terms and conditions for attaining Classified standing.

Program of Study Requirements

To receive the Master of Science in Accountancy, students must complete 30 semester units of prescribed course work. Specific program policies include the following:

1. Prerequisites

The curriculum requires completion of two lower division and five upper division prerequisite courses (3 semester hours or equivalent) within the past five years with an average grade in the courses of "B" (3.0)or better prior to the start of the program. All upper division prerequisites must be completed at an accredited four-year university in the U.S. The seven prerequisite courses are:

1. Introductory Financial Accounting (lower division course, gateway to upper division courses 2-6)
2. Intermediate Financial Accounting I
3. Intermediate Financial Accounting II
4. Accounting Information Systems
5. Management Accounting and Control Systems
6. Taxation of Individuals and Flow-Through Entities
7. Statistics (lower division course)

Students may be conditionally admitted into the program pending completion of the prerequisite courses. Students must, at a minimum, submit completion and/or verification of enrollment in Introductory Financial Accounting and Statistics by the published GAPE document submission deadline. One way to fulfill the rest of the prerequisites is to enroll in the Certificate in Accounting Fundamentals at SJSU to complete courses 2-6 with an average of B in the summer preceding Fall enrollment in the MSA program.

2. Course Requirements

The 30 semester units of coursework include three core courses (9 units) required of all students, two core courses (6 units) from a list of designated topics, a culminating experience course (3 units), and four elective MSA courses (12 units). Electives may be taken from offerings in the MST and/or MBA programs with approval from the MSA director.

3. Internship

The courses in the MSA program are designed to prepare students for internships with public accounting firms, governmental agencies, and corporations. From January through March, students may enroll in an internship course, BUS220K. Students in this course gain practical work experience, participate in firm training programs, and attend roundtable meetings to discuss topics such as professional ethics, working in the professional environment, communication effectiveness, marketing professional services and planning for professional growth.

4. Graduation Writing Assessment Requirement

The University requires that all graduate students complete the Graduation Writing Assessment Requirement (GWAR) as a condition for advancement to candidacy. Please refer to the SJSU catalog section titled "Graduation Writing Assessment Requirement" for details. For graduate courses that meet the GWAR, please refer to the Graduate Admissions and Program Evaluations website at www.sjsu.edu/gape.

5. Culminating Experience

Plan B (Project)

All students must complete a comprehensive project integrating business functional and interdisciplinary areas. The MSA culminating experience is incorporated into BUS 220N, Project Management, Organization & Strategy and into BUS220A, Financial Statement Analysis. An individual written project report is required, and may take the form of a field study, business plan, research project or business simulation.

6. Maintenance of 3.0 GPA

Students must maintain a grade point average of 3.0 or better on all graduate-level course work. Students who receive grades of C-, D, F, or U in any business graduate course must repeat that course to achieve a grade of C or better.

7. Other University Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures. Students must comply with all other graduate requirements contained in this catalog.

Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR). For information on the GWAR, please see http://info.sjsu.edu/gcw.html.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

For Legend please see page 2

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Pre-requisite Courses

Any of the prerequisite courses may be waived through evidence of recent prior equivalency (within the last five years with a grade of "B" or better)

- Introductory Financial Accounting
- Intermediate Financial Accounting I
- Intermediate Financial Accounting II
- Accounting Information Systems
- Management Accounting and Control Systems
- Taxation of Individuals and Flow-Through Entities
- Statistics

Requirements for the Masters 30

Required Courses 15

BUS 220J. Business Communications & Ethics ..... GWAR 3
BUS 220U. IT Audit & Internal Controls 3
BUS 220Z. Data Analytics for Accounting 3

CHOOSE TWO OF THE FOLLOWING COURSES IN CONSULTATION WITH GRADUATE ADVISOR:

BUS 220G. Tax Factors of Business and Investment Decisions: Theory and Practice 3
BUS 220H. Auditing: Concepts/Practice 3
BUS 220R. Software Applications for Accounting 3
BUS 220S. Financial Reporting and Analysis III 3
BUS 220V. Special Topics in Accounting 3

If more than two courses are taken, two fulfill the core course requirements and all others are electives.

Electives 12

12 UNITS OF ELECTIVE COURSES SELECTED IN CONSULTATION WITH THE GRADUATE ADVISOR.

Culminating Experience 3

Plan B (Project)

COMPLETE ONE COURSE FROM:

BUS 220A. Financial Statement Analysis for Accountants 3
BUS 220N. Management of Organizations and Projects 3

If both courses are taken, one is the comprehensive project and the other is an elective.

Total Units Required 30

Elective courses must be planned in consultation with the Graduate Advisor.

The maximum number of upper-division undergraduate units that can be applied toward the master's degree is 15.

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU Cumulative grade point averages of 3.0 in order to graduate.

MS - Taxation (Special Session)

The Master of Science in Taxation (MST) Program is a 30-unit program designed to provide individuals with the conceptual understanding and sound technical knowledge necessary to compete successfully in the ever-changing tax world. It is appropriate for individuals already working in public accounting, a corporate tax department, a law practice or government service. College graduates with an accounting degree who wish to pursue a career in taxation and/or meet the 150 unit requirement to become a CPA will also benefit from the program. (State fee schedule does not apply.)

For more information, see the Lucas Graduate School of Business website http://www.sjsu.edu/lucasgsb/programs/mst/

Admissions Requirements

University Admissions

Applicants must submit a complete graduate application by applying through the CSU Cal State Apply system at calstate.edu/apply and meet all the university admission requirements. Applicants apply separately to the department to obtain admission into the MST program.

Applicants from countries in which the native language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirements webpage at GAPE.

Requirements for Admission to Classified Standing

To be fully accepted into the MST in classified standing, an applicant must have:

1. Completed the following undergraduate courses (or equivalent) prior to admission. The SJSU course numbers for these courses are in parenthesis:

- Financial Accounting (BUS1 020)
- Managerial Accounting (BUS1 021)
- Intermediate Accounting I and II (BUS1 121A/B)
- Tax Factors of Business and Investment Decisions (BUS1 123A)

These requirements may be fulfilled at a community college. If your undergraduate degree is in Accounting, you have satisfied the course prerequisites.

2. A four-year bachelor's degree from an accredited college or university in the United States or from a recognized institution if the degree was earned outside of the United States.

3. A GPA of 3.0 or better (on a 4.0 scale) in your last 60 semester units or 90 quarter units of course work (Professional Development and Certificate Program course work cannot be included in this calculation).

4. A Graduate Management Admission Test (GMAT) or the Graduate Record Examination (GRE) exam. Scores at the 50th percentile in both the quantitative and verbal sections of the exam are considered competitive. Conditional on the approval of the MST Director, the GMAT/GRE requirement may be waived if the applicant has any of following:

4.1. Earned a Ph.D. in the United States

4.2. Passed all parts of the CPA exam (in the United States)

4.3 Passed the Enrolled Agent exam administered by the IRS.

4.3. Scored 145 or higher in the LSAT exam

4.4. Graduated with honors from the Lucas College of Business Gary J. Sbona Honors Program within the last five years.

4.5. A GPA of at least 3.2 from an accredited U.S. university AND completed at least three years of full-time work experience in taxation. An interview with the MST Director and/or a letter from the supervisor attesting to type of work responsibilities may be required.

4.6. A GPA of at least 3.75 from an accredited U.S. university. An interview with the MST Director may be required.

Program of Study Requirements for the Master of Science in Taxation

1. Core Taxation Courses

Five core taxation courses (15 units) are required of all students. Of the core courses, two must be selected from a list of designated topic areas (business entities and multijurisdictional taxation); see below for details.

2. Elective Courses

Students complete a minimum of 12 units of taxation elective courses.

3. Culminating Experience

The culminating experience is a comprehensive individual written project incorporated into the capstone course, BUS 223H, Tax Policy Capstone. An oral examination may be included.

4. Maintenance of 3.0 GPA

Students must maintain a grade point average of 3.0 or better on all graduate-level course work. Students who receive grades of "C-", "D", "F", or "U" in any business graduate course must repeat that course to achieve a grade of "C" or better.

5. Graduation Writing Assessment Requirement

The University requires that all graduate students complete the Graduation Writing Assessment Requirement (GWAR) as a condition for advancement to candidacy. Please refer to the SJSU catalog section titled "Graduation Writing Assessment Requirement" for details. For the MST Program, the required writing course is BUS 223A.

6. Transfer Credit

Subject to approval of the MST Program Director, students may transfer a maximum of nine semester units of business graduate course work from another accredited institution to be applied to advanced level course work requirements. Grades in the transfer courses must be "B" or better. MST courses taken via "Open University" are treated as transferred into the MST Program (and thus count toward the maximum of nine semester units of transferable course work).

7. Other University Requirements

Students must comply with all other graduate requirements contained in this catalog.

Requirements for Advancement to Graduate Candidacy

Students must meet the university requirements for candidacy. General university requirements for advancement to candidacy for the MST degree are detailed in the Graduate Policies and Procedures section of this catalog. Candidacy includes successful completion of the Graduation Writing Assessment Requirement (GWAR).

Special Session Program Information

Academic Programs offered through Special Session are operated by the College of Professional and Global Education (CPGE). Registration and enrollment in a Special Session course or program must use the special session application form and will follow special session fee and course schedules. Note that regular session students seeking to enroll simultaneously in a special session course or program will trigger a separate and additional set of fees. This may require an additional enrollment appointment from the Registrar and it may have implications for financial aid status or requirements. Please visit the CPGE website for more information.

Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR). For information on the GWAR, please see http://info.sjsu.edu/gcw.html.

Requirements for the Masters 30

Required Core 15

BUS 223A. Tax Research and Decision Making	GWAR	3
BUS 223F. Tax Accounting Methods/Periods		3
BUS 223G. Taxation of Business Entities		3

Business Entities 3

CHOOSE ONE OF THE FOLLOWING COURSES IN CONSULTATION WITH GRADUATE ADVISOR:

BUS 223B. Taxation of Partnerships	3
BUS 225B. Taxation of Corporate Reorganizations	3
BUS 225G. Taxation of S Corporations	3
BUS 225S. Consolidated Returns	3

Multijurisdictional Taxation 3

CHOOSE ONE OF THE FOLLOWING COURSES IN CONSULTATION WITH GRADUATE ADVISOR:

BUS 225C. International Tax - US Corporations with Foreign Activities	3
BUS 225D. International Tax - Individuals and Foreign Corporations	3
BUS 225F. State Taxation Fundamentals	3
BUS 225M. State Tax Planning	3
BUS 225P. Advanced International Tax - US Corporations	3
BUS 225U. Fundamentals of Transfer Pricing	3
BUS 225W. Introduction to International Taxation	3
BUS 225X. International Taxation - US and Foreign Individuals	3

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

For Legend please see page 2

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CATALOG CONTENTS

Electives	12

COMPLETE 12 UNITS FROM:

BUS 223B. Taxation of Partnerships	3
BUS 225A. Taxation of Estates and Trusts	3
BUS 225B. Taxation of Corporate Reorganizations	3
BUS 225C. International Tax - US Corporations with Foreign Activities	3
BUS 225D. International Tax - Individuals and Foreign Corporations	3
BUS 225F. State Taxation Fundamentals	3
BUS 225G. Taxation of S Corporations	3
BUS 225H. Taxation of Property Transactions	3
BUS 225I. Tax Practices, Penalties and Procedures	3
BUS 225J. Taxation of Executive Compensation	3
BUS 225K. Advanced Individual Taxes	3
BUS 225L. Accounting for Income Taxes	3
BUS 225M. State Tax Planning	3
BUS 225N. Financing Options - New or Growing Bus	3
BUS 225O. Taxation of Tax Exempt Organizations	3
BUS 225P. Advanced International Tax - US Corporations	3
BUS 225S. Consolidated Returns	3
BUS 225T. Intermediate Acctg for Income Taxes	3
BUS 225U. Fundamentals of Transfer Pricing	3
BUS 225V. Tax Considerations for High Tech Companies	3
BUS 225W. Introduction to International Taxation	3
BUS 225X. International Taxation - US and Foreign Individuals	3
BUS 225Y. Accounting Ethics	3
Note: Above course counts as accounting ethics class required to become a CPA in 2017 or later.	
BUS 227A. Individual Tax Compliance	1
BUS 227B. Ethics for Tax Practitioners	1
Note: Above course counts towards the required ethics courses to become a CPA in California	
BUS 227C. Tax Symposium	1
Note: Topic changes each time offered; may be taken more than once.	
BUS 227D. Employment Taxation and the Modern Workforce	1
BUS 227E. Foundation for Understanding Taxation	1
BUS 227F. Personal and Business Leadership Skills for Tax Practitioners	2
Note: Above course counts towards the required ethics courses to become a CPA in California	
BUS 298. Master's Project	1-6

Culminating Experience	3

Plan B (Project)

BUS 223H. Tax Policy Capstone	3

Total Units Required	30

Elective courses must be planned in consultation with the graduate advisor.

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU cumulative grade point averages of 3.0 in order to graduate.

MS - Transportation Management (Special Session)

The Master of Science in Transportation Management (MSTM) is a fully accredited, 30-unit program that takes two and half or three years to complete as a part-time student. The curriculum consists of six required courses, two electives, and a two-course culminating capstone experience.

The curriculum is led by nationally recognized instructors who are academic or industry experts. The MSTM is fully accredited by the Association to Advance Collegiate Schools of Business (AACSB). Classes are held on weekday evenings, allowing students to work full time while earning their degrees. Students generally take one course at a time, one night per week, for each ten-class session, for a total of four classes per year. Classes are delivered by two-way video conferencing, supplemented by web courseware. Students attend class in-person at locations throughout California or via online video-conferencing.

Admission Requirements

University Admissions

Applicants must submit a complete graduate application by applying through the CSU Cal State Apply system at calstate.edu/apply and meet all the university admission requirements. Applicants apply separately to the department to obtain admission into the Special Session MS, Transportation Management degree program. See the GAPE Graduate Admissions website and this Catalog for general information about graduate admissions at SJSU.

Applicants from countries in which the native language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirements webpage at GAPE. For TOEFL Requirements, see the Policies and Procedures section, Graduate and Post-Baccalaureate Information in this Catalog.

Admission to the Department

Applicants who meet university and program requirements will be considered for classified admission. Admission to the Special Session MS, Transportation Management degree program requires the following (more details about these requirements are provided at the "Admissions" tab from http://transweb.sjsu.edu/education/graduate):

1. A bachelor's degree from an accredited university in the U.S. or the equivalent of a U.S. bachelor's degree earned from a recognized institution if the degree was earned outside of the U.S.

2. A preferred 3.0 (on a 4.0 scale) grade point average (GPA) in the last 60 semester units or 90 quarter units of study. An absolute minimum GPA of 2.5 is required for graduate admission at SJSU. Four-year undergraduate degree from an accredited institution, with a minimum 3.0 GPA for the last 60 units preferred.

3. Graduate Management Admission Test (GMAT) or the Graduate Record Examination (GRE) exam scores. Scores at the 50th percentile in both the quantitative and verbal sections of the exam are considered competitive. Conditional on the approval of the MSTM Program Director, the GMAT/GRE score requirement may be waived if the applicant has an interview with the MSTM Program Director and meets at least one of the following conditions:

- Earned a master's degree or Ph.D. in the United States from an accredited institution.
- Has at least five years of relevant full-time professional work experience in the transportation sector or a related field.
- Graduated with honors from the Lucas College of Business Gary J. Sbona Honors Program within the last five years.

4. A statement of purpose explaining how a Master of Science in Transportation Management will help you to achieve your career objectives (500 to 800 words).

5. A resume detailing your professional and academic experiences.

6. A letter of recommendation written by a supervisor who managed you in paid or volunteer work or by a university instructor who taught you. Letters should include an evaluation of your writing and analysis skills.

7. For students who did not earn a 4-year bachelor's degree, master's degree, or Ph.D. from an institution in which the principal language of instruction was English: Scores from an English language proficiency examination. The university minimum entrance score for the TOEFL is 213 (computer-based) or 80 (internet-based). The minimum score required on the IELTS is 6.5, and the minimum PTE score is 53.

Admission in Conditionally Classified Standing

Applicants not accepted into classified standing may qualify for conditionally classified status. The individual admission notification will explain required coursework, terms and conditions for removing deficiencies and attaining classified standing.

Requirements for Advancement to Candidacy

Candidacy denotes that the student is fully qualified to complete the final stages of the MS - Transportation Management. In order to achieve candidacy, students must meet the university requirements for candidacy. General university requirements for advancement to candidacy. for the master's degree are detailed in the Graduate Policies and Procedures section of this catalog. The University requires that all graduate students complete the Graduation Writing Assessment Requirement (GWAR) as a condition for advancement to candidacy. Please refer to the SJSU catalog section titled "Graduation Writing Assessment Requirement" for details. For graduate courses that meet the GWAR, please refer to the Graduate Admissions and Program Evaluations website at www.sjsu.edu/gape.

University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

Student disqualified from the MSTM program must follow the Disqualification and Probation - Graduate Students procedures in the SJSU catalog. It is the policy of the Donald and Sally Lucas Graduate School of Business not to readmit disqualified graduate students after a second disqualification.

Transfer Credit

With approval of the MSTM Program Director, the Donald and Sally Lucas Graduate School of Business Associate Dean for Graduate Programs, and the SJSU Associate Vice President for Graduate Studies and Research, students may transfer a maximum of six units of related graduate course work from another accredited university in the United States to satisfy elective course requirements. Grades in the transfer courses must be "B" or better. Extension course work from other institutions is not acceptable.

Culminating Experience

Plan B (Project)

The program culminating experience is incorporated into MTM 283 and MTM 290. Students use these courses to design and then carry out an individual, comprehensive project.

Special Session Program Information

Academic Programs offered through Special Session are operated by the College of Professional and Global Education (CPGE). Registration and enrollment in a Special Session course or program must use the special session application form and will follow special session fee and course schedules. Note that regular session students seeking to enroll simultaneously in a special session course or program will trigger a separate and additional set of fees. This may require an additional enrollment appointment from the Registrar and it may have implications for financial aid status or requirements. Please visit the CPGE website for more information.

Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR). For information on the GWAR, please see http://info.sjsu.edu/gcw.html.

MTM 201 serves as the GWAR requirement for this program.

Requirements for the Masters — 30

Required Core — 18

MTM 201. Transportation Systems and Society	GWAR	3
MTM 202. Introduction to Transportation Funding & Finance		3
MTM 203. Transportation Marketing and Communications Management		3
MTM 214. Transportation Policy and Regulation		3
MTM 215. Transportation Planning and Project Development		3
MTM 217. Leadership and Management of Transportation Organizations		3

Electives — 6

COMPLETE TWO COURSES FROM:

MTM 226A. Emergency Management Issues for Transportation Professionals	3
MTM 226B. Security Issues for Transportation Professionals	3
MTM 230. Multi Modal Transportation in CA	3
MTM 236. Managing Technology Innovations in Transportation	3
MTM 245. High Speed Rail Mgmt I	3
MTM 246. High Speed Rail Mgmt II	3
MTM 250. Transportation and the Environment	3

Culminating Experience — 6

Plan B (Project)

MTM 283. MSTM Capstone - Project Design	3
MTM 290. MSTM Capstone - Evaluation Report	3

Total Units Required — 30

Elective courses must be planned in consultation with the MSTM Program Director. With prior approval from the Program Director, students may count towards the elective requirement one graduate or upper-division undergraduate course (3 units) from another SJSU program.

The maximum number of upper-division undergraduate units that can be applied toward the master's degree is 15.

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU Cumulative grade point averages of 3.0 in order to graduate.

Students must comply with all other graduate requirements contained in this catalog.

Charles W. Davidson College of Engineering

ENGINEERING BUILDING 493
(408) 924-3800
engineering@sjsu.edu
http://engineering.sjsu.edu/

Introduction

The Charles W. Davidson College of Engineering offers undergraduate and graduate programs in Aerospace Engineering; Biomedical, Chemical and Materials Engineering; Civil and Environmental Engineering; Computer and Software Engineering; Electrical Engineering; General Engineering; Industrial and Systems Engineering; Mechanical Engineering; Industrial Technology, and Aviation. Each department offers a variety of major and minor programs which are identified in their respective parts of this catalog. General Engineering also offers interdisciplinary degrees in Engineering.

Preparation for Engineering Programs

To prepare for engineering, the high school student should take as much advanced math and science as possible, as well as high school engineering and technology courses that may be available at their school. Students with scores of 4 or above on the AP Calculus exams may be able to accelerate their degree program; students who are not calculus-ready on entrance may take a longer time to graduate. Students transferring from California community colleges will be given junior level standing in the Major if they have successfully completed the following course work:

- 12 semester units of calculus and differential equations
- 5-10 semester units of chemistry
- 8-13 semester units of physics which require calculus as a prerequisite
- 10-14 units of lower division engineering appropriate to their engineering major

Transfer students should use assist.org or this SJSU online catalog to determine the specific lower division requirements of their major. Graduation following two academic years of study is possible if the student completes all lower division units before transfer, satisfactorily completes the required upper division coursework and remains in good standing in the Major.

Preparation for Technology and Aviation Programs

To prepare for technology and aviation majors, the high school student should take industrial technology classes such as electronics, drafting, and manufacturing, or any engineering classes offered at their school, and should complete courses in physics, chemistry, and pre-calculus or calculus.

Community college students are urged to complete as many of the lower division requirements as possible in chemistry, physics, mathematics and technology or aviation at the community college.

Progress to Degree Requirements

All College of Engineering undergraduates are required to stay in good standing in their major by maintaining a Major GPA of 2.0 or above. The Major GPA includes all courses required for the major, including both lower and upper division math, science, engineering, technology, aviation or business courses required by their major. Some departments have additional grade requirements for individual courses, groups of courses or all courses taken in their department. See departmental sections for these requirements. Additional university GPA requirements are specified elsewhere in this catalog.

Incoming Engineering frosh, or other students seeking to change major into Engineering, must complete Math 30 (or 30P), Math 31 and Physics 50 within their first 60 units at SJSU. The Progress to Degree policy can be found on the College advising website.

General Education Requirements

Of the 51 units required by the university up to 27 units may be satisfied by specified major and support requirements. Engineering majors may satisfy the remaining units by taking AMS 1A-B (12 units), ENGL 1A-B (6 units), Oral Communication (3 units) and ENGR 100W (3 units). Transfer students may satisfy core GE through the IGETC or CSU breadth requirements. Consult advisors in the Engineering Student Success Center (Engr 344) for details.

Engineering Student Success Center (ESSC)

The Engineering Student Success Center provides General Education advising services and student success programs for the undergraduate students in the College of Engineering. We offer both drop-in advising and appointments.

Engineering Building, Room 344

408-924-3990

www.engr.sjsu.edu/students/essc

Undergraduate Programs Offered

The College of Engineering offers BS degrees in:

- Aerospace Engineering
- Aviation
- Biomedical Engineering
- Chemical Engineering
- Civil Engineering
- Computer Engineering
- Electrical Engineering
- General Engineering
- Industrial and Systems Engineering
- Industrial Technology
- Materials Engineering
- Mechanical Engineering
- Software Engineering

Please see the Degrees or Departments listings in this catalog for information about each undergraduate major.

Graduate Programs Offered

The College of Engineering offers graduate work leading to Master of Science degrees in:

- Aerospace Engineering
- Biomedical Engineering
- Chemical Engineering
- Civil Engineering
- Computer Engineering
- Electrical Engineering
- Engineering (Interdisciplinary) Program
- Industrial and Systems Engineering
- Materials Engineering
- Mechanical Engineering
- Software Engineering

Graduate work offered by the College of Engineering reflects and supports the advanced scientific and technological endeavor which is typical of California industry, government and business.

Departmental curricula provide full- and part-time students the opportunity either to obtain master's degrees or to take specialized courses to improve job capabilities.

The Master of Science in Engineering offered by the General Engineering Department has unique, interdisciplinary characteristics which may be particularly appealing to persons with a bachelor's degree in engineering who are currently working in a technical management area and wish to extend their education.

The College of Engineering requires that all students whose native language is not English achieve a minimum score of 550 on the TOEFL examination. Students who meet this and the requirements for admission to the Graduate Division as outlined in this catalog should see individual department listings for requirements for admission to classified standing, conditionally classified standing and admission to candidacy for the specific degree in engineering.

In addition to departmental requirements, the University requires that all graduate students demonstrate competency in written English as a condition for advancement to candidacy. Please refer to the SJSU catalog section titled "Competency in Written English" for details. For graduate courses that meet the competency in written English requirement, please refer to the Graduate Studies and Research website at www.sjsu.edu/gradstudies. In addition, all graduates must complete an acceptable thesis, project or comprehensive examination.

Chemical and Materials Engineering Department

College of Engineering

ENGINEERING BUILDING 385
408-924-4000
408-924-4057 (Fax)
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Professors

Wenchiang R. Chung, Chair
Claire F. Komives
Melanie A. McNeil

Associate Professors

Anand Ramasubramanian

Assistant Professors

Ozgur Keles
Dahyun Oh
Liat Rosenfeld
David Wagner

Curricula

BS, Chemical Engineering
BS, Materials Engineering
Minor, Materials Science and Engineering
MS, Chemical Engineering
MS, Materials Engineering

Introduction

Researchers, chemical and materials process engineers, pharmaceutical engineers, failure analysis engineers, and polymer engineers are some of the jobs that graduates of the Department of Chemical and Materials Engineering obtain in the Silicon Valley and beyond. Our graduates and alumni work in the traditional industries of petroleum processing and metallurgy, as well as in industrial sectors as diverse as semiconductors and microelectronics, additive manufacturing, nanotechnology and biotechnology, food engineering and cosmetics engineering, alternative energy and environmental remediation. In addition to bachelor's and master's degrees in chemical engineering and materials engineering, we offer undergraduate minors in and materials science and engineering. A high percentage of our graduates pursue masters of science and doctorate degrees in graduate schools across the country. The BS Chemical Engineering, and BS Materials Engineering programs are all accredited by the Engineering Accreditation Commission of ABET, www.abet.org.

BS - Chemical Engineering

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

Major Exceptions

This degree program meets certain University Requirements through approved major modifications. Please see the Major Exceptions area in the Policy and Procedures section of this catalog to identify the specific adjustments for this degree program or contact your major advisor for more details.

Major-Specific Graduation Requirements

The following course in Preparation for the Major must be completed with a "C- or Better": ENGL 001B.

The following required courses in the Major Lower Division Core must be satisfied with a "C or better"; Phys 50, Math 031, and Math 032.

The CHE Junior Core consists of a 2.0 average in {CHE 115, CHE 151, CHE 160A, CHE 162 and CHE 190} and ENGR 100W. Students receiving a grade less than "C-" in any CHE Junior Core course will have to repeat the course(s). The Junior Core must be satisfied in order to enroll in Senior Core course(s).

The CHE Senior Core consists of {CHE 161L, 163L, 165A, 165B, 185, 160B, and 158}. Students receiving any grade less than "C-" in a Senior Core course(s) will have to repeat the courses. Students can repeat any ChE Junior or Senior Core course only once. Failure to pass any ChE Junior or Senior Core course with a grade of "C- or better" after the second attempt will result in disqualification from the ChE major.

Prerequisite Requirements

Enrollment in any chemistry course requires that the prerequisite courses be passed with a grade of "C or better" (C- not accepted). Exceptions may be made only with instructor consent or if not explicitly stated in the course description. Refer to the SJSU Course Catalog for specific information regarding course prerequisites.

University Graduation Requirements 24

Core Lower Division General Education 6

Of the 39 units required by the university, 33 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

Upper Division General Education 6

Of the 9 units required by the university, 3 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 12

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

AMS 001A. American Cultures to 1877	M4	6
AMS 001B. American Cultures 1877 to present	M5	6

Physical Education

Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Preparation for the Major		**34**
CHEM 001A. General Chemistry	B1+B3	5
CHEM 001B. General Chemistry	B1+B3	5
ENGL 001B. Argument and Analysis	C2	3
or equivalent second semester composition course.		
MATH 030. Calculus I	B4	3
MATH 031. Calculus II	B4	4
MATH 032. Calculus III	B4	3
MATH 133A. Ordinary Differential Equations		3
PHYS 050. General Physics/Mechanics	B1+B3	4
PHYS 051. General Physics/Electricity and Magnetism	B1+B3	4
Requirements of the Major		**62**
Core Courses		**11**
CE 099. Introductory Statics		2
CE 95 also accepted.		
ENGR 010. Introduction to Engineering	E	3
CS 46A or equivalant also accepted, but additional GE Area E units will be required		
ENGR 100W. Engineering Reports	Z+R	3
MATE 025. Introduction to Materials		3
Required Courses in Engineering and Science		**43**
CHE 115. Industrial Chemical Calculations		3
CHE 151. Process Engineering Thermodynamics		4
CHE 158. Kinetics and Reactor Design		3
CHE 160A. Unit Operations I		4
CHE 160B. Unit Operations II		4
CHE 161. Process Safety and Engineering Ethics		1
CHE 161L. Undergraduate Chemical Engineering Laboratory		2
CHE 162. Engineering Statistics and Analysis		2
CHE 163L. Undergraduate Chemical Engineering Laboratory II		2
CHE 165A. Plant Design I		1
CHE 165B. Plant Design II		3
CHE 185. Chemical Process Dynamics and Control		3
CHE 190. Introduction to Transport Phenomena		3
CHEM 112A. Organic Chemistry		3
CHEM 112B. Organic Chemistry		3
CHEM 113A. Organic Chemistry Lab		2
Technical Major Electives		**8**
Electives must be selected from the approved departmental elective track list in consultation with the students' advisor		
Total Units Required		**120**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

BS - Materials Engineering

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

Major Exceptions

This degree program meets certain University Requirements through approved major modifications. Please see the Major Exceptions area in the Policy and Procedures section of this catalog to identify the specific adjustments for this degree program or contact your major advisor for more details.

Major-Specific Graduation Requirements

The following course in Preparation for the Major must be completed with a "C- or Better": ENGL 001B.

The following required in the Major Lower Division Core must be satisfied with a "C- or Better": MATH 030, MATH 031, MATH 032, PHYS 050, PHYS 051, CHEM 001A, CHEM 001B and ENGR 010.

The MATE Junior Core consists of a 2.0 average in {MATE 115, MATE 141, MATE 151, MATE 153, MATE 154 and MATE 155} and ENGR 100W. Students receiving a grade less than "C-" in a Junior Core course may have to repeat the course. The Junior Core must be satisfied in order to enroll in Senior Core courses.

The MATE Senior Core consists of {MATE 195, 198A, 198B, 185, and 152}. Students receiving a grade less than "C-" in a senior core course will have to repeat the course before graduation.

Prerequisite Requirements

Enrollment in any chemistry course requires that the prerequisite courses be passed with a grade of "C or better" (C- not accepted). Exceptions may be made only with instructor consent or if not explicitly stated in the course description. Refer to the SJSU Course Catalog for specific information regarding course prerequisites.

University Graduation Requirements 18

Core Lower Division General Education 6

Of the 39 units required by the university, 33 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

Upper Division General Education

Of the 9 units required by the university, 9 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 12

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

AMS 001A. American Cultures to 1877	M4	6
AMS 001B. American Cultures 1877 to present	M5	6

Physical Education

Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

Preparation for the Major		**34**
CHEM 001A. General Chemistry	B1+B3	5
CHEM 001B. General Chemistry	B1+B3	5
ENGL 001B. Argument and Analysis	C2	3
or equivalent second semester composition course.		
MATH 030. Calculus I	B4	3
MATH 031. Calculus II	B4	4
MATH 032. Calculus III	B4	3
MATH 133A. Ordinary Differential Equations		3
PHYS 050. General Physics/Mechanics	B1+B3	4
PHYS 051. General Physics/Electricity and Magnetism	B1+B3	4
Requirements of the Major		**68**
Core Courses		**14**
EE 098. Introduction to Circuit Analysis		3
ENGR 010. Introduction to Engineering	E	3
ENGR 100W. Engineering Reports	Z+R	3
MATE 025. Introduction to Materials		3
CE 099. Introductory Statics		2
CE 95 also accepted.		
Materials Eng Major Courses		**45**
CHE 161. Process Safety and Engineering Ethics		1
CHE 162. Engineering Statistics and Analysis		2
MATE 115. Structure/Properties of Solids		3
MATE 141. Structure and Analysis of Materials		3
MATE 143. Principles of Scanning Electron Microscopy		1
MATE 144. X-Ray Diffraction Lab		1
MATE 151. Solid State Thermodynamics		3
MATE 152. Solid State Kinetics		3
MATE 153. Electronic, Optical and Magnetic Properties of Materials		3
MATE 154. Metals and Alloys		3
MATE 155. Materials Selection and Process Design		3
MATE 185. Ceramics		3
MATE 186. Polymers		3
MATE 195. Mechanical Behavior of Materials		3
MATE 198A. Senior Design Project	S	2
MATE 198B. Senior Design Project	V	2
ME 020. Design and Graphics		2
ME 030. Computer Applications		2
ENGR 195A. Global and Social Issues in Engineering	S	1
ENGR 195B. Global and Social Issues in Engineering	V	1
Must take both MATE and ENGR 195 A and B to meet Area requirements		
Technical Major Electives		**9**
Electives must be selected from the approved departmental list in consultation with the students' advisor.		
Total Units Required		**120**

Minor - Materials Science and Engineering

Students enrolled in good standing in an engineering or science major may complete a Minor in Materials Science and Engineering. To be awarded the Minor, which appears on the official diploma and transcript, the student must complete 12 units, all of which must be outside the required courses in the major. The 12 units cannot be counted on both the Minor Form and the Major Form. Either MATE 025 or MATE 115 (or both) must be included in the Minor. The student, in consultation with a Materials Engineering academic advisor, should select 12 units in either the electronic materials option, the structural materials option or the general materials option. Prerequisites for each course must be met unless student receives instructor permission to waive them.

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Requirements of the Minor	12

Choose an Option

Electronic Materials and Processing Option	12

COMPLETE 12 UNITS FROM:

MATE 025. Introduction to Materials	3
MATE 115. Structure/Properties of Solids	3
MATE 129. Introduction to Integrated Circuits Processing and Design	3
MATE 141. Structure and Analysis of Materials	3
MATE 153. Electronic, Optical and Magnetic Properties of Materials	3

Structural and Mechanical Materials Option	12

COMPLETE 12 UNITS FROM:

MATE 025. Introduction to Materials	3
MATE 115. Structure/Properties of Solids	3
MATE 135. Introduction to Composite Materials	3
MATE 141. Structure and Analysis of Materials	3
MATE 175. Biomaterials	3
MATE 185. Ceramics	3
MATE 186. Polymers	3
MATE 195. Mechanical Behavior of Materials	3

General Materials Option	12
MATE 025. Introduction to Materials	3
MATE 115. Structure/Properties of Solids	3

9 additional units from either of the options above

Total Units Required	12

MS - Chemical Engineering

The MS Chemical Engineering program provides advanced study of chemical engineering topics with emphasis on both the fundamental and applied aspects. A multi-disciplinary approach to education is evident in the Chemical Engineering program's specialization areas of biotechnology, environmental engineering, and semiconductor processing. Elective courses are also available in science, business, and other engineering fields. This broad-based, multi-disciplinary education has proven to be an important factor for a student's future success, either at leading Silicon Valley companies or in Ph.D. programs. Class schedules are designed for the convenience of employed engineers who wish to pursue graduate work on a part-time basis.

The faculty are actively involved in research in a number of areas including: biochemical engineering, semiconductor processing, alternative energy, microfluidics, polymers and nanocomposites, nanotechnology, and environmental health and safety engineering, remediation, and bioprocess engineering. Research activity is sponsored by local industries as well as by government funding agencies.

The Chemical Engineering program welcomes students with undergraduate degrees in a variety of other engineering and science disciplines.

Class schedules are designed for the convenience of employed engineers who wish to pursue graduate work on a part-time basis as the majority of classes are scheduled in the evening hours.

For more information visit the department website: www.sjsu.edu/cme

Program Objectives

The CHE Master's program is designed to produce graduates who:

- Are able to solve complex engineering problems and tasks, and use engineering, science and statistics principles to justify recommendations.
- Are able to evaluate the impact of their work on society, including ethical, economic, global and environmental aspects.
- Can deliver effective presentations of engineering results in written and oral formats.
- Have life-long learning skills and are able to apply their engineering knowledge to critically evaluate relevant literature and new technologies or systems.
- Are effective leaders, capable of working in diverse environments.
- Are able to apply their engineering education to a variety of career paths.

Requirements for Admission

University Admission

Candidates must apply through the CSU admissions portal, Cal State Apply, and meet all university admissions requirements. Applicants will need to apply separately to the university to obtain approval for university-level admission and to the department to obtain admission into the MS in Chemical Engineering.

Applicants from countries in which the native language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirements webpage at GAPE. The program does not currently require the GRE for admission.

Admission to the Program

Candidates must meet all the university admissions requirements. Students can be admitted in either classified or conditionally classified standing. To be admitted to classified standing, a student must possess a U.S. baccalaureate degree with a major in chemical engineering and a grade point average of 3.0 or better in the last 60 units, from an ABET accredited chemical engineering program.

Students can be admitted with conditionally classified standing if they have a CHE degree from a U.S, accredited university in which they obtained a 2.7-2.99 GPA in the last 60 units; a CHE degree from a non-U.S, institution; or a BS degree in chemistry, biology, physics or related discipline from an accredited institution. Students admitted with conditionally classified standing will take a series of transition courses. The program admissions letter will explain terms and requirements. Once these are completed satisfactorily, students can petition for classified standing. For more information on the transition courses, contact the graduate coordinator.

Requirements for Candidacy

Students must meet the university requirements for candidacy which include successful completion of the Graduation Writing Assessment Requirement (GWAR). The University requires that all graduate students complete the GWAR as a condition for advancement to candidacy. Please refer to the SJSU catalog section titled "Graduation Writing Assessment Requirement" for details. For graduate courses that meet the GWAR, please refer to the Graduate Admissions and Program Evaluations website at www.sjsu.edu/gape.

Course Requirements

To meet the requirements for the MS - Chemical Engineering degree, a student must complete 30 units of approved courses. Students must achieve a minimum of a "C" in each course and a cumulative GPA of 3.0 or better. In addition to the 30 approved course units, students must complete a written thesis or project report and an oral defense of their thesis or project. Either Plan A (Thesis) or Plan B (Project) may be chosen in consultation with the student's SJSU research advisor.

Culminating Experience

Students in the MS, Chemical Engineering program may complete the program 6-unit Culminating Experience through their choice of a master's thesis or graduate project.

Plan A (Thesis)

Students opting to complete a master's thesis will take the CHE 281, CHE 298, and CHE 299, Master's Thesis for a total of 6 units. The student is responsible for securing the commitment of a full-time tenured or tenure-track faculty member who agrees to serve as the thesis committee chair. The student must also secure the commitments of two additional university faculty members, one of whom must be a full-time tenured or tenure-track faculty member, to serve as the student's thesis committee. The student must write a thesis proposal and have it approved by the thesis committee and pass the CHE 281 and CHE 298 before enrolling in the CHE 299. The thesis must meet university requirements as stipulated in this catalog and in the SJSU Master's Thesis and Doctoral Dissertation Guidelines. It will be written under the guidance of the candidate's thesis committee chair with the assistance of the thesis committee.

Plan B (Project)

Students opting to complete a graduate project will take the CHE 281 and CHE 298 and an additional 3 units of 200-level Engineering Math elective selected in consultation with graduate advisor. The candidate for the MS, Chemical Engineering degree must successfully pass a final defense of the project.

Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR). For information on the GWAR, please see http://info.sjsu.edu/gcw.html.

Requirements of the Masters		30
Core Courses		**12**
CHE 207. Mass Transfer		3
CHE 211. Advanced Chemical Engineering Thermodynamics		3
CHE 218. Reaction Kinetics	GWAR	3
CHE 219. Transport Processes		3
Electives		**12**
12 units electives selected in consultation with graduate advisor		
Culminating Experience		**6**
Choose a Plan		
Plan A (Thesis)		
CHE 281. MS Thesis/Project Preparation Seminar		1
CHE 298. MS Research/Project		2
CHE 299. Master's Thesis		3
Plan B (Project)		
CHE 281. MS Thesis/Project Preparation Seminar		1
CHE 298. MS Research/Project		1-2
Additional 200-level Engineering Math elective selected in consultation with graduate advisor		3
Total Units Required		**30**

MS - Materials Engineering

The MS Materials Engineering program provides advanced study of materials engineering topics with emphasis on both the fundamental and applied aspects. A multi-disciplinary approach to education is evident in the materials engineering program's specialization areas of semiconductor processing, polymers, ceramics, structural materials, and biomaterials. Elective courses are also available in science, business, and other engineering fields. This broad-based, multi-disciplinary education has proven to be an important factor for a student's future success, either at leading Silicon Valley companies or in Ph.D. programs. Class schedules are designed for the convenience of employed engineers who wish to pursue graduate work on a part-time basis.

The faculty are actively involved in research in a number of areas including electronic and magnetic materials, microelectronics processing, nanomaterials, MEMS, microelectronic packaging, polymers, composites and biomaterials. Research activity is sponsored by local industries as well as by government funding agencies.

The Materials Engineering program welcomes students with undergraduate degrees in a variety of other engineering and science disciplines.

For more information visit the department website: http://bcme.sjsu.edu or email: bme-engineering@sjsu.edu.

Program Objectives

The MATE Master's program is designed to produce graduates who:

- Are able to solve complex engineering problems and tasks, and use engineering, science and statistics principles to justify recommendations.
- Are able to evaluate the impact of their work on society, including ethical, economic, global and environmental aspects.
- Can deliver effective presentations of engineering results in written and oral formats.
- Have life-long learning skills and are able to apply their engineering knowledge to critically evaluate relevant literature and new technologies or systems.
- Are effective leaders, capable of working in diverse environments.
- Are able to apply their engineering education to a variety of career paths.

Requirements for Admission

Students can be admitted with conditionally classified standing if they have a MATE degree from a US accredited university in which they obtained a 2.7-2.99 GPA in the last 60 units; a MatE degree from a non-US institution; or if they have a BS degree in a related discipline, such as chemical engineering, chemistry, biology, or physics from an accredited institution. Students with conditionally classified standing will take a series of transition courses. Once these are completed satisfactorily, students can petition from classified standing. For more information on the transition courses, contact the graduate coordinator at bme-engineering@sjsu.edu.

Requirements for Candidacy

Students must meet the university requirements for candidacy which includes successful completion of the Graduation Writing Assessment Requirement (GWAR). The University requires that all graduate students on Graduation Writing Assessment Requirement as a condition for advancement to candidacy. Please refer to the SJSU catalog section titled "Graduation Writing Assessment Requirement" for details. For graduate courses that meet the GWAR, please refer to the Graduate Admissions and Program Evaluations website at www.sjsu.edu/gape.

Course Requirements

To meet the requirements for the MS - Materials Engineering degree, a student must complete 30 units of approved courses. Students must achieve a minimum of a "C" in each course and a cumulative GPA of 3.0 or better. Students must complete a written thesis or project report and an oral defense of their thesis or project. Either Plan A (thesis) or Plan B (project) will be chosen in consultation with the student's SJSU research advisor. Minimum requirements for each plan are as follows:

Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR). For information on the GWAR, please see http://info.sjsu.edu/gcw.html.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Requirements of the Masters	30
Choose a Plan	
Plan A (Thesis)	**30**
Core Coursework	**16**
MATE 205. Advanced Mechanical Behavior of Solids	3
MATE 210. Experimental Methods in Materials Engineering	3
MATE 215. Solid State Materials Engineering	3
MATE 241. Advanced Methods of Materials Characterization	3
MATE 251. Advanced Solid State Thermodynamics	3
MATE 281. MS Thesis/Project Preparation Seminar	1
Approved Electives	**9**
Culminating Experience	**5**
MATE 298. MS Research/Project	2
MATE 299. Master's Thesis	3
Plan B (Project)	**30**
Core Coursework	**28**
MATE 205. Advanced Mechanical Behavior of Solids	3
MATE 210. Experimental Methods in Materials Engineering	3
MATE 215. Solid State Materials Engineering	3
MATE 241. Advanced Methods of Materials Characterization	3
MATE 251. Advanced Solid State Thermodynamics	3
MATE 281. MS Thesis/Project Preparation Seminar	1
Approved Electives	**12**
Culminating Experience	**2**
MATE 298. MS Research/Project	2
Total Units Required	**30**

Chemistry Department

College of Science

DUNCAN HALL 518
408-924-5000
www.sjsu.edu/chemistry

Professors

Stephen E. Branz
David J.R. Brook
Daryl K. Eggers
Resa M. Kelly
Roy K. Okuda
Joseph J. Pesek
Karen A. Singmaster, Chair
Bradley M. Stone
Daniel A. Straus

Associate Professors

Lionel E. Cheruzel
Roger H. Terrill
Annalise Van Wyngarden

Assistant Professors

Laura C. Miller Conrad
Madalyn R. Radlauer
Alberto A. Rascon, Jr.
Chester K. Simocko
Ningkun Wang
Abraham Wolcott

Curricula

BA, Chemistry
BS, Chemistry
BS, Chemistry, Concentration in Biochemistry
Minor, Chemistry
MA, Chemistry
MS, Chemistry

Introduction

Chemistry plays an integral role in solving everyday problems in areas such as energy production, pollution control and disease prevention. Our graduates go on to gain advanced degrees in chemistry, medicine, pharmacy and dentistry or enter the job market directly, building careers in the pharmaceutical, biotechnological, biomedical, energy and green technology sectors. We provide broad access, high quality education in the molecular sciences at both the bachelor's degree and master's degree levels. Undergraduates may specialize in biochemistry. Graduate degree candidates focus on analytical chemistry, biochemistry, inorganic, organic or physical chemistry. Our curriculum, taught by experts in each of the subfields of chemistry, supplements traditional classroom courses with hands-on laboratory and research instruction. For teaching purposes, as well as to support the department's research mission, we maintain a large collection of state-of-the-art instrumentation, including mass spectrometers, spectrophotometers and lasers.

Undergraduate Honors Program

Student must be nominated by their research advisor and is selected for department honors by the Chemistry Department faculty. To be nominated chemistry majors need at least a 3.5 GPA in all chemistry course work required for the major and a minimum of two semesters of research by the time of graduation. The student would also have to submit, in electronic form, a written research report to support the nomination.

Non-Compliance with Safety Rules

Failure to comply with proper procedures and prescribed safety cautions shall subject the student to removal from the laboratory and/or disciplinary action.

1. Any student who engages in unauthorized experimentation or who seriously disregards safety, thereby endangering self or others shall be withdrawn immediately from the class with a grade of "F".

2. Any student who shows persistent disregard for safety may have his or her grade lowered, and may risk being withdrawn with a final grade of "F".

Prerequisites

To enroll in a Chemistry Course that has another Course as a prerequisite requires that a grade of "C or better" (C- not accepted) be earned in the prerequisite course. Exceptions may be made only with instructor consent or if not explicitly stated in the course description.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

BA - Chemistry

This program provides a fundamental chemistry background, while affording ample electives for developing a second specialty. The degree is designed for those wishing to work in scientific laboratories, or in fields allied to chemistry such as medicine, environmental monitoring, electronics, food processing, sales, pharmaceuticals, safety, literature search, or in a supervisory capacity in businesses dealing with chemical products.

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

Major Exceptions

This degree program meets certain University Requirements through approved major modifications. Please see the Major Exceptions area in the Policy and Procedures section of this catalog to identify the specific adjustments for this degree program or contact your major advisor for more details.

Prerequisite Requirements

Enrollment in any chemistry course requires that the prerequisite courses be passed with a grade of "C or better" (C- not accepted). Exceptions may be made only with instructor consent or if not explicitly stated in the course description. Refer to the SJSU Course Catalog for specific information regarding course prerequisites.

University Graduation Requirements 38

Core Lower Division General Education 24

Of the 39 units required by the university, 15 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

NOTE: STUDENTS WHO HAVE COMPLETED THE ADT TRANSFER DEGREE (UNDER SB 1440) FOR THIS MAJOR WILL HAVE COMPLETED ALL LOWER DIVISION GE REQUIREMENTS (EXCEPT FOR 1 COURSE IN GE AREA C AND 1 COURSE IN GE AREA D) AND SHOULD FOLLOW THE 60 UNIT GUARANTEE ROADMAP (WHICH INCLUDE THE MISSING GE IN AREA C AND D). MEET WITH AN ADVISOR PRIOR TO REGISTERING FOR YOUR FIRST SEMESTER FOR THE 60 UNIT ROADMAP OR SPECIFIC QUESTIONS.

Upper Division General Education 6

Of the 9 units required by the university, 3 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 6

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

COMPLETE ONE SEQUENCE FROM:

African American Studies 6

AFAM 002A. African Americans and the Development of America's History and Government	D2	3
AFAM 002B. African Americans and the Development of America's History and Government	M7	3

Asian American Studies 6

AAS 033A. Asian Americans in U.S. History I	D2	3
AAS 033B. Asian Americans in U.S. History II	M7	3

U.S. History and Government 6

HIST 015. Essentials of U.S. History	M12	3
POLS 015. Essentials of U.S. & California Government	M11	3

Chicana and Chicano Studies 6

CCS 010A. Mexican Americans and the Development of U.S. History and Government	D2	3
CCS 010B. Mexican Americans and the Development of U.S. History and Government	M7	3

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

For Legend please see page 2

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Physical Education 2

Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Preparation for the Major 14

MATH 030. Calculus I	B4	3
PHYS 002A. Fundamentals of Physics	B1+B3	4
PHYS 002B. Fundamentals of Physics	B1+B3	4

PHYS 050 and PHYS 051 accepted for Transfers, in lieu of PHYS 002A/B.

PHIL 133. Ethics in Science	V	3

Requirements of the Major 52

Core Courses 33

CHEM 001A. General Chemistry	B1+B3	5
CHEM 001B. General Chemistry	B1+B3	5
CHEM 055. Quantitative Analysis		2
CHEM 055L. Quantitative Analysis Laboratory		2
CHEM 100W. Writing Workshop: Chemical Communications	Z	3
CHEM 112A. Organic Chemistry		3
CHEM 112B. Organic Chemistry		3
CHEM 113A. Organic Chemistry Lab		2
CHEM 113B. Organic Chemistry Lab		3
CHEM 120S. Chemical Safety Seminar		1
CHEM 160. Physical Chemistry		4

Approved Upper Division Chemistry Electives 19

Students must complete at least three Upper Division lab courses, including at least one capstone course.

Elective Lab Courses 4-6

COMPLETE TWO COURSES FROM:

CHEM 131A. Biochemistry Lab	2
CHEM 155. Instrumental Analysis	4
CHEM 162L. Physical Chemistry Lab	2

Capstone Course 3

COMPLETE ONE COURSE FROM:

CHEM 114. Advanced Organic Chemistry Lab		3
CHEM 131B. Biochemistry Lab	R	3
CHEM 146. Physical-Inorganic Techniques		3

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

For Legend please see page 2

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Other Upper Division Chemistry Electives **10-12**

COMPLETE 10-12 UNITS FROM:

CHEM 101. Chemistry and the Computer 3
CHEM 121S. Radiation Safety 1-2
CHEM 130A. Biochemistry 4
CHEM 135 or CHEM 130A may count toward the degree.

CHEM 130B. Biochemistry 4
CHEM 130C. Biochemistry 3
CHEM 135. General Biochemistry 4
CHEM 135 or CHEM 130A may count toward the degree.

CHEM 145. Inorganic Chemistry 3
CHEM 170A. Foundations of Macromolecular Chemistry 1
CHEM 180. Individual Studies 1-4
CHEM 191. Undergraduate Seminar 5
CHEM 212. Natural Products 3
CHEM 213. Organic Synthesis 3
CHEM 236. Biophysical Methods 3
CHEM 237. Bioinorganic Chemistry 3
CHEM 245. Advanced Inorganic Chemistry 3
CHEM 250. Current Topics in Analytical Chemistry 3

University Electives	16

A minor is strongly recommended.

Total Units Required	**120**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

For Legend please see page 2

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CATALOG CONTENTS

BS - Chemistry

This curriculum prepares students for graduate work in chemistry or for responsible positions in industrial or government laboratories. This degree meets all requirements for Certification by the American Chemical Society. It does not require a minor, although with judicious choice of electives, a minor may be obtained in biology, mathematics or physics.

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

Major Exceptions

This degree program meets certain University Requirements through approved major modifications. Please see the Major Exceptions area in the Policy and Procedures section of this catalog to identify the specific adjustments for this degree program or contact your major advisor for more details.

Prerequisite Requirements

Enrollment in any chemistry course requires that the prerequisite courses be passed with a grade of "C or better" (C- not accepted). Exceptions may be made only with instructor consent or if not explicitly stated in the course description. Refer to the SJSU Course Catalog for specific information regarding course prerequisites.

University Graduation Requirements 35

Core Lower Division General Education 15

Of the 39 units required by the university, 24 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

NOTE: STUDENTS WHO HAVE COMPLETED THE ADT TRANSFER DEGREE (UNDER SB 1440) FOR THIS MAJOR WILL HAVE COMPLETED ALL LOWER DIVISION GE REQUIREMENTS (EXCEPT FOR 1 COURSE IN GE AREA C AND 1 COURSE IN GE AREA D) AND SHOULD FOLLOW THE 60 UNIT GUARANTEE ROADMAP (WHICH INCLUDE THE MISSING GE IN AREA C AND D). MEET WITH AN ADVISOR PRIOR TO REGISTERING FOR YOUR FIRST SEMESTER FOR THE 60 UNIT ROADMAP OR SPECIFIC QUESTIONS.

Upper Division General Education 6

Of the 9 units required by the university, 3 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 12

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

COMPLETE ONE SEQUENCE FROM:

AMS 001A. American Cultures to 1877	M4	6
AMS 001B. American Cultures 1877 to present	M5	6

Physical Education 2

Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Preparation for the Major 25

MATH 030. Calculus I	B4	3
MATH 031. Calculus II	B4	4
MATH 032. Calculus III	B4	3
PHYS 050. General Physics/Mechanics	B1+B3	4
PHYS 051. General Physics/Electricity and Magnetism	B1+B3	4
PHYS 052. General Physics/Waves, Light, Heat	B1+B3	4
PHIL 133. Ethics in Science	V	3

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Requirements of the Major		60
Core Courses		**29**
CHEM 001A. General Chemistry	B1+B3	5
CHEM 001B. General Chemistry	B1+B3	5
CHEM 055. Quantitative Analysis		2
CHEM 055L. Quantitative Analysis Laboratory		2
CHEM 100W. Writing Workshop: Chemical Communications	Z	3
CHEM 112A. Organic Chemistry		3
CHEM 112B. Organic Chemistry		3
CHEM 113A. Organic Chemistry Lab		2
CHEM 113B. Organic Chemistry Lab		3
CHEM 120S. Chemical Safety Seminar		1
Additional Required Courses		**23**
CHEM 101. Chemistry and the Computer		3
CHEM 130A. Biochemistry		4
CHEM 145. Inorganic Chemistry		3
CHEM 155. Instrumental Analysis		4
CHEM 161A. Physical Chemistry		3
CHEM 161B. Physical Chemistry		3
CHEM 162L. Physical Chemistry Lab		2
CHEM 170A. Foundations of Macromolecular Chemistry		1
Capstone Course		**3**
CHEM 146. Physical-Inorganic Techniques		3
Science Electives		**5**
COMPLETE FIVE UNITS FROM:		
ASTR 117A. Astrophysics I		3
CHEM 114. Advanced Organic Chemistry Lab		3
CHEM 121S. Radiation Safety		1-2
CHEM 131A. Biochemistry Lab		2
CHEM 180. Individual Studies		1-4
CHEM 191. Undergraduate Seminar		5
CHEM 212. Natural Products		3
CHEM 213. Organic Synthesis		3
CHEM 218. Organotransition Metal Chemistry		3
CHEM 236. Biophysical Methods		3
CHEM 245. Advanced Inorganic Chemistry		3
CHEM 250. Current Topics in Analytical Chemistry		3
MATH 112. Vector Calculus		3
MATH 123. Differential Equations and Linear Algebra		3
MATH 129A. Linear Algebra I		3
MATH 133A. Ordinary Differential Equations		3
MATH 138. Complex Variables		3
MATH 161A. Applied Probability and Statistics I		3
PHYS 122. Modern Physics		4
PHYS 130. Mathematical Methods in Physics		4
PHYS 158. Modern Optics		3
PHYS 160. Thermodynamics and Statistical Physics		3
Total Units Required		**120**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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BS - Chemistry, Concentration in Biochemistry

This concentration is designed for students interested in graduate work in biochemistry, medicine or related fields, or for responsible positions in industrial or government laboratories.

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

Major Exceptions

This degree program meets certain University Requirements through approved major modifications. Please see the Major Exceptions area in the Policy and Procedures section of this catalog to identify the specific adjustments for this degree program or contact your major advisor for more details.

Prerequisite Requirements

Enrollment in any chemistry course requires that the prerequisite courses be passed with a grade of "C or better" (C- not accepted). Exceptions may be made only with instructor consent or if not explicitly stated in the course description. Refer to the SJSU Course Catalog for specific information regarding course prerequisites.

University Graduation Requirements 29

Core Lower Division General Education 18

Of the 39 units required by the university, 21 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

Upper Division General Education 3

Of the 9 units required by the university, 6 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 6

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

COMPLETE ONE SEQUENCE FROM:

African American Studies **6**

AFAM 002A. African Americans and the Development of America's History and Government	D2	3
AFAM 002B. African Americans and the Development of America's History and Government	M7	3

Asian American Studies **6**

AAS 033A. Asian Americans in U.S. History I	D2	3
AAS 033B. Asian Americans in U.S. History II	M7	3

U.S. History and Government **6**

HIST 015. Essentials of U.S. History	M12	3
POLS 015. Essentials of U.S. & California Government	M11	3

Chicana and Chicano Studies **6**

CCS 010A. Mexican Americans and the Development of U.S. History and Government	D2	3
CCS 010B. Mexican Americans and the Development of U.S. History and Government	M7	3

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Physical Education 2

Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Preparation for the Major 33

BIOL 030. Principles of Biology I	B2+B3	4
BIOL 031. Principles of Biology II	B2B3	4
BIOL 115. General Genetics		4
ENGL 001B. Argument and Analysis	C2	3
or equivalent.		
MATH 030. Calculus I	B4	3
MATH 031. Calculus II	B4	4
PHIL 133. Ethics in Science	V	3
PHYS 002A. Fundamentals of Physics	B1+B3	4
PHYS 002B. Fundamentals of Physics	B1+B3	4

Requirements of the Major 58

Core Courses 29

CHEM 001A. General Chemistry	B1+B3	5
CHEM 001B. General Chemistry	B1+B3	5
CHEM 055. Quantitative Analysis		2
CHEM 055L. Quantitative Analysis Laboratory		2
CHEM 100W. Writing Workshop: Chemical Communications	Z	3
CHEM 112A. Organic Chemistry		3
CHEM 112B. Organic Chemistry		3
CHEM 113A. Organic Chemistry Lab		2
CHEM 113B. Organic Chemistry Lab		3
CHEM 120S. Chemical Safety Seminar		1

Biochemistry Concentration Required Courses 29

CHEM 130A. Biochemistry	4
CHEM 130B. Biochemistry	4
CHEM 130C. Biochemistry	3
CHEM 131A. Biochemistry Lab	2
CHEM 160. Physical Chemistry	4

Capstone Course 3

CHEM 131B. Biochemistry Lab	R	3

Science Electives 9

COMPLETE 9 UNITS FROM:

BIOL 107. Immunology	3
BIOL 107L. Immunology Laboratory	2
BIOL 116. Molecular Genetics	4
BIOL 116L. Genetics Laboratory	3
BIOL 117. Human Genetics	3
BIOL 118. Evolutionary Genetics	4
BIOL 119. Neurogenetics	3
BIOL 123A. Bioinformatics I	3
BIOL 123B. Bioinformatics II	3
BIOL 124. Systems Physiology	3

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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BIOL 125. Systems Physiology Laboratory		2
BIOL 135A. Eukaryotic Cell and Molecular Biology I		3
BIOL 135B. Eukaryotic Cell and Molecular Biology II	R	3
BIOL 135L. Molecular Cell Biology Lab		3
BIOL 137. Introduction to Principles of Toxicology		3
BIOL 165. Advanced Human Anatomy		4
BIOL 170. Cellular and Molecular Physiology		3
CHEM 114. Advanced Organic Chemistry Lab		3
CHEM 145. Inorganic Chemistry		3
CHEM 155. Instrumental Analysis		4
CHEM 162L. Physical Chemistry Lab		2
CHEM 180. Individual Studies		1-4
MICR 101. General Microbiology		5
Total Units Required		**120**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Minor - Chemistry

Courses prerequisite to all chemistry courses must be passed with a grade of "C" or better ("C-" not accepted).

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Requirements of the Minor		23
Core Courses		**11**
CHEM 001A. General Chemistry	B1+B3	5
CHEM 001B. General Chemistry	B1+B3	5
CHEM 120S. Chemical Safety Seminar		1
Approved Upper Division Chemistry Electives		**12**
Approved courses from at least two areas beyond general chemistry, chosen from analytical chemistry, biochemistry, inorganic chemistry, organic chemistry and physical chemistry (including at least one lab course; minimum of six units must be upper division courses and can include CHEM 120S)		
CHEM 055. Quantitative Analysis		2
CHEM 055L. Quantitative Analysis Laboratory		2
CHEM 112A. Organic Chemistry		3
CHEM 112B. Organic Chemistry		3
CHEM 113A. Organic Chemistry Lab		2
CHEM 130A. Biochemistry		4
CHEM 130B. Biochemistry		4
CHEM 131A. Biochemistry Lab		2
CHEM 135. General Biochemistry		4
CHEM 145. Inorganic Chemistry		3
CHEM 155. Instrumental Analysis		4
CHEM 160. Physical Chemistry		4
CHEM 161A. Physical Chemistry		3
CHEM 161B. Physical Chemistry		3
CHEM 162L. Physical Chemistry Lab		2
Total Units Required		**23**

MA - Chemistry

The MA Chemistry degree is designed for persons who seek to augment and enhance their knowledge of chemistry beyond the bachelor's level. It is intended for (1) those who are interested in teaching chemistry at community colleges, (2) high school teachers who are currently certified and have teaching experience, (3) those who are interested in chemical sales, technical librarianship, and scientific writing, or (4) those who already have a significant amount of research experience. The MA degree is not recommended to those who wish to conduct or direct chemical research and have no previous research experience in the private sector.

For more information visit the Chemistry Department's Graduate Programs webpage.

Admissions Requirements

The applicant must apply to and be admitted by both San José State University and the Chemistry Department. Check the SJSU Graduate Admissions and Program Evaluations website (GAPE) and the Chemistry Department website for the most up-to-date instructions.

Admission to the University

Applicants are admitted to the program by the Chemistry Department Graduate Advisor after they have been admitted to the graduate school by the university. University admissions requirements include a bachelor's degree (or equivalent), a minimum 2.5 GPA, and good standing at the last college or university attended. Applicants from countries in which the native language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirements webpage of GAPE.

Admission to the Chemistry Department

The Chemistry Department requires that the bachelor's degree be in chemistry or an intimately related science (e.g., chemical physics, biochemistry, materials science). In all cases, however, incoming students must have had the equivalent of 40 semester units of undergraduate chemistry including at least 10 units of general chemistry, 10 units of organic chemistry, 4 units of analytical chemistry, and 4 units of physical chemistry. A grade point average of 3.0 or higher for the chemistry coursework is preferred. In addition, admission to the Chemistry MA program requires the general GRE and at least two, but preferably three, letters of recommendation.

Admissions Status

Admission may be with graduate classified standing, which means that the student is deemed qualified to enroll in the graduate curriculum. In some cases, students are admitted with conditionally classified standing, which means that they must complete specified prerequisite work and/or graduate work with acceptable grades before they can be moved to classified status. Students with conditionally classified status should complete the conditions of their acceptance as early as possible. Such students may take graduate courses at the same time they are fulfilling the conditions. Prerequisite work is assigned for one or more of the following reasons: (1) low chemistry course GPA in undergraduate work, (2) insufficient number of undergraduate units in chemistry, or (3) lack of coursework in particular areas of study. In order to change from conditionally classified to classified standing, a student must (1) fulfill the conditions, and (2) obtain the Graduate Advisor's signature on the Change of Classification in Graduate Program {http://www.sjsu.edu/gape/forms/Change of Classificaton in Graduate Program 03.17.16.pdf} form. Only students in classified standing may petition for advancement to candidacy, a requirement for graduation.

Requirements for Advancement to Graduate Candidacy

After approximately two semesters of coursework and completion of a preliminary seminar based on a proposed, faculty-guided research project, students may apply for advancement to graduate candidacy for the MA degree. In addition, the student must have graduate classified status and must have completed CHEM 100W for the Graduation Writing Assessment Requirement (GWAR). The Preliminary Seminar Guidelines and Evaluation form may be found on the Chemistry Department Forms webpage. The 30-unit Proposed Graduate Degree Program is written by the Graduate Advisor in consultation with the student and entered on the Petition for Advancement to Graduate Candidacy to Graduate Candidacy Form 10.7.15.pdf} form which must be approved and signed by both the student's Research Advisor and the Graduate Advisor. Students cannot enroll in CHEM 299 (Thesis) or apply for graduation until they are official candidates for a degree. See the Graduate Policies and Procedures section of this catalog for further details regarding university requirements for Advancement to Candidacy for the master's degree.

Requirements for Graduation

University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

MA - Chemistry Graduation Requirements

Note that the coursework requirements for the MA degree differ from the requirements for MS degree in Chemistry. In addition to completing the 30 units of coursework listed on the approved candidacy form, an MA degree candidate in Chemistry must complete the following activities as part of his or her culminating experience:

Final Seminar

All MA candidates are required to present a departmental seminar based on their research project. The seminar is scheduled through the faculty instructor for CHEM 285 and, therefore, must take place during the fall or spring semester.

Final Oral Examination

All MA candidates are required to pass a Final Oral Examination based on the research project as detailed in the thesis. The Final Oral Examination is administered by the thesis committee, and the candidate must provide the committee with a copy of the thesis for review at least two weeks prior to the exam date. The final exam may be scheduled on the same date as the Final Seminar if the two-week thesis delivery requirement is met.

Thesis

The MA thesis document must be approved by the student's thesis research committee before submission. Typically, the thesis committee will provide the candidate feedback during the Final Oral Examination and may request changes to the thesis before final approval. See the most current version of the SJSU Master's Thesis and Doctoral Dissertation Guidelines and the submission deadlines set by the College of Graduate Studies.

Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR). For information on the GWAR, please see http://info.sjsu.edu/gcw.html.

This requirement is satisfied by passing CHEM 100W

Requirements of the Masters — 30

Core Courses — 18

CHEM 120S. Chemical Safety Seminar 1
CHEM 285. Seminar 0.5
CHEM 285 will be taken four times

CHEM 200-Level courses 15

Preliminary Seminar Presentation

Electives — 7

Any 200-level CHEM course or any 100-level CHEM course with graduate advisor consent; one of the electives must be an advanced chemistry laboratory course

Culminating Experience — 2

COMPLETE ONE OPTION (PLAN A OR PLAN B):

Plan A (Thesis)
CHEM 299. Master's Thesis 1-6

Plan B (Project)
CHEM 297. MA Special Study 1-3

Department Seminar Presentation

Oral Examination

Total Units Required — 30

Elective courses must be planned in consultation with the Graduate Advisor.

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU cumulative grade point averages of 3.0 in order to graduate.

MS - Chemistry

The MS Chemistry degree is designed for persons who seek greater competency in chemical research or for those who want an introduction to graduate work before starting a program for the PhD degree. Emphasis is placed upon, but not limited to, training in advanced laboratory techniques, operation of state-of-the-art instruments, data acquisition and interpretation, and strategies involved in designing and conducting research in chemistry.

For more information visit the Chemistry Department's Graduate Programs webpage.

Admissions Requirements

The applicant must apply to and be admitted by both San José State University and the Chemistry Department. Check the SJSU Graduate Admissions and Program Evaluations website (GAPE) and the Chemistry Department website for the most up-to-date instructions.

Admission by the University

Students are admitted to the program by the Chemistry Department Graduate Advisor after they have been admitted to the graduate school by the university. University admissions requirements include a bachelor's degree (or equivalent), a minimum 2.5 GPA, and good standing at the last college or university attended. Applicants from countries in which the native language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirements webpage of GAPE.

Admission to the Chemistry Department

The Chemistry Department requires further that the bachelor's degree be in chemistry or an intimately related science (e.g., chemical physics, biochemistry, or materials science). In all cases, however, incoming students must have had the equivalent of 40 semester units of undergraduate chemistry including at least 10 units of general chemistry, 10 units of organic chemistry, 4 units of analytical chemistry, and 4 units of physical chemistry. A grade point average of 3.0 or higher for the chemistry coursework is preferred. In addition, admission to Chemistry requires the general GRE examination and at least two, but preferably three, letters of recommendation.

Admissions Status

Admission may be with graduate classified standing, which means that the student is deemed qualified to enroll in the graduate curriculum. In some cases, students are admitted with conditionally classified standing, which means that they must complete specified remedial work and/or graduate work with acceptable grades before they can be moved to classified status. Students with conditionally classified status should complete the conditions of their acceptance as early as possible. Such students may take graduate courses at the same time they are fulfilling the conditions. Prerequisite work is assigned for one or more of the following reasons: 1) low chemistry course GPA in undergraduate work, 2) insufficient number of undergraduate units in chemistry, or 3) lack of coursework in particular areas of study. In order to change from conditionally classified to classified standing, a student must 1) fulfill the conditions, and 2) obtain the Graduate Advisor's signature on the Change of Classification in Graduate Program form. Only students in classified standing may petition for advancement to candidacy, a requirement for graduation.

Requirements for Advancement to Candidacy

After approximately two semesters of coursework and completion of a preliminary seminar based on a proposed, faculty-guided research project, students may apply for advancement to graduate candidacy for the MS degree. In addition, the student must have graduate classified standing and must have completed CHEM 100W for the Graduation Writing Assessment Requirement (GWAR). The Preliminary Seminar Guidelines and Evaluation form may be found on the Chemistry Department Forms webpage. The 30-unit Proposed Graduate Degree Program is written by the Graduate Advisor in consultation with the student and entered on the Petition for Advancement to Graduate Candidacy form which must be approved and signed by both the student's Research Advisor and the Graduate Advisor. Students cannot enroll in CHEM 299 (Thesis) or apply for graduation until they are official candidates for a degree. See the Graduate Policies and Procedures section of this catalog for further details regarding university requirements for Advancement to Candidacy for the master's degree.

Requirements for Graduation

University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

MS - Chemistry Graduation Requirements

In addition to completing the 30 units of coursework listed on the approved Candidacy form, a MS degree candidate in Chemistry must complete the following activities as part of their culminating experience:

Final Seminar

All MS candidates are required to present a departmental seminar based on their research project. The seminar is scheduled through the faculty instructor for CHEM 285 and, therefore, must take place during the fall or spring semester.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Final Oral Examination

All MS candidates are required to pass a Final Oral Examination based on the research project as detailed in the thesis. The Final Oral Examination is administered by the thesis committee, and the candidate must provide the committee with a copy of the thesis for review at least two weeks prior to the exam date. The Final Oral Examination may be scheduled on the same date as the Final Seminar if the two-week thesis delivery requirement is met.

The Thesis

The MS thesis document must be approved by the student's thesis research committee before submission. Typically, the thesis committee will provide the candidate feedback during the Final Oral Examination and may request changes to the thesis before final approval. See the most current version of the SJSU Master's Thesis and Doctoral Dissertation Guidelines and the submission deadlines set by the College of Graduate Studies.

Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR). For information on the GWAR, please see http://info.sjsu.edu/gcw.html.

This requirement is satisfied by passing CHEM 100W

Requirements of the Masters — 30

Core Courses — 19-26

CHEM 120S. Chemical Safety Seminar 1
CHEM 285. Seminar 2-3
CHEM 285 will be taken six times

CHEM 298. Research 4-10
Must be taken for a minimum of 4 units but can be taken for maximum of 10 units

CHEM 200-Level Courses 12

Preliminary Seminar Presentation

Electives — 3-9

ANY 200-LEVEL CHEM COURSE OR ANY 100-LEVEL CHEM COURSE

FROM THE FOLLOWING LIST WITH GRADUATE ADVISOR CONSENT.

CHEM 101. Chemistry and the Computer 3
CHEM 114. Advanced Organic Chemistry Lab 3
CHEM 121S. Radiation Safety 1-2
CHEM 126. Introduction to Nuclear Science 3
CHEM 127. Nuclear Science Lab 3
CHEM 130A. Biochemistry 4
CHEM 130B. Biochemistry 4
CHEM 130C. Biochemistry 3
CHEM 131A. Biochemistry Lab 2
CHEM 135. General Biochemistry 4
CHEM 145. Inorganic Chemistry 3
CHEM 146. Physical-Inorganic Techniques 3
CHEM 155. Instrumental Analysis 4
CHEM 173. Polymer Chemistry 3

Culminating Experience (Plan A only) — 2

CHEM 299. Master's Thesis 1-6

Department Seminar Presentation

Oral Examination

Total Units Required — 30

Elective courses must be planned in consultation with the Graduate Advisor.

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU cumulative grade point averages of 3.0 in order to graduate.

Chicana and Chicano Studies Department

Formerly Mexican American Studies
College of Social Sciences

CLARK HALL 231
408-924-5760

Associate Professors

Magdalena Barrera
Rebeca Burciaga
Julia Curry-Rodriguez

Assistant Professors

Estevan Azcona
Jonathan Gomez
Joshua Troncoso

Curricula

BA, Chicana and Chicano Studies
Minor, Chicana and Chicano Studies
MA, Chicana and Chicano Studies

Introduction

Created in 1969, the Department of Chicana and Chicano Studies (CCS) is the oldest graduate program in Chicana/o studies in the country and only one of five graduate programs in Chicana/o Studies programs in California today. Rooted in social justice principles, our interdisciplinary program prepares students to critically examine and address intellectual traditions and contemporary issues resulting from intersections in race, ethnicity, class, and gender in Chicanx-Latinx communities. We offer an MA degree with three areas of emphasis: education, policy and comparative ethnic studies. The BA provides students an in-depth understanding of the discipline of Chicana/o Studies, as well as insights and skills to analyze and work with Chicanx-Latinx communities through three areas of emphasis: Cultural & Creative Expression, Institutions & Community Engagement, and Transnationalism & Global Relations. It is designed to complement a number of majors across the university, for those who want a double major that includes CCS. We also offer a unique, interdisciplinary minor that supplements any undergraduate major by providing a well-rounded introduction to the Chicanx-Latinx community, including the community's history, politics, culture and social, political and economic contexts. Our graduates become leaders in the fields of teaching, social services, policy, health care, government and community service, and pursue doctorates in Chicana/o studies, ethnic studies and other academic fields.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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BA- Chicana and Chicano Studies

The BA in Chicana and Chicano Studies at SJSU provides students an in-depth understanding of the discipline of Chicana/o Studies as well as insights and skills to analyze and work with Chicanx-Latinx communities to address the issues they face. The degree encompasses three different areas of emphasis: Cultural & Creative Expression, Institutions & Community Engagement, and Transnationalism & Global Relations.

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

University Graduation Requirements 53

Core Lower Division General Education 33

Of the 39 units required by the university, 6 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

Upper Division General Education 9

Of the 9 units required by the university, 0 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 6

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

Chicana and Chicano Studies 6

CCS 010A. Mexican Americans and the Development of U.S. History and Government	D2	3
CCS 010B. Mexican Americans and the Development of U.S. History and Government	M7	3

Physical Education 2

Graduation Writing Assessment Requirement 3

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Requirements of the Major 40

Lower Division Core 4

CCS 001. Introduction to Chicana and Chicano Studies	3
CCS 002. Library Studies	1

Upper Division Core 15

CCS 125. Chicana/o Community Studies	3
CCS 135. Contemporary Chicana/o Issues	3
CCS 150. Research Methods	3
CCS 151. Theory in Chicana/o Studies	3
CCS 152. The Story of Chicano Spanish	3

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Additional Upper Division Courses	**21**

All Majors will select a specific specialization area and will take 9 units in that area and 6 units in each of the other two areas for a total of 21 units.

Cultural and Creative Expression

CCS 144. Chicana/o Literature	3
CCS 147. Music in Mexican America	3
CCS 170. Hollywood's Image of Chicanos/Chicanas	3

Institutions and Community Engagement

CCS 115. Chicana/o Families	3
CCS 127. Chicanas/os and the Criminal Justice System	3
CCS 185. Teaching in a Diverse Society	3

Transnationalism and Global Relations

CCS 105. Chicanos: United States/Mexico Relations	3
CCS 120. Political Economy and Chicana/o Communities	3
CCS 175. Human Migrations: Global Reach	3

University Electives	27

Students may choose 9 3-unit university or Chicana and Chicano Studies electives. Students are encouraged to enroll in a minor or second major.

Total Units Required	**120**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

For Legend please see page 2

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Minor - Chicana and Chicano Studies

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Requirements of the Minor		18

COMPLETE EIGHTEEN UNITS FROM:

No more than 3 lower-division courses may be counted towards the 18 units. It is possible to complete the minor with only Upper Division courses.

CCS 001. Introduction to Chicana and Chicano Studies		3
CCS 002. Library Studies		1
CCS 010A. Mexican Americans and the Development of U.S. History and Government	D2	3
CCS 010B. Mexican Americans and the Development of U.S. History and Government	M7	3

Must complete entire CCS 10A and CCS 10B sequence to meet the American Institutions requirement.

CCS 030. Race and Ethnicity in Public Space	D1	3
CCS 074. Public Address	A1	3
CCS 105. Chicanos: United States/Mexico Relations		3
CCS 115. Chicana/o Families		3
CCS 120. Political Economy and Chicana/o Communities		3
CCS 125. Chicana/o Community Studies		3
CCS 127. Chicanas/os and the Criminal Justice System		3
CCS 130. Chicanas and Chicanos in American Society	S	3
CCS 135. Contemporary Chicana/o Issues		3
CCS 144. Chicana/o Literature		3
CCS 147. Music in Mexican America		3
CCS 150. Research Methods		3
CCS 151. Theory in Chicana/o Studies		3
CCS 152. The Story of Chicano Spanish		3
CCS 160. Gender and Sexuality in the Chicana/o Community	S	3
CCS 170. Hollywood's Image of Chicanos/Chicanas		3
CCS 175. Human Migrations: Global Reach		3
CCS 180. Individual Studies		1-4
CCS 185. Teaching in a Diverse Society		3

Substitute courses approved by the undergraduate advisor or Chair

Total Units Required	18

MA - Chicana and Chicano Studies

Created in 1969, the Department of Chicana and Chicano Studies is the oldest graduate program in Chicana/o studies in the country and only one of five programs in Chicana/o Studies in California today. Rooted in social justice principles, our interdisciplinary program prepares students to critically examine and address intellectual traditions and contemporary issues resulting from intersections in race, ethnicity, class, and gender in Chicanx-Latinx communities. We offer an MA degree with three areas of emphasis: education, policy, and comparative ethnic studies. Our graduates become leaders in the fields of teaching, social services, policy, health care, government and community service and pursue doctorates in Chicana/o Studies, Ethnic Studies and other academic fields.

MA - Chicana and Chicano Studies, specialization in Comparative Ethnic Studies

The Comparative Ethnic Studies specialization is designed to prepare students for doctoral study in Chicana/o Studies, Ethnic Studies and other academic fields. In addition to courses in Chicana and Chicano Studies, students may take courses from other areas of Ethnic Studies, such as African American Studies and Asian American Studies, so as to develop strengths in several areas of Ethnic Studies.

MA - Chicana and Chicano Studies, specialization in Education

The Education specialization is intended to prepare students for effective work in a number of fields requiring expertise in issues relevant to Chicanx and Latinx education. Among the most critical areas within this emphasis is the analysis of the K-12 educational system and the development of methods for training competent professionals to work with these communities.

MA - Chicana and Chicano Studies, specialization in Policy Studies

The Policy Studies specialization is designed to provide students with a strong background in policy analysis and development as they relate to the Chicanx and Latinx community. The intent of this specialization is to prepare students to apply a Chicanx and Latinx perspective to the development and implementation of contemporary policies that address the needs of this and other communities.

Information about the program and important dates can be obtained at the department website: sjsu.edu/ccs

Admissions Requirements

Candidates must meet all the university admissions requirements. In addition to the regular application for admission to the university, each applicant must submit directly to the graduate advisor of the Chicana and Chicano Studies Program two letters of recommendation, a statement of purpose, and a writing sample (not to exceed 10 pages). Those students who do not meet the standards for classified status may be admitted with specific conditions as conditionally classified; the conditions must be fulfilled before the student will be advanced to candidacy for the master's degree in Chicana and Chicano Studies. If the conditions are not fulfilled, the program reserves the right to dismiss the student from the program by notifying the Associate Dean of Graduate Studies.

Applicants from countries in which the native language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirements webpage at GAPE.

Requirements for Advancement to Graduate Candidacy

Students must meet the university requirements for candidacy. General university requirements for advancement to candidacy for the MA degree are detailed in the Graduate Policies and Procedures section of this catalog. Candidacy includes successful completion of the Graduation Writing Assessment Requirement (GWAR). For graduate courses that meet the GWAR, refer to the GWAR Course List on the College of Graduate Studies website. Students pursuing the Plan A (Thesis) option must meet additional departmental requirements for candidacy by securing the commitment of three faculty members of the university, two of whom must be members of the program permanent faculty, to serve as members of the student's Plan A (Thesis) committee, with one permanent faculty member agreeing to serve as chair. The committee must approve the student's thesis proposal no later than one month prior to the end of the semester preceding the one in which enrollment in the final thesis course (CCS 299, Master's Thesis) is planned.

Requirements for Graduation

University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

Department Graduation Requirements

At an appropriate time, and with the assistance of the graduate advisor, students will select a specialization and a culminating experience (Plan A, Plan B Project, or Plan B Applied Project) as outlined below:

Culminating Experience

Plan A (Thesis)

The thesis must meet university requirements as stipulated in this catalog and in the SJSU Master's Thesis and Doctoral Dissertation Guidelines. It will be written under the guidance of the candidate's thesis committee chair with the assistance of the thesis committee. The candidate for the MA - Chicana and Chicano Studies degree must successfully pass a final oral defense of the thesis. This requirement is fulfilled by enrolling in CCS 298 and CCS 299 in consecutive semesters.

Plan B (Project)

The project is independently conducted research under the supervision of one member of the program permanent faculty. It is typically more focused on working directly with communities than the thesis. The candidate for the MA - Chicana and Chicano Studies degree must successfully complete a final project paper approved by the project advisor. This requirement can be fulfilled by enrolling in CCS 298 for one or two semesters.

Plan B (Applied Project)

The Applied Project is completed in the Capstone Seminar under the direction of the faculty and is presented to the campus community. Students choosing this option will complete other coursework instead of the 298 and/or 299 to meet the units required for the MA - Chicana and Chicano Studies degree.

Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR). For information on the GWAR, please see http://info.sjsu.edu/gcw.html.

Requirements of the Masters 30

Core Courses 15

CCS 200. Ideology and the Chicana/o Experience	GWAR	3
CCS 205. Chicana/o History		3
CCS 210. Foundations in Chicana/o Studies		3
CCS 225. The Impact of American Institutions on the Chicana/o Community		3
CCS 275. Research Methods		3

Area of Specialization 15

COMPLETE ONE AREA OF SPECIALIZATION

Specialization in Comparative Ethnic Studies

COMPLETE ONE OPTION (PLAN A, PLAN B PROJECT, OR PLAN B APPLIED PROJECT)

Plan A (Thesis)

CCS 240. Applied Chicana/o Studies Seminar	3
CCS 252. Comparative Ethnic Studies	3
CCS 298. Special Studies	1-6
CCS 299. Master's Thesis	3-6

COMPLETE ONE COURSE FROM:

CCS 215. Chicanas/os and Education	3
CCS 230. Policy Analysis and the Chicana/o Community	3

Plan B (Project)

CCS 215. Chicanas/os and Education	3
CCS 230. Policy Analysis and the Chicana/o Community	3
CCS 240. Applied Chicana/o Studies Seminar	3
CCS 252. Comparative Ethnic Studies	3
CCS 298. Special Studies	1-6

Plan B (Applied Project)

CCS 215. Chicanas/os and Education	3
CCS 230. Policy Analysis and the Chicana/o Community	3
CCS 240. Applied Chicana/o Studies Seminar	3
CCS 252. Comparative Ethnic Studies	3
Any one elective, CCS 200-level, nonsupervisory class or another class with advisor consent	3

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Specialization in Education

COMPLETE ONE OPTION (PLAN A, PLAN B PROJECT, OR PLAN B APPLIED PROJECT

Plan A (Thesis)

CCS 215. Chicanas/os and Education 3
CCS 240. Applied Chicana/o Studies Seminar 3
CCS 298. Special Studies 1-6
CCS 299. Master's Thesis 3-6

COMPLETE ONE COURSE FROM:

CCS 230. Policy Analysis and the Chicana/o Community 3
CCS 252. Comparative Ethnic Studies 3

Plan B (Project)

CCS 215. Chicanas/os and Education 3
CCS 230. Policy Analysis and the Chicana/o Community 3
CCS 240. Applied Chicana/o Studies Seminar 3
CCS 252. Comparative Ethnic Studies 3
CCS 298. Special Studies 1-6

Specialization in Policy Studies

COMPLETE ONE OPTION (PLAN A, PLAN B PROJECT, OR PLAN B APPLIED PROJECT

Plan A (Thesis)

CCS 230. Policy Analysis and the Chicana/o Community 3
CCS 240. Applied Chicana/o Studies Seminar 3
CCS 298. Special Studies 1-6
CCS 299. Master's Thesis 3-6

COMPLETE ONE COURSE FROM:

CCS 215. Chicanas/os and Education 3
CCS 252. Comparative Ethnic Studies 3

Plan B (Project)

CCS 215. Chicanas/os and Education 3
CCS 230. Policy Analysis and the Chicana/o Community 3
CCS 240. Applied Chicana/o Studies Seminar 3
CCS 252. Comparative Ethnic Studies 3
CCS 298. Special Studies 1-6

Plan B (Applied Project)

CCS 215. Chicanas/os and Education 3
CCS 230. Policy Analysis and the Chicana/o Community 3
CCS 240. Applied Chicana/o Studies Seminar 3
CCS 252. Comparative Ethnic Studies 3
Any one elective, CCS 200-level, nonsupervisory class or another class with advisor consent 3

Total Units Required **30**

Elective courses must be planned in consultation with the Graduate Advisor.

The maximum number of upper-division undergraduate units that can be applied toward the master's degree is 15.

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU cumulative grade point averages of 3.0 in order to graduate.

Child and Adolescent Development, Department of

College of Education

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Curricula

BA, Child and Adolescent Development
BA, Child and Adolescent Development, Preparation for Teaching
BA, Child and Adolescent Development, Preparation for Teaching W/CSET Waiver
Minor, Atypical Child Studies
Minor, Child and Adolescent Development
MA, Child and Adolescent Development

Introduction

Interested in K-8 teaching? In childcare? Or in agencies serving children, youth, and families? A degree in child and adolescent development is excellent training for careers involving children and families. Or perhaps you already possess entry-level credentials, already work with children and youth and want to advance your career. A wide range of professionals-from childcare administrators to parent educators to child/youth advocates to child and family counselors to pediatric nurses to healthcare workers-have gained the knowledge and expertise they needed to move ahead in the workplace through our bachelor's and master's degree programs. Our curriculum incorporates theory, research, policy and practice, providing students with a comprehensive understanding of children and adolescents. For hands-on training we offer numerous activities in community agencies and we operate a campus laboratory preschool. We graduate well-informed, responsible individuals, sensitive to the commonalities and diversities of the world and its people.

Child and Adolescent Development Honors Program

Students may apply for the departmental Honors Program in Child and Adolescent Development if they meet the following criteria: completion of 9 units of upper division child development course work with a minimum GPA of 3.5, and completion of CHAD 101 or STAT 95 (or equivalent) with a grade of "A-" or better. Students who meet the entrance criteria will be awarded departmental honors by showing evidence of distinguished scholarly work as indicated by completion of a BA honors thesis (CHAD 199: Honors Thesis) or work leading to a published paper or presentation at a professional meeting, and a minimum GPA of 3.5 in all upper division child development courses.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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BA - Child and Adolescent Development

This program provides a strong foundation in child development and could be the basis for graduate study in child development and related fields. This major is designed for students interested in having a career in a variety of child-related fields, such as early childhood education, childcare, community settings, and/or agencies serving children, youth, and families. Students who have declared Child and Adolescent Development (CHAD) as their major should meet with the Department advisor for consultation and approval of the program. Information about ChAD advising and how to make an appointment can be found on the department website www.sjsu.edu/chad/.

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

University Graduation Requirements 38

Core Lower Division General Education 24

Of the 39 units required by the university, 15 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

NOTE: STUDENTS WHO HAVE COMPLETED THE ADT TRANSFER DEGREE (UNDER SB 1440) FOR THIS MAJOR WILL HAVE COMPLETED ALL LOWER DIVISION GE REQUIREMENTS AND SHOULD FOLLOW THE 60 UNIT GUARANTEE ROADMAP. MEET WITH AN ADVISOR PRIOR TO REGISTERING FOR YOUR FIRST SEMESTER FOR THE 60 UNIT ROADMAP OR SPECIFIC QUESTIONS.

Upper Division General Education 6

Of the 9 units required by the university, 3 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 6

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

COMPLETE ONE SEQUENCE FROM:

African American Studies 6

AFAM 002A. African Americans and the Development of America's History and Government	D2	3
AFAM 002B. African Americans and the Development of America's History and Government	M7	3

Asian American Studies 6

AAS 033A. Asian Americans in U.S. History I	D2	3
AAS 033B. Asian Americans in U.S. History II	M7	3

U.S. History and Government 6

HIST 015. Essentials of U.S. History	M12	3
POLS 015. Essentials of U.S. & California Government	M11	3

Chicana and Chicano Studies 6

CCS 010A. Mexican Americans and the Development of U.S. History and Government	D2	3
CCS 010B. Mexican Americans and the Development of U.S. History and Government	M7	3

Physical Education 2

Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Requirements of the Major 51-52

Lower Division Core 12

CHAD 060. Child Development	E	3
CHAD 070. Lifespan Development in the 21st Century	E	3
PSYC 001. Introduction to Psychology	D1	3
STAT 095. Elementary Statistics	B4	3

May substitute STAT 095 with SOCS/SOCI 015

Upper Division Core 24

CHAD 101. Research Methods in Child Development		3
CHAD 165. Risk and Resilience in a Community Context		3
CHAD 168. Social and Emotional Development in Childhood and Adolescence		3
CHAD 169. Motivating Children and Adolescents in Educational Settings		3
CHAD 170. Contextual Influences on Cognitive Development		3
CHAD 195. Senior Seminar in Child Development		3

COMPLETE ONE COURSE FROM:

CHAD 100W. Writing Workshop	Z	3
LLD 100W. Writing Workshop	Z	3

COMPLETE ONE COURSE FROM:

CHAD 162. Childhood and Adolescence in a Multicultural Society		3
CHAD 164. Contemporary Parenting		3

Area Specialization 15-16

COMPLETE ONE PLAN FROM THE FOLLOWING:

Specializations are a cluster of courses used by departments for advising purposes. Specializations will not appear on transcripts or diplomas. Please see advisor for more details.

Plan B1 15

CHAD 150. Development of Communicative Competence	3
CHAD 152. Foundations for Early Childhood Curriculum	3
CHAD 160. Child Development Practicum	3
CHAD 161. Administration of Early Childhood Progs	3
CHAD 173. Crit. Issues in Infant/Toddler Develop	3

Plan B2 15-16

CHAD 104. Program Evaluation and Assessment in Community-Based Programs	3
CHAD 157. Adult Supervision for Programs Serving Children, Youth, and Families	3
CHAD 158. Practicum in Community-Based Organizations Serving Children and Youth	3

COMPLETE ONE COURSE FROM:

CHAD 163. Critical Issues in Adolescent Development	3
CHAD 173. Crit. Issues in Infant/Toddler Develop	3

Interdisciplinary Elective 3-4

COMPLETE ONE COURSE FROM:

COMM 144F. Organizational Communication		4
HS 145. Community Mental Health		3
JS 152. Juvenile Delinquency & Justice		3
LING 129. Culture, Language and Ethnicity in the U.S.	S	3
SOCI 151. Violence in the Family		3
SOCI 170. Sociology of Family		3
URBP 133. Introduction to Social Issues in Planning		4

University Electives or Minor	30-31

UNIVERSITY ELECTIVES MAY BE CHOSEN BY STUDENT, HOWEVER THE DEPARTMENT HIGHLY RECOMMENDS THE FOLLOWING COURSES. IF NOT TAKEN ABOVE.

CHAD 104. Program Evaluation and Assessment in Community-Based Programs 3
CHAD 150. Development of Communicative Competence 3
CHAD 151. Developing Literacy in a Diverse Society 3

Total Units Required	**120**

Note: The following Capstone courses, CHAD 158, CHAD 160 and CHAD 195 may be repeated only once.

BA - Child and Adolescent Development, Preparation for Teaching

This major is designed for students interested in teaching in elementary school or middle school. The following course work satisfies San José State University's requirements for a BA in Child and Adolescent Development (ChAD). The SJSU pattern of Preparation for Teaching course requirements is designed for students who begin their college careers in this major. New students or transfer students in this BA track should see a department advisor during the first semester for a list of the required courses. Students who are transfers or who are changing into this major, in consultation with a department advisor, identify the course work appropriate for the individual. Information about ChAD advising and to make an appointment can be found on the department website: http://www.sjsu.edu/chad/chad-resources/advising/index.html.

The Commission on Teacher Credentialing in the state of California (CCTC) recognizes Teacher Prep degrees as verification of subject matter competence. The following course work satisfies San José State University's requirements for a BA in ChAD, Preparation for Teaching. The department also has a program approved by the CCTC for waiver of the subject matter examination (CSET for Multiple Subjects) required to earn a teaching credential. There are different requirements for this waiver option. If interested see Preparation for Teaching w/CSET waiver.

Maintaining a minimum grade point average (GPA) of at least 2.87 and completion of the program will not guarantee admission to the credential program. Like all other applicants, students must meet credential program standards and undergo screening for admission. See "Teaching: How to Become a Teacher in California" (see Teaching) for information on application and admission to credential programs.

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

University Graduation Requirements 38

Core Lower Division General Education 21

Of the 39 units required by the university, 18 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

Upper Division General Education 9

Of the 9 units required by the university, 3 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 6

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

COMPLETE ONE SEQUENCE FROM:

Asian American Studies 6

AAS 033A. Asian Americans in U.S. History I	D2	3
AAS 033B. Asian Americans in U.S. History II	M7	3

U.S. History and Government 6

HIST 015. Essentials of U.S. History	M12	3
POLS 015. Essentials of U.S. & California Government	M11	3

Chicana and Chicano Studies 6

CCS 010A. Mexican Americans and the Development of U.S. History and Government	D2	3
CCS 010B. Mexican Americans and the Development of U.S. History and Government	M7	3

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Physical Education		**2**

Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Requirements of the Major 39

Lower Division ChAD Core		**12**
CHAD 060. Child Development	E	3
CHAD 070. Lifespan Development in the 21st Century	E	3
PSYC 001. Introduction to Psychology	D1	3
STAT 095. Elementary Statistics	B4	3
May substitute STAT 095 with SOCS/SOCI 015		
Upper Division ChAD Core		**27**
CHAD 101. Research Methods in Child Development		3
CHAD 159. Child Development K-8 Practicum		3
CHAD 168. Social and Emotional Development in Childhood and Adolescence		3
CHAD 169. Motivating Children and Adolescents in Educational Settings		3
CHAD 170. Contextual Influences on Cognitive Development		3
CHAD 195. Senior Seminar in Child Development		3
COMPLETE ONE COURSE FROM:		
CHAD 100W. Writing Workshop	Z	3
LLD 100W. Writing Workshop	Z	3
COMPLETE ONE COURSE FROM:		
CHAD 162. Childhood and Adolescence in a Multicultural Society		3
CHAD 164. Contemporary Parenting		3
COMPLETE ONE COURSE FROM:		
CHAD 163. Critical Issues in Adolescent Development		3
CHAD 173. Crit. Issues in Infant/Toddler Develop.		3

Additional Requirements for Multiple Subjects Preparation Core Curriculum 33-34

Language and Literature		**15-16**
ENGL 001A. First Year Writing	A2	3
ENGL 112A. Children's Literature		3
CHAD 150. Development of Communicative Competence		3
CHAD 151. Developing Literacy in a Diverse Society		3
COMPLETE ONE COURSE FROM:		
ENGL 103. Modern English		4
LING 107. Patterns of English		3
Mathematics		**9**
MATH 012. Number Systems	B4	3
MATH 105. Concepts in Mathematics, Probability, Statistics		3
MATH 106. Intuitive Geometry		3
Science		**3**
COMPLETE ONE COURSE FROM:		
SCI 110. Global Themes of Science		3
ENVS 158. Environmental Education		3

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Visual and Performing Arts	**3**
COMPLETE ONE COURSE FROM:	
CA 177. Interdisciplinary Arts for Teaching	3
ART 039. Multicultural Arts for Children	3
ART 138. Elementary Art Methods	3
DANC 148. Children's Dance	3
TA 131. Storytelling	3
TA 167. Theatre in Education	3
Physical Education and Health	**3**
CHAD 149. Child Health and Physical Activity	3
University Electives	**9-10**

Highly recommend Foreign language and technology requirements for teaching credential (see Credential Information Services).

Total Units Required	**120**

**Note for students taking the CSET waiver path, there are specific GE requirements (see Preparation for Teaching w/CSET waiver).

Note: The following courses, CHAD 159 and CHAD 195, may be repeated only once.

BA - Child and Adolescent Development, Preparation for Teaching W/CSET Waiver

This major is designed for students interested in teaching in elementary school or middle school. The following course work satisfies San José State University's requirements for a BA in Child and Adolescent Development (ChAD). The SJSU pattern of Preparation for Teaching course requirements is designed for students who begin their college careers in this major. New students or transfer students in this BA track should see a department advisor during the first semester for a list of the required courses. Students who are transfers or who are changing into this major, in consultation with a department advisor, identify the course work appropriate for the individual. Information about ChAD advising and to make an appointment can be found on the department website: http://www.sjsu.edu/chad/chad-resources/advising/index.html.

The Commission on Teacher Credentialing in the state of California (CCTC) recognizes Teacher Prep degrees as verification of subject matter competence. The following course work satisfies San José State University's requirements for a BA in ChAD, , and is a program approved by the CCTC for waiver of the subject matter examination (CSET for Multiple Subjects) required to earn a teaching credential. (See Preparation for Teaching w/o CSET waiver)

Maintaining a minimum grade point average (GPA) of at least 2.87 and completion of the program will not guarantee admission to the credential program. Like all other applicants, students must meet credential program standards and undergo screening for admission. See "Teaching: How to Become a Teacher in California" (see Teaching) for information on application and admission to credential programs.

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

University Graduation Requirements 17

Core Lower Division General Education 9

Of the 39 units required by the university, 30 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

Upper Division General Education

Of the 9 units required by the university, 9 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 6

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

COMPLETE ONE SEQUENCE FROM:

Asian American Studies **6**

AAS 033A. Asian Americans in U.S. History I	D2	3
AAS 033B. Asian Americans in U.S. History II	M7	3

U.S. History and Government **6**

HIST 015. Essentials of U.S. History	M12	3
POLS 015. Essentials of U.S. & California Government	M11	3

Chicana and Chicano Studies **6**

CCS 010A. Mexican Americans and the Development of U.S. History and Government	D2	3
CCS 010B. Mexican Americans and the Development of U.S. History and Government	M7	3

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Physical Education 2

Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Requirements of the Major 39

Lower Division ChAD Core 12

CHAD 060. Child Development	E	3
CHAD 070. Lifespan Development in the 21st Century	E	3
PSYC 001. Introduction to Psychology	D1	3
STAT 095. Elementary Statistics	B4	3

May substitute STAT 095 with SOCS/SOCI 015

Upper Division ChAD Core 27

CHAD 101. Research Methods in Child Development		3
CHAD 159. Child Development K-8 Practicum		3
CHAD 168. Social and Emotional Development in Childhood and Adolescence		3
CHAD 169. Motivating Children and Adolescents in Educational Settings		3
CHAD 170. Contextual Influences on Cognitive Development		3
CHAD 195. Senior Seminar in Child Development		3

COMPLETE ONE COURSE FROM:

CHAD 100W. Writing Workshop	Z	3
LLD 100W. Writing Workshop	Z	3

COMPLETE ONE COURSE FROM:

CHAD 162. Childhood and Adolescence in a Multicultural Society		3
CHAD 164. Contemporary Parenting		3

COMPLETE ONE COURSE FROM:

CHAD 163. Critical Issues in Adolescent Development		3
CHAD 173. Crit. Issues in Infant/Toddler Develop.		3

Additional Requirements for Multiple Subjects Preparation Core Curriculum 42-43

Language and Literature 18-19

ENGL 001A. First Year Writing	A2	3
ENGL 002. Critical Thinking and Writing	A3	3

ENGL 001B also accepted for Transfer Students.

ENGL 112A. Children's Literature		3
CHAD 150. Development of Communicative Competence		3
CHAD 151. Developing Literacy in a Diverse Society		3

COMPLETE ONE COURSE FROM:

ENGL 103. Modern English		4
LING 107. Patterns of English		3

Mathematics 9

MATH 012. Number Systems	B4	3
MATH 105. Concepts in Mathematics, Probability, Statistics		3
MATH 106. Intuitive Geometry		3

Science 15

BIOL 021. Human Biology	B2+B3	3
CHEM 030A. Introductory Chemistry	B1+B3	3
GEOL 103. Earth Systems and the Environment	R	3

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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PHYS 001. Elementary Physics	B1	3	
For the CSET waiver, students need to take Phys 1 AND Chem 30A.			
COMPLETE ONE COURSE FROM:			
ENVS 158. Environmental Education		3	
SCI 110. Global Themes of Science		3	
Visual and Performing Arts			**9**
MUSC 010B. Introduction to Music	C1	3	
COMPLETE TWO COURSES IN TWO DIFFERENT ART DISCIPLINES FROM:			
ART 039. Multicultural Arts for Children		3	
ART 138. Elementary Art Methods		3	
CA 177. Interdisciplinary Arts for Teaching		3	
DANC 148. Children's Dance		3	
MUSC 185A. Music for Children		3	
TA 131. Storytelling		3	
TA 167. Theatre in Education		3	
Physical Education and Health			**3**
CHAD 149. Child Health and Physical Activity		3	
History			**9**
SOCS 137. California History for Teachers		3	
SOCS 138. US History for Teachers	S	3	
SOCS 139. World History for Teachers	V	3	
University Electives			**0-1**
Highly recommend Foreign language and technology requirements for teaching credential (see Credential Information Services).			
Total Units Required			**120**

**Note Students without the CSET waiver {http://info.sjsu.edu/web-dbgen/catalog/departments/CD-section-2.html} have more flexibility in their GE options.

Note: The following courses, CHAD 159 and CHAD 195, may be repeated only once.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Minor - Atypical Child Studies

The courses for this minor provide a solid foundation in both normative and atypical early childhood development. The minor is particularly beneficial for students who plan to pursue careers in a number of branches of the social and life sciences, education, medicine and other human services professions focusing on atypical infants/children and their families.

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Requirements of the Minor		15
Core Courses		**9**
CHAD 060. Child Development	E	3
EDSE 104. Atypical Development in Young Children		3
EDSE 108. Assessment and Evaluation: Atypical Young Children		3
Elective Courses		**6**
COMPLETE TWO COURSES FROM:		
CHAD 152. Foundations for Early Childhood Curriculum		3
CHAD 161. Administration of Early Childhood Progs		3
CHAD 164. Contemporary Parenting		3
CHAD 168. Social and Emotional Development in Childhood and Adolescence		3
EDSE 102. Speech, Language & Typical, Atypical Dev	S	3
Total Units Required		**15**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Minor - Child and Adolescent Development

The courses for the minor in Child & Adolescent Development offer a range of opportunities to examine the course of human development with special emphasis on the period from infancy through adolescence. The minor is particularly appropriate for students planning to enter the fields of education, social welfare, nursing, child care, and other human services professions.

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Requirements of the Minor		15
CHAD 060. Child Development	E	3
CHAD 070. Lifespan Development in the 21st Century	E	3
COMPLETE THREE COURSES FROM:		
CHAD 104. Program Evaluation and Assessment in Community-Based Programs		3
CHAD 150. Development of Communicative Competence		3
CHAD 151. Developing Literacy in a Diverse Society		3
CHAD 152. Foundations for Early Childhood Curriculum		3
CHAD 157. Adult Supervision for Programs Serving Children, Youth, and Families		3
CHAD 161. Administration of Early Childhood Progs		3
CHAD 162. Childhood and Adolescence in a Multicultural Society		3
CHAD 163. Critical Issues in Adolescent Development		3
CHAD 164. Contemporary Parenting		3
CHAD 165. Risk and Resilience in a Community Context		3
CHAD 168. Social and Emotional Development in Childhood and Adolescence		3
CHAD 169. Motivating Children and Adolescents in Educational Settings		3
CHAD 170. Contextual Influences on Cognitive Development		3
CHAD 173. Crit. Issues in Infant/Toddler Develop		3
Total Units Required		**15**

MA - Child and Adolescent Development

The Master of Arts degree in the Department of Child & Adolescent Development (ChAD) prepares students for advanced study leading to a doctorate in the field; for community college teaching; and for professional careers in settings that serve children, youth, and families.

Detailed information about the program can be found on the department website: http://www.sjsu.edu/chad/programs/ma-chad/index.html.

Admissions Requirements

Candidates apply separately to the university to obtain approval for university-level admission and to the department to obtain admission to the ChAD master's program. Candidates must meet all the university admissions requirements. Note that applicants must have an undergraduate grade point average of 3.0 (B) or better in the last 60 semester units of undergraduate work.

In addition to meeting university requirements, the minimum requirement for admission to the ChAD MA program is 1) a baccalaureate degree awarded by an accredited institution, 2) a completed department application, 3) three letters of recommendation, 4) a 1-2-page typed statement of educational and professional background and professional goals, and 5) an essay on various topic areas in child and adolescent development. In addition, students have the option of submitting GRE scores which will be evaluated within the context of all the applicant's materials. Preference is given to candidates with a background in ChAD or a related field (e.g., Psychology, Sociology, Education, Social Work, Nursing). Applicants can be admitted either in a conditional or classified status.

Applicants from countries in which the official language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirements webpage at GAPE.

Requirements for Advancement to Graduate Candidacy

Students must meet the university requirements for candidacy. General university requirements for advancement to candidacy for the MA degree are detailed in the Graduate Policies and Procedures section of this catalog. Candidacy includes successful completion of the Graduation Writing Assessment Requirement (GWAR). For graduate courses that meet the GWAR, refer to the GWAR Course List on the Graduate Studies website.

During the semester that the first 9 units of coursework will be completed, the ChAD MA candidate will need to submit a Departmental Request for Candidacy form [pdf]. This form must be signed by the ChAD graduate program coordinator and submitted to GAPE by the appropriate deadline. Check the deadline for submitting the Petition for Advancement to Graduate Candidacy. Any changes made in the program degree academic plan as listed on the candidacy form need to be requested using the Request for Course Substitution in Graduate Degree Program [pdf]. This form must be signed by the ChAD graduate program coordinator prior to submission to GAPE.

Requirements for Graduation

University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

MA - Child and Adolescent Development Graduation Requirements

Students are expected to complete all required courses and select three electives from the department-approved list. In order to meet degree requirements, candidates for the MA in ChAD must maintain a 3.0 GPA in all courses with no single course grade below a B-. Students who earn less than a B- in any required course (ChAD 260A, 260B, 262, 266, 268, and 270) must retake the course and earn a grade of B- or better. For electives in which the earned grade was less than a B-, students have the option to retake the same course or to select a different elective.

Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR). For information on the GWAR, please see http://info.sjsu.edu/gcw.html.

This requirement is satisfied by passing CHAD 260A

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Requirements of the Masters		30
Core Courses		**18**
CHAD 260A. Seminar in Child and Adolescent Development: Research	GWAR	3
CHAD 260B. Seminar in Child and Adolescent Development		3
CHAD 262. Multicultural Issues in Child and Adolescent Development		3
CHAD 266. Social Policy Issues in American Childhood and Youth		3
CHAD 268. Seminar in Social and Emotional Development		3
CHAD 270. Seminar in Cognitive and Language Development		3
Electives		**9**
Three department-approved elective courses**		
Culminating Experience		**3**
COMPLETE ONE OPTION (PLAN A OR PLAN B):		
Plan A (Thesis)		
CHAD 299. Master's Thesis		3-6
Plan B (Project)		
CHAD 298. Special Studies in Child and Adolescent Development		3-6
Total Units Required		**30**

* Meets the Graduation Writing Assessment Requirement (GWAR). Must be taken in the first semester of enrollment.

**Elective courses must be selected from the department-approved list. The maximum number of upper-division undergraduate units that can be applied to the ChAD MA degree requirements is three.

***To be completed concurrently with ChAD 260B.

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU cumulative grade point averages of 3.0 in order to graduate.

Civil and Environmental Engineering Department

College of Engineering

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Professors

Akthem Al-Manaseer
Jan L. Botha
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Associate Professors

Juneseok Lee
Jae-Ho Pyeon
Laura Sullivan-Green, Chair

Assistant Professors

William Greenwood

Curricula

BS, Civil Engineering
MS, Civil Engineering

Introduction

Civil engineers plan, design and supervise the construction of water supply systems, communications networks and transportation systems. They construct buildings and foundations. Using modern technology, they solve pollution and planning problems and tackle other engineering challenges. The Department of Civil and Environmental Engineering offers both bachelor's and master's degree programs. The undergraduate program includes course work in construction, environmental, geotechnical, structural, transportation and water resources engineering. Classroom instruction is supplemented by hands-on laboratory experiences, and the opportunity to participate in student clubs, including the American Society of Civil Engineers, Associated General Contractors, Institute of Transportation Engineers, Water Environmental Federation and American Water Works Association. To accommodate graduate students who also work, graduate courses are scheduled in the late afternoon and evening. The undergraduate program is accredited by the Engineering Accreditation Commission of ABET, www.abet.org

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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BS - Civil Engineering

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

Major Exceptions

This degree program meets certain University Requirements through approved major modifications. Please see the Major Exceptions area in the Policy and Procedures section of this catalog to identify the specific adjustments for this degree program or contact your major advisor for more details.

Major-Specific Graduation Requirements

The following course in Preparation for the Major must be completed with a "C or better": ENGL 001B

University Graduation Requirements 27

Core Lower Division General Education 6

Of the 39 units required by the university, 33 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

Upper Division General Education 6

Of the 9 units required by the university, 3 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 12

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

AMS 001A. American Cultures to 1877	M4	6
AMS 001B. American Cultures 1877 to present	M5	6

Physical Education

Graduation Writing Assessment Requirement 3

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

ENGR 100W. Engineering Reports	Z+R	3

Preparation for the Major 32

CHEM 001A. General Chemistry	B1+B3	5
ENGL 001B. Argument and Analysis	C2	3
or equivalent second semester composition course.		
GEOL 002. Geology for Engineers		3
MATH 030. Calculus I	B4	3
MATH 031. Calculus II	B4	4
MATH 032. Calculus III	B4	3
MATH 133A. Ordinary Differential Equations		3
PHYS 050. General Physics/Mechanics	B1+B3	4
PHYS 051. General Physics/Electricity and Magnetism	B1+B3	4

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Requirements of the Major	61

Students must earn at least a 2.0 GPA in required major courses as listed below.

Core Courses	15
CE 020. Engineering Graphics, CAD and Programming	3
Taking both ME 020 and ME 030 can be used to satisfy CE 020.	
CE 095. Theory and Application of Statics	3
CE 112. Mechanics of Materials	3
ENGR 010. Introduction to Engineering E	3
ME 101. Dynamics	3

Required Major Courses	37
CE 008. Plane Surveying	3
CE 120. Construction Materials Laboratory	1
CE 121. Transportation Engineering	3
CE 130. Civil Engineering Economic Analysis	2
CE 131. Introduction to Construction Engineering	3
CE 140. Geotechnical Engineering	3
CE 150. Introduction to Hydrology and Hydraulics	3
CE 160. Structural Analysis	3
CE 162. Structural Concrete Design	3
CE 170. Principles of Environmental Engineering	3
CE 181. Civil Engineering Systems	3
CE 190. Numerical Solutions of Civil Engineering Problems	2
CE 192. Probabilistic Models for Civil Engineering Decisions	2
ME 111. Fluid Mechanics	3

Additional Courses	9

Three courses from Civil Engineering electives approved by a major advisor.

Two of the three elective courses must be approved design electives.

Total Units Required	120

MS - Civil Engineering

The Master of Science in Civil Engineering program is designed for students to specialize in their choice of sub-discipline in Civil Engineering. The Department of Civil and Environmental Engineering offers specializations in Construction Management, Environmental Engineering, Geotechnical Engineering, Structural Engineering, Transportation Engineering, and Water Resources Engineering. Courses are practical-oriented, focusing on content and skills that prepare engineers to enter and/or advance in industry or enter doctoral programs. The program offers coursework in a once-per-week format in the afternoons and evenings to accommodate working individuals who wish to pursue their studies while gaining industry experience. Additional information is available at: http://cee.sjsu.edu.

Program Educational Objectives and Graduate Program Outcomes

The graduate program's educational objectives (PEOs) for Civil Engineering are to

- Prepare students for their professional careers and licensure by strengthening their knowledge in their specialization (depth) and extending their skills and knowledge base (breadth);
- Provide students advanced proficiencies for professional practice to enable them to advance in the licensing process and equip them for advancement in their career;
- Improve students' research skills and prepare them for further graduate study;
- Provide students with experience and skills for multi-disciplinary and cross-CE disciplinary practice.

Four graduate program learning outcomes (PLOs) are aligned with the PEOs and are assessed in individual graduate courses. By the end of the program, students should be able to

- Apply advanced concepts, theory, and analysis for problem solving;
- Synthesize and integrate necessary engineering concepts into engineering solution process;
- Apply modern tools for computations, simulations, analysis and design;
- Communicate effectively.

Admissions Requirements

Requirements for Admission to Classified Standing

Prospective students must apply separately to the university to obtain approval for graduate-level admission and to the department to obtain admission into the MS in Civil Engineering program. In addition to meeting university admissions requirements, an applicant must have:

- A bachelor's degree in civil engineering; and
- A 2.7 grade point average (4.0-based scale).

Requirements for Admission to Conditionally Classified Standing

Applicants who do not qualify for classified standing in civil engineering but who meet university requirements for graduate admission and whose academic records or professional achievements and maturity give promise of satisfactory performance in graduate study in civil engineering may, upon approval of a committee of department faculty, be admitted, with specific conditions, as conditionally classified. The conditions must be fulfilled before the student can be advanced to candidacy for the degree. If the conditions are not fulfilled, the program reserves the right to dismiss the student from the program by notifying the Associate Dean of Graduate Studies. This process is known as administrative academic disqualification (see Section 41300.1, Title 5, California Code of Regulations). Applicants whose bachelor's degrees are not in civil engineering will be required to take additional courses that will not be counted in the graduate degree program for the MSCE. Details can be obtained on the department website at: https://cee.sjsu.edu/graduate-studies/makeup-requirements.

English Proficiency Requirements

If an applicant's bachelor's degree is not from a US or Canadian university, a GRE must be taken; minimum scores acceptable for admission are listed on the Graduate Program Test Requirements webpage at GAPE. Applicants from countries in which the native language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirements webpage at GAPE.

Requirements for Advancement to Graduate Candidacy

Conditionally classified students must satisfy the conditional requirements listed in their letter of acceptance prior to advancing to candidacy. Students who have completed matriculation and achieved classified standing in the MS degree may advance to candidacy after completing a minimum of 9 units of graded work as a graduate student in letter-graded 100 or 200-level courses acceptable to the CE Department. Students must also fulfill other university requirements for advancement to candidacy for the master's degree as outlined in the Graduate Policies and Procedures section of this catalog. Candidacy includes successful completion of the Graduation Writing Assessment Requirement (GWAR). For graduate courses that meet the GWAR, refer to the GWAR Course List on the College of Graduate Studies website.

Requirements for Graduation

University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

Approved courses may include graduate courses and upper-division elective courses in Civil Engineering and graduate or upper-division courses in other university departments from a list approved by the Civil Engineering Department Curriculum Committee. The maximum number of upper-division undergraduate units that can be applied toward the master's degree is 15. At least 60% of the courses taken must be letter graded. No more than 30% of the courses listed for candidacy can be transfer units, including any graduate-level courses taken in the senior undergraduate year at SJSU.

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU cumulative grade point averages of 3.0 in order to graduate.

Eligible primary and secondary areas of specialization in civil engineering areas are:

- Construction Engineering
- Environmental Engineering
- Geotechnical Engineering
- Structural Engineering
- Transportation Engineering
- Water Resources Engineering

Culminating Experience

Plan A (Thesis)

Students choosing this option must complete 6 units of Project and Thesis courses. The student is responsible for securing the commitment of three committee members, in accordance with university policy, to serve as the student's thesis committee. One faculty member in the CEE department must agree to serve as the thesis committee chair. The thesis must meet university requirements as stipulated in this catalog and in the SJSU Master's Thesis and Doctoral Dissertation Guidelines. The candidate must pass a final oral defense of the thesis. Meeting thesis standards and passing the oral defense is solely the responsibility of the student and a student who fails to meet these standards will be required to maintain continuous enrollment at the university until the work is complete.

Plan B (Project)

Students choosing the Project option must complete 3 units of CE 298-Special Problems under the advisement of at least one departmental faculty member. The student is also responsible for securing a committee to review the project. The project must culminate in a project report and an oral defense of the project. In addition to the project, the student must select and complete a program in a secondary area of emphasis in consultation with their advisor.

Plan B (Comprehensive Exam)

Students choosing this option must sign up for and pass the departmental comprehensive exam, given once per semester, during the final term of study. The student is responsible for applying for graduation prior to signing up for the exam. In addition to the comprehensive exam, the student must select and complete a program in a secondary area of emphasis in consultation with their advisor. The comprehensive exam covers topics in the student's primary and secondary areas of emphasis. Signing up for the exam does not necessarily meet enrollment requirements for external agencies and cannot be used for that purpose. Students who fail to register for or pass the comprehensive exam in their final term of study will be required to maintain continuous enrollment with the university in subsequent semesters and may be required to complete remedial work.

Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR). For information on the GWAR, please see http://info.sjsu.edu/gcw.html.

Requirements of the Masters	30
Core Courses	**15-18**
100-Level or 200-Level CE Courses within one primary area of specialization	
Electives	**6-9**
Consent of graduate advisor required	

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Culminating Experience	6-12
COMPLETE ONE OPTION (PLAN A THESIS, PLAN B PROJECT OR PLAN B COMPREHENSIVE EXAM)	
Plan A (Thesis)	**6**
CE 298. Special Problems	1-6
CE 299. Master's Thesis or Project	1-6
Plan B (Project)	**9-12**
Project students take 6-9 units in a secondary area of specialization	6-9
CE 298. Special Problems	1-6
Plan B (Comprehensive Exam)	**6-9**
Comprehensive Exam students take 6-9 units in a secondary area of specialization	6-9
Sign up for Comprehensive Exam in the Department Office in your final semester.	
Comprehensive Exam	
Total Units Required	**30**

College of Health and Human Sciences

formerly College of Applied Science and Arts

MACQUARRIE HALL 431
(408) 924-2900
health-human-sciences@sjsu.edu
http://www.sjsu.edu/chahs/

Introduction

The College of Health and Human Sciences (formerly Applied Sciences and Arts) provides both liberal and well-defined professional education at the undergraduate and graduate levels. Course work prepares students to be competent and transformative professionals in a technologically complex and culturally diverse society. The college's courses and programs provide students with a theoretical base that is developed and tested through: (1) research; (2) knowledge that can be applied in diverse systems; (3) processes that incorporate human understanding, social justice and cooperation, and (4) supervised practice through internships, field work and/or preceptorships in a variety of career-related settings. Graduates become leaders and establish professional careers as administrators, educators, practitioners, information specialists and applied researchers in a variety of settings. These settings include both private and public agencies, government institutions at all levels, community and health care organizations and educational institutions. The College of Health and Human Sciences values and respects diversity, inclusion, civility and individual uniqueness; we recognize the strength these factors bring to our community and learning environment. All of our interactions should reflect trust, caring and mutual respect. We value education and intellectual curiosity above all. The academic freedom of faculty and students is vital to our role of promoting life-long learning through intellectual inquiry, scholarship and the pursuit of knowledge. An overarching goal is that faculty and our academic programs will be recognized for outstanding research, teaching and service across disciplinary and geographic boundaries.

STUDENT SUCCESS CENTER (CHHS)

Located in MacQuarrie Hall (MH) 533, the Student Success Center in the College of Health and Human Sciences (CHHS) provides advising for undergraduate students majoring or wanting to major in programs offered in CASA Departments and Schools.

All CHHS students and students who would like to be in CHHS are invited to stop by the Center for general education advising, help with changing majors, academic policy related questions, meeting with peer advisors, and/or attending various regularly scheduled presentations and workshops. Looking for academic advice or maybe just some tips about how to navigate your way around SJSU? Check out the CHHS Student Success Center! It's also a great place to study, and you can check out laptops.

Internships

The departments/schools within the College offer internships that involve advanced practical experience, fieldwork or clinical experience in a professional work setting under direct supervision of qualified professionals. Interns would be assigned various duties and experiences related to their particular areas of specialization. Internships may include seminars, practica or preceptorships to further develop beginning and advanced level practice skills.

International Experience Requirement

The goal of the international experience requirement is to introduce students to international and intercultural perspectives in order to prepare them to live and work in an increasingly globalized world. A number of different types of international experiences, ranging in length from 9 days to one year, can meet this requirement. Most international experience courses also allow students to earn credit towards the degree. Scholarships and Financial Aid are available to defray the costs of international travel. See http://www.sjsu.edu/chahs/international-experience/ for more information.

Teaching Credential Programs

The Department of Kinesiology, in collaboration with the College of Education, provides two single subject professional programs designed for individuals who are interested in teaching physical education or adapted physical education in grades K-12. The California School Nurse Credential prepares Registered Nurses at the Master's and Post Master's level to provide and manage health services and programs in the school setting. The School of Library and Information Science offers a Teacher Librarian Credential. The teacher librarian impacts K-12 student outcomes by collaborating with teachers, working directly with students, championing reading and providing information-rich learning environments.

Organized Research Units and Unique Programs

The programs of the College of Applied Sciences and Arts are further enriched by educational, research, global partnerships, as well as cultural and training opportunities provided by the following specialized research units and unique programs: Institute of Nursing Research and Practice, Center for International Sport and Human Performance, Research Institute for Foster Youth Initiatives (RIFYI), Timpany Center, The Center for Research on Effective Services (CRES), and the Center for Healthy Aging in Multicultural Populations (CHAMP).

College of Humanities and Arts

WASHINGTON SQUARE HALL 120
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http://www.sjsu.edu/humanitiesandarts/

Introduction

The College of Humanities and the Arts seeks to instill in students an understanding of human existence that is tolerant, moral and appreciative of human creativity as manifested in works of language and literature, the visual and performing arts, philosophy and theology, and by engagement in the creation of art and criticism.

Through its programs, the College aims to develop engaged participants in the local communities as well as in the global dimension of cultural, intellectual, and economic life. College faculty educate students for lifelong learning as well as for their first job after graduation. Building upon a foundation of excellent oral and written communication, the College helps students pursue a wide variety of paths to knowledge and careers, through specialized study in many fields, including art history, animation, comparative literature, dance, film, foreign languages, musical composition and performance, painting, radio broadcasting, sculpture, television, linguistics, comparative religion, philosophy, and technical and creative writing.

Faculty in all disciplines of the College engage in research published by major scholarly journals and university presses, supported by the major national grants and foundations, and presented at the major scholarly conferences. Artists within the College publish in important literary journals, exhibit at nationally recognized venues, or participate in prestigious performing arts productions. Throughout the College, faculty seek to produce scholarship or creative works that achieve national recognition.

College curricula develop the individual's power to communicate effectively and to analyze critically the conditions upon which cultural perceptions are built. Courses in the College attempt to reveal the evolving aspiration toward aesthetic and intellectual power in human cultures by exposing the student to important ideas, achievements, and experiences in the humanities and the creative arts. In its many professional arts programs, the College develops the talent of those who have the skill to perform or create works of art, fixing in vivid form the values of diverse heritages. In its programs in language, literature, philosophy, and other areas of the humanities, the College engages students in the discovery and exploration of works from around the world that deepen understanding of how human imagination and intellect function within different historical and cultural contexts. A primary purpose of a humanities education is to develop the skills and confidence that support a creative, analytical mind capable of lifelong learning and adaptation to different contexts and opportunities.

Through its General Education, Arts, and many scholarly programs and research units, such as the Center for Literary Arts, the Martha Heasley Cox Center for Steinbeck Studies, and the Ira Brilliant Beethoven Center, the College of Humanities and the Arts makes an indispensable contribution to the SJSU community and the region surrounding it.

Humanities and the Arts Student Success Center (HASSC)

The Humanities and the Arts Student Success Center is located in Clark Hall, Room 244. The H&A SSC provides general education advising, academic planning and serves as a resource to other programs at SJSU. We serve undergraduate students who are pursuing major(s) within the College of Humanities and the Arts. We offer both drop-in advising and appointments. All students within the college are encouraged to meet with an academic advisor to discuss a plan that will ensure timely graduation.

Internships

Internships provide students with the opportunity to incorporate work experience in a professional setting as part of their academic programs. Internship representatives are available within each department.

Teaching Credential Preparation Programs

Teaching credential preparation programs are offered by the School of Music and Dance, the departments of Art, English and Comparative Literature, Humanities (Liberal Studies) and Film and Theatre.

College of Professional and Global Education

formerly International and Extended Studies

STUDENT UNION WEST
408-924-2670
cpge@sjsu.edu
www.sjsu.edu/cpge

Introduction

In the College of Professional and Global Education, we provide access to relevant educational programs that allow individuals to gain knowledge and skills that create a solid foundation for them to be engaged and productive members of a global society. We offer a learning environment that is dynamic and innovative, ensuring that we are responsive to the ever-evolving workforce and industry demands. Our college is the nexus for connecting professionals, institutions, businesses and industries, locally and from around the world, to the knowledge, resources, and talents of Silicon Valley's premier public university.

Professional Education

At our College, we provide career-minded students and working professionals with the real-world knowledge, experience, and access they need to compete and succeed in a contemporary work force. Within the California State University (CSU), we have the most extensive portfolio of graduate, academic programs, with the highest enrollments. Through our College or in partnership with six academic colleges, we offer a total of 22 professional degree programs at the Masters level and 15 advanced certificate, and three credential programs.

In addition to our degree programs, we offer credit-earning courses to augment and complement regularly scheduled classes. Through Open University individuals from outside the university can enroll in university courses on a space-available basis and gain college credit. In winter intersession and summer intersession, we have a robust offering of courses, including General Education (GE) courses. These accelerated-format university courses are perfect for satisfying prerequisites, completing GE or major course requirements, or enabling a faster pace towards graduation.

Finally, we offer continuing education courses for professionals (such as teachers and project managers) to meet their industry's continuing education requirements for maintaining credentials or career advancement.

Global Education

In our College, we are committed to internationalizing our campus in order to cultivate an environment of diversity and inclusion, and to graduate students who are prepared to live and lead in an increasingly globalized world.

Our College serves more international students than any other master's granting university in the U.S. Students have high success in obtaining internships and work opportunities in Silicon Valley via curriculum practical training during their studies, and once they graduate with over 2,000 students participating in OPT/STEM OPT.

Our International Student & Scholar Services office (ISSS) offers comprehensive immigration advising and co-curricular support programming for our international students and scholars. The goal of ISSS is to enhance the students' experience in the United States and integrate them into our community, while also contributing to their success during their tenure at SJSU and beyond.

In addition, our Study Abroad and Away office offers an extensive portfolio of off-campus globally focused programs that strive to meet the personal, academic, and professional goals of our students. We aim to provide programs for all SJSU students to learn and discover other cultures first-hand, including study abroad (international) and away (domestic), short-term (winter, spring, and summer breaks) and long-term (semester and year-long) options.

Our International Gateways unit provides comprehensive support services and instruction to help non-matriculated international students thrive at our University. Through International Conditional Admissions, we help students apply for Conditional Admission/Eligibility to SJSU undergraduate and graduate degree programs. Our non-credit Academic English and Test Preparation courses prepare students to meet the SJSU English language admission requirements and learn American academic culture. International students interested in studying abroad in Silicon Valley can participate in our Semester at SJSU program. In addition to regularly scheduled programs, we partner with global universities and SJSU academic departments to develop and deliver customized non-credit programs for students and professionals.

For more information about programs offered in CPGE, please visit www.sjsu.edu/cpge

College of Science

SCIENCE 127
(408) 924-4800
http://www.sjsu.edu/science/

Curricula

MS, Medical Product Development Management

Introduction

San José is at the center of Silicon Valley, known worldwide for its research institutes and industries that set the standard for scientific and technological innovation. San José State is the metropolitan university of the region, and the academic programs of the College of Science prepare students for rewarding careers through our bachelor's and master's level degree programs in the biological sciences, physical sciences, mathematics and computer science fields. Our departments have established partnerships with local employers where students find training and employment opportunities.

The College of Science provides the lower division core biology, chemistry, mathematics and physics courses supporting majors in other technical disciplines (such as engineering). As part of the university general education requirements, we offer courses in quantitative reasoning, the physical universe and its life forms, and earth and the environment. Furthermore, we teach the discipline-specific courses for the science and mathematics teacher credential programs.

Successful science students come from many backgrounds. Some enter the university immediately upon graduation from high school. Others, who have worked or have various life experiences, enroll as either full or part-time students in order to continue their education and better their career opportunities. The maturity, laboratory skills and experience of these students enrich our programs. We have several programs to increase the participation of women and underrepresented students in professional level science. Our College of Science Advising Center (COSAC) is available to assist students with their academic advising questions as well as to provide tutoring for key science and math courses.

There are active student clubs associated with each major, several of which have won national recognition for their professional and community service activities. Club members provide mutual support and are able to network with professionals in their field.

Advising Center

Located in Duncan Hall (DH) 213

Phone: 408-924-5193

Email: cosac@science.sjsu.edu

Special Centers

The College of Science has several unique interdisciplinary instructional research centers and programs: the Biotechnology Education and Research Institute (BERI), the Masters in BioTechnology (MBT), the Master's in Medical Product Development Management, the Clinical Lab Science program, the Center for Applied Mathematics, Computation and Statistics, the Institute for Modern Optics, the Flow Cytometry Core Facility, the W.M. Keck Facility for Chemical Research, the laboratory for Conservation Genetics, the Moss Landing Marine Laboratories, and the Nuclear Science Facility. Partially funded by external grants and contracts, these centers provide our students opportunities to participate in sponsored research projects. Cooperative programs with local industries and government laboratories are additional sources of professional experience and financial support for our science majors.

Teaching Credential Programs

Two single subject credential programs are coordinated by the College of Science, in collaboration with the College of Education. The single subject professional programs are designed for individuals who are interested in teaching science or mathematics in middle schools or high schools. The Science Education Program offers single subject credential programs in biology, chemistry, earth science and physics. The Department of Mathematics and Statistics offers a mathematics single subject credential program. For detailed information, contact the appropriate program coordinator.

Through the Science Education Program, the College of Science supports the Science Education Resource Center, which provides hands-on science materials, textbooks, reference materials and technical assistance to pre-service and in-service teachers.

MS - Medical Product Development Management

Students in the Master of Science in Medical Product Development Management degree program develop proficiency in applying leadership, management and decision-making skills in a regulated environment; understanding and conversing with others in a multi-disciplinary field; and understanding ethical, business, financial, global, and strategic implications in medical product development. The MPDM program prepares students to enrich their communities as ethical and socially responsible graduates in a field in which the highest levels of integrity are a fundamental necessity. Please refer to the program website for more information http://www.medproddev.sjsu.edu

Requirements for Admission to Classified Standing

Applying for graduate school at San José State University is a two-step process. Apply to the university through Cal State Apply to obtain approval for university-level admission, and to the department to obtain admission into the MS, Medical Product Development Management program. Please visit the SJSU Admissions Requirements page for more information. Applicants may come from a wide variety of undergraduate (or postgraduate) areas of study including but not limited to nursing, pre-med, biology, chemistry, mathematics, science education, pharmacy, engineering, business, computer science, psychology, social sciences, and pre-law.

To be accepted into the program in classified standing, an applicant must:

1. Meet all University requirements;
2. Hold a baccalaureate degree from an accredited four-year college or university;
3. Have a grade point average (GPA) of at least 2.5 (3.0 or above preferred) in the last 60 semester or 90 quarter units of coursework;
4. Satisfactory completion of a 3-unit undergraduate course in introductory statistics and probability from an accredited college or university is recommended; and
5. Applicants from countries in which the native language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirement webpage at GAPE.

Applicants should note that a high degree of proficiency in both written and oral communications in English is a fundamental skill required both to complete the degree program and for success in the field.

The program does not accept students in conditionally classified standing.

Requirements for Advancement to Candidacy

Students must meet the university requirements for candidacy. General university requirements for advancement to candidacy for the master's degree are detailed in the Graduate Policies and Procedures section of this catalog. Candidacy includes successful completion of the Graduation Writing Assessment Requirement (GWAR). For graduate courses that meet the GWAR, refer to the GWAR Course List on the College of Graduate Studies website. The program GWAR course is SMPD 281A. Requirements for advancing to candidacy in the MS, Medical Product Development Management are successful completion of SMPD 281A and 9 units of overall program credits.

Requirements for Graduation

University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

Program Graduation Requirements

The general requirements for the course completion as outlined below.

Culminating Experience

Plan B (Project)

The culminating project challenges the student to demonstrate leadership, teamwork and decision-making skills. The student will write or prepare a publication-worthy paper or presentation for a biomedical professional journal, conference or event. The paper or presentation must demonstrate depth of knowledge of the processes, methods, and procedures used in clinical research and development or in the management of medical product development on a topic selected by the student (with advisor approval).

Special Session Program Information

Academic Programs offered through Special Session are operated by the College of Professional and Global Education (CPGE). Registration and enrollment in a Special Session course or program must use the special session application form and will follow special session fee and course schedules. Note that regular session students seeking to enroll simultaneously in a special session course or program will trigger a separate and additional set of fees. This may require an additional enrollment appointment from the Registrar and it may have implications for financial aid status or requirements. Please visit the CPGE website for more information.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR). For information on the GWAR, please see http://info.sjsu.edu/gcw.html.

SMPD 281A will satisfy the graduation writing requirement for MPDM

Requirements of the Masters 35

Required Core Courses		**12**
SMPD 283A. Regulatory Affairs I, Biopharmaceutical		3
SMPD 283B. Regulatory Affairs II Device-Diagnostics		3
SMPD 286. Statistical Methods in Clinical Trials		3
SMPD 287. Informatics in Drug and Device Development		3
Management Courses		**12**
BUS 210. Developing and Managing People	GWAR	3
BUS 286. Project Management		3
BUS 224C. Financial Accounting & Financial Aspect of Med Product Dev		3
BUS 284C. Managing Medical Product Development		3
Clinical Courses		**5**
SMPD 281A. Clinical Development Seminar I	GWAR	3
SMPD 281B. Clinical Development Seminar II		2
Clinical Trials		**3**
SMPD 285. MPDM Research / Practicum		1
SMPD 289A. Special Topics in Clinical Trials Management I		2
Culminating Experience		**3**
Plan B Project		
SMPD 289B. Clinical Trials Seminar II		3
Total Units Required		**35**

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU Cumulative grade point averages of 3.0 in order to graduate.

College of Social Sciences

WASHINGTON SQUARE HALL 103
(408) 924-5300
college-social-sciences@sjsu.edu
http://www.sjsu.edu/socialsciences/

Introduction

Programs in the College of Social Sciences prepare students for work and life in Silicon Valley and a rapidly changing world. Our thirteen departments provide training for careers in counseling, criminology, environmental restoration, computerized mapping, public administration, economic analysis, organizational communication, international relations, ergonomics, urban and regional planning, and countless other fields in business, government, teaching and human services. Major courses of study emphasize the contributions of the many cultures that form our community. Internships are encouraged to help students relate academic work to the opportunities and needs of this diverse region. Completion of one of our undergraduate majors also provides an excellent foundation for advanced graduate work in one of the disciplines or at a professional school such as law or business.

New technologies increasingly improve our instruction and link us to the innovative industry of our region and to the educational resources of the world, but personal interaction between students and faculty is still prized within the College of Social Sciences. Capable and interesting teachers, active student clubs and small classes provide ideal environments for learning. If you are interested in majoring in one of the social sciences, contact an advisor in one of our departments or the dean's office.

Academic Counseling Center for Excellence in the Social Sciences (ACCESS)

Academic Counseling Center for Excellence in the Social Science (ACCESS) is the student success center for the College of Social Sciences, located in Clark Hall 240. Both current COSS students and those students interested in minoring or majoring in a social sciences degree program are invited to stop by ACCESS for general education advising and/or help with changing majors, and to have academic policy-related questions answered. We also offer tutoring and support in social sciences statistics and writing. Are you a COSS student in need of some academic advice or perhaps need some tips about how to navigate your way around SJSU? Looking for a quiet place to study? Check out the COSS Student Success Center!

Special Centers

The programs of the College of Social Sciences are further enriched by educational, research and training opportunities provided by the following specialized units:

Burdick Military History Project supports the study and teaching of military history through public lectures, the Veterans Oral History Project, and it specialized collection of materials relating to military history. Contact the History Department.

Center for Development of Recycling advances education, research and dissemination of information in various areas of recycling. Contact the Environmental Studies Department.

Center for Economic Education supports improvement in the teaching of economics through a multi-method approach and the dissemination of economics education materials. Contact the Economics Department.

East Asian Regional Materials and Resources Center provides information and counsel about studies in Asia, including library and audio-visual material available to teachers. Contact the History Department.

Silicon Valley Center for Global Studies (SVCGS) is a joint initiative with the College of International and Extended Studies. It develops and disseminates knowledge from research on globalization, especially related to population migration.

Sourisseau Academy promotes better understanding and appreciation of California's state and local history, with emphasis on the history of Santa Clara Valley, through graduate scholarships and collections of historical source materials. Contact the History Department.

Teaching Credential Programs

Teacher preparation programs are administered by the Director of Social Science Education within the College of Social Sciences. Both multiple subject and single subject programs are offered. The Environmental Studies Department also offers a multiple subject program, and the Communication Studies Department cooperates with the English Department to prepare students for the single subject credential in English. Contact these departments for details.

Communication Studies Department

College of Social Sciences

HUGH GILLIS HALL 108
408-924-5360

Professors

Stephanie J. Coopman
Deanna L. Fassett, Chair
Ge Gao
Rona T. Halualani
Dennis Jaehne
Matthew Spangler
Shawn Spano
Anne Marie Todd
Federico Varona
Andrew F. Wood

Associate Professors

Marquita L. Byrd
Luis Felipe Gomez
Tabitha Hart
Kathleen McConnell
Priya Raman

Assistant Professors

Oona Hatton
Nikki Yeboah

Curricula

BA, Communication Studies
BA, Communication Studies, Preparation for Teaching (Not Accepting Students)
Minor, Communication Studies
Minor, Communication in the Information Age
Minor, Community Service Learning
MA, Communication Studies

Introduction

The Department of Communication Studies prepares competent and ethical communicators for meaningful participation in diverse local and global communities. The B.A. and M.A. programs focus on four primary areas or cornerstones: democracy, diversity, technology, and globalization. Democracy affirms the balance of individual freedom and socio-political consensus shaped through dialogue, argument, and persuasion between individuals and groups. Diversity explores the variety and complexity of communication efforts to shape beliefs, values, and perceptions in different communities and cultures. Technology interrogates the implications of human communication in a mediated world. Globalization recognizes the interconnectedness, integration, fragmentation, and conflict within human societies and cultures in global contexts. Our undergraduate and graduate degree programs prepare alumni for a wide range of careers in areas such as education, sales, marketing, public relations, human resource development, law, politics, and community service.

Communication Studies Honors Program

Students requesting departmental honors in Communication Studies will be evaluated against the following criteria: (1) a minimum GPA of 3.5 in all four unit upper division courses in the major (Foundations, Inquiry, Practice Courses, 101C and 199C); (2) have at least a 3.0 overall GPA; (3) satisfactorily complete one of the department's four-unit graduate seminars; and (4) participate in a public honors colloquium to present a summary of the work produced in the selected graduate seminar. Contact the department office for details.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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BA - Communication Studies

The department provides suggested programs and advice for students interested in emphasizing special areas of speech and communication, and for those wishing to combine courses in the major with relevant electives in other departments. Interdisciplinary interests are encouraged.

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

Major-Specific Graduation Requirements

COMM 101C is a prerequisite for COMM 198 and COMM 199C.

University Graduation Requirements 47

Core Lower Division General Education 33

Of the 39 units required by the university, 6 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

NOTE: STUDENTS WHO HAVE COMPLETED THE ADT TRANSFER DEGREE (UNDER SB 1440) FOR THIS MAJOR WILL HAVE COMPLETED ALL LOWER DIVISION GE REQUIREMENTS AND SHOULD FOLLOW THE 60 UNIT GUARANTEE ROADMAP. MEET WITH AN ADVISOR PRIOR TO REGISTERING FOR YOUR FIRST SEMESTER FOR THE 60 UNIT ROADMAP OR SPECIFIC QUESTIONS.

Upper Division General Education 3

Of the 9 units required by the university, 6 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 6

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

COMPLETE ONE SEQUENCE FROM:

African American Studies 6

AFAM 002A. African Americans and the Development of America's History and Government	D2	3
AFAM 002B. African Americans and the Development of America's History and Government	M7	3

Asian American Studies 6

AAS 033A. Asian Americans in U.S. History I	D2	3
AAS 033B. Asian Americans in U.S. History II	M7	3

U.S. History and Government 6

HIST 015. Essentials of U.S. History	M12	3
POLS 015. Essentials of U.S. & California Government	M11	3

Chicana and Chicano Studies 6

CCS 010A. Mexican Americans and the Development of U.S. History and Government	D2	3
CCS 010B. Mexican Americans and the Development of U.S. History and Government	M7	3

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Physical Education 2

Graduation Writing Assessment Requirement 3

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Requirements of the Major 42

For the BA in Communication Studies only 6 units of CR/NC coursework will be accepted.

Core Courses 10

COMM 101C. Junior Seminar: Theorizing Communication 4
COMM 198. Applied Activity in Communication 1-2
COMM 199C. Senior Seminar: Synthesis & Application 4

Major Courses 32

Foundations Courses 8

COMPLETE EIGHT UNITS FROM:

COMM 110F. Interpersonal Communication 4
COMM 117F. Understanding Play & Games 4
COMM 122F. Performance Studies 4
COMM 130F. Activism, Action, and Resistance 4
COMM 132F. Dis/Ability Communication 4
COMM 133F. Ethical Problems in Communication 4
COMM 144F. Organizational Communication 4
COMM 146F. Communication and the Environment 4
COMM 149F. Rhetoric and Public Life 4
COMM 160F. Language, Meaning and Culture 4
COMM 161F. Communication and Culture 4
COMM 164F. Communication and Global Organizations 4
COMM 170F. Persuasion 4
COMM 172F. Multicultural Communication in the United States 4
COMM 173F. Intercultural Communication and Global Understanding 4
COMM 175F. Nonverbal Communication 4
COMM 181F. New Media/New World 4

Inquiry Courses 8

COMPLETE EIGHT UNITS FROM:

COMM 119I. Researching Games 4
COMM 123I. Performance of Ethnodrama 4
COMM 145I. Rhetorical and Cultural Criticism 4
COMM 150I. Inquiry in Organizational Communication 4
COMM 151I. New Media/New Methods 4
COMM 152I. Communication in World Cultures 4
COMM 154I. Ethnography for Communication Studies 4
COMM 155I. Quantitative Communication Inquiry 4
COMM 156I. Observation and Interviewing Methods 4
COMM 169I. The Media: Response and Criticism 4

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Practice Courses **8**

COMPLETE EIGHT UNITS FROM:

COMM 105P. Communication, Self and Society	4
COMM 111P. Interviewing	4
COMM 113P. Games in Everyday Life	4
COMM 114P. Business and Professional Speaking	4
COMM 115P. Communication and Conflict	4
COMM 116P. Mediation: Theory and Practice	4
COMM 120P. Persuasive & Presentation Skills	4
COMM 121P. Performance as Practice	4
COMM 124P. Communication Training and Development	4
COMM 125P. Ensemble Performance	4
COMM 131P. New Media/You Media	4
COMM 140P. Argumentation and Debate	4
COMM 141P. Small Group Communication	4
COMM 147P. Argumentation and Persuasion in Courts of Law	4
COMM 165P. Communication and Organizational Philanthropy	4
COMM 176P. Communication and Gender	4
COMM 182P. Communication in the Classroom	4

COMM 182P strongly recommended for student who plan to pursue a teaching credential

Additional Courses in the Major **8**

Complete any eight units from Foundations (F) Inquiry(I) or Practice (P) courses or lower division COMM courses or SJSU studies COMM courses from list below.

COMM 080. Communication Workshop		1
COMM 091J. Judge Training		1

Can not take COMM 80 and COMM 91J

COMM 100W. Writing Workshop: Writing for Influence	Z	3
COMM 157SL. Community Action/Community Service	S	3
COMM 168A. Global Climate Change I		6
COMM 168B. Global Climate Change II	R+S+V	3

Must take COMM 168A and B to fulfill requirement

COMM 174. Intercultural Comm & Struct Inequality	S	3
COMM 179. Global Media and Resistance	V	3
COMM 180. Individual Studies		1-3
COMM 184. Directed Reading		1-2
COMM 191A. Activity Projects in Forensics		1-3
COMM 191B. Activity Projects in Forensics		1-3
COMM 191C. Activity Projects in Forensics		1-3
COMM 191J. Activity Projects in Forensics		1
COMM 191M. Activity Projects in Forensics		1

University Electives **31**

A minor is encouraged but not required.

Total Units Required **120**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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BA - Communication Studies, Preparation for Teaching (Not Accepting Students)

This major is designed for students interested in teaching English or speech communication in high school or middle school. The following course work satisfies San José State University's requirements for a BA in Communication Studies.

A Minimum grade point average (GPA) and completion of the program will not guarantee admission to the credential program. Like all other applicants, students must meet credential program standards and undergo screening for admission. See "Teaching: How to Become a Teacher in California" (see Teaching) for information on application and admission to credential programs.

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

University Graduation Requirements 50

Core Lower Division General Education 33

Of the 39 units required by the university, 6 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

Upper Division General Education 6

Of the 9 units required by the university, 3 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 6

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

COMPLETE ONE SEQUENCE FROM:

African American Studies 6

AFAM 002A. African Americans and the Development of America's History and Government	D2	3
AFAM 002B. African Americans and the Development of America's History and Government	M7	3

Asian American Studies 6

AAS 033A. Asian Americans in U.S. History I	D2	3
AAS 033B. Asian Americans in U.S. History II	M7	3

U.S. History and Government 6

HIST 015. Essentials of U.S. History	M12	3
POLS 015. Essentials of U.S. & California Government	M11	3

Chicana and Chicano Studies 6

CCS 010A. Mexican Americans and the Development of U.S. History and Government	D2	3
CCS 010B. Mexican Americans and the Development of U.S. History and Government	M7	3

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Physical Education 2

Graduation Writing Assessment Requirement 3

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Preparation for the Major 22-24

ENGL 105. Seminar in Advanced Composition 4
ENGL 112B. Literature for Young Adults 4
ENGL 125. European Literature: Homer through Dante 4

COMPLETE ONE COURSE FROM:

ENGL 103. Modern English 4
LING 107. Patterns of English 3

COMPLETE ONE COURSE FROM:

ENGL 144. Shakespeare I 4
ENGL 145. Shakespeare and Performance 4

COMPLETE ONE COURSE FROM:

ENGL 162. Studies-American Literature Before 1865 4
ENGL 163. American Literature: 1865-1945 4
ENGL 168. The American Novel 4
ENGL 169. Ethnicity in American Literature ..... S 4

Requirements of the Major 38

Core Courses 14

COMM 101C. Junior Seminar: Theorizing Communication 4
COMM 182P. Communication in the Classroom 4
COMM 198. Applied Activity in Communication 1-2
COMM 199C. Senior Seminar: Synthesis & Application 4

Additional Requirements 24

Two courses in Foundations Area 8
Two Courses in Inquiry Area 8
Two Courses in Practice Area 8

One Course in Practice Area AND COMM 157SL (3 units) will meet Practice Area requirement

University Electives 8-10

Total Units Required 120

Minor - Communication Studies

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Requirements of the Minor	**18**
Students complete 18 units in Communication Studies for the minor; at least 12 of the 18 units must be upper division.	
Total Units Required	**18**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

Minor - Communication in the Information Age

This interdisciplinary minor Communication in the Information Age provides students the theoretical insights and practical skills necessary to thrive in the information age. The curriculum teaches the basic skills of information retrieval and evaluation; provides insight into contemporary media practices; and explores the intersection of technology, identity, and culture. Completion of this minor means that you can:

- Employ a broad range of resources and information technologies (including content development, visual design, and website construction) for the purposes of effective personal, artistic, and professional communication.
- Practice effective principles of information gathering, evaluation and synthesis while demonstrating awareness of legal, ethical, and practical issues relating to these practices.
- Develop reasoned and well articulated perspectives on contemporary questions related to rights and responsibilities in the information age, with particular awareness of issues related to equity, intellectual property, intellectual freedom, and the ethical responsibilities of media institutions.

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Requirements of the Minor		18
Minor Core		**7**
MCOM 072. Mass Communication and Society	D3	3
COMM 181F. New Media/New World		4
Electives		**11**
COMPLETE ELEVEN UNITS FROM:		
ARTH 072. Design in Society	C1	3
ARTH 176A. Graphic Design History and Theory		3
COMM 131P. New Media/You Media		4
COMM 151I. New Media/New Methods		4
RTVF 110. Media and Culture	S	3
Total Units Required		**18**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

Minor - Community Service Learning

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Requirements of the Minor			18
CSL Core Courses			**9**
COMM 157SL. Community Action/Community Service	S	3	
SOCI 057. Community Involvement and Personal Growth	E	3	
SOCI 080. Social Problems	D3	3	
EDUC 157 Can be taken under any of the following prefixes: COMM, ENGR, HA, SCI, or APSC			
CSL Upper Division Requirements			**9**
Nine integrated units approved by a department or college advisor, and by the AVP of Undergraduate Studies or designee. Six of these units must be in courses approved as CSL courses under university policy.			
Total Units Required			**18**

MA - Communication Studies

The Master of Arts in Communication Studies is a comprehensive 35-unit program that provides advanced study in the theoretical and ethical underpinnings of communication studies, the methodologies used in the study of communication, and practice in applying these concepts and methods in professional and scholarly contexts. It combines study in the areas of Intercultural Communication, Organizational Communication, Performance Studies, Cultural Studies, Rhetoric, Interpersonal and Small Group Communication, and Crisis and Conflict Resolution. By gaining a deeper understanding of the social process that is communication, our students prepare for professional careers in non-profit and corporate environments and for further graduate study. Many experience teaching at the college level through the Graduate Teaching Associate (GTA) program. Our alumni continue on to doctoral programs, teaching at colleges and universities, and careers in a wide range of professions in Silicon Valley and beyond.

Information about the MA, Communication Studies and important dates can be obtained on the Department of Communication Studies website: http://www.sjsu.edu/comm/degrees/ma_comm/index.html.

Admissions Requirements

University Admission

Candidates must apply through the CSU admissions portal, Cal State Apply, and meet all university admissions requirements. Applicants will need to apply separately to the university to obtain approval for university-level admission and to the department to obtain admission into the MA in Communication Studies.

Applicants from countries in which the native language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirements webpage at GAPE. The program does not currently require the GRE for admission.

Admission to the Program

Minimum requirements for admission to the MA, Communication Studies are a bachelor's degree in Communication Studies or a related field, usually in the social sciences, humanities, or arts. A 3.0 grade point average (B or better) is desired. Depending on their level of preparation, applicants can be admitted in either classified or conditionally classified standing.

To apply for the MA in Communication Studies, follow the steps on this page: http://www.sjsu.edu/comm/degrees/ma_comm/apply/index.html

Program Requirements for Admission to Classified Standing

Students can be admitted in either classified or conditionally classified standing. To be admitted to the Master of Arts in Communication Studies program in classified status, an applicant must have a grade point average of 3.0 or better in their last 60 units, and possess a baccalaureate degree in Communication Studies, or related field in the social sciences, humanities, or arts from an accredited U.S. or international university.

Program Requirements for Admission to Conditionally Classified Standing

If an applicant's preparation for advanced graduate work is considered inadequate to meet the course prerequisites or other departmental requirements, the conditions of admission will include additional BA or MA level coursework in Communication Studies, depending on the nature of the applicant's case. The program admissions letter will explain the terms and requirements.

Requirements for Advancement to Graduate Candidacy

Students must meet the university requirements for advancement to graduate candidacy. General university requirements for advancement to candidacy for the MA degree are detailed in the Graduate Policies and Procedures section of this catalog. Candidacy includes successful completion of the Graduation Writing Assessment Requirement (GWAR). For graduate courses that meet the GWAR, refer to the GWAR Course List on the College of Graduate Studies website. For Communication Studies, candidates meet the GWAR requirement by taking COMM 200R, a required course that most students take in their first semester.

Further requirements of the department for advancement to candidacy include completion of 18 units in the graduate program and submission of a project or thesis proposal to the department's Graduate Committee. If the proposal is satisfactory and the student is considered to be a potentially competent and mature practitioner, he or she will be advanced to candidacy. Students who fail to meet the expected standards will be terminated from the program.

Requirements for Graduation

University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

Culminating Experience

Students in the MA, Communication Studies complete the program with a 6-unit Culminating Experience selected from three three options: a master's thesis, graduate project, or comprehensive exam.

Plan A (Thesis)

Students opting to complete a master's thesis will take 3 units of COMM 299, Master's Thesis in two consecutive semesters for a total of 6 units. The student is responsible for securing the commitment of a full-time tenured or tenure-track MPH faculty member who agrees to serve as thesis committee chair. The student must also secure the commitments of two additional university faculty members, one of whom must be a full-time tenured or tenure-track faculty member, to serve as the student's thesis committee. The student must write a thesis proposal and have it approved by the thesis committee and pass the first COMM 299 course before enrolling in the second. The thesis must meet university requirements as stipulated in this catalog and in the SJSU Master's Thesis and Doctoral Dissertation Guidelines. It will be written under the guidance of the candidate's thesis committee chair with the assistance of the thesis committee. The candidate for the MA, Communication Studies degree must successfully pass a final oral defense of the thesis.

Plan B (Project)

Students opting to complete a graduate project will take 3 units of COMM 298, Master's Project in two consecutive semesters for a total of 6 units. The student is responsible for securing the commitment of a full-time tenured or tenure-track MPH faculty member who agrees to serve as project committee chair. The student must also secure the commitments of two additional university faculty members, one of whom must be a full-time tenured or tenure-track faculty member, to serve as the student's project committee. The student must write a project proposal and have it approved by the project committee before work on the project can begin. The student must successfully pass a final oral defense of the project.

Plan B (Comprehensive Exam)

Students opting for the courses-only option must pass the Comprehensive Exam to earn the MA, Communication Studies degree. This option requires an additional 6 units of electives selected in consultation with the graduate advisor. The exam consists of three three-hour, closed book essay questions: one question on communication theory, one question on communication methodology, and one question on a topic of the student's choice.

Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR). For information on the GWAR, please see http://info.sjsu.edu/gcw.html.

This requirement is satisfied by passing COMM 200R

Requirements of the Masters 35

Core Courses 19

COMM 200R. Graduate Study in Communication ..... GWAR 4
COMM 201. Communication Methodologies 3
COMM 297. Advanced Writing Workshop 2
Students take COMM 297R twice, 2 units each time.

Core Seminar 8

8 UNITS OF CORE SEMINARS SELECTED FROM THE FOLLOWING LIST (ALL SHARE THE SAME SET OF SIX PROGRAM LEARNING OBJECTIVES):

COMM 210R. Seminar in Interpersonal Communication 4
COMM 231R. Performing Presentational Aesthetics 4
COMM 232R. Seminar in Performance and Culture 4
COMM 244R. Seminar in Organizational Communication 4
COMM 245R. Seminar in Communication Criticism 4
COMM 249R. Seminar in the Philosophy of Communication 4
COMM 250R. Seminar in Communication Theory: Critical and Interpretive 4
COMM 255R. Seminar in Communication Theory 4
COMM 269R. Seminar in Contemporary Communication 4
COMM 274R. Seminar in Intercultural Communication 4

Electives 10

10 units of 200-level courses in Communication Studies; students may take up to 6 units of 200-level courses from outside departments in consultation with graduate advisor.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Culminating Experience	6

COMPLETE ONE OPTION (PLAN A THESIS, PLAN B PROJECT, OR PLAN B COMP EXAM)

Plan A (Thesis)

COMM 299. Master's Thesis 1-6

Students take a total of 6 units of COMM 299 in consecutive semesters.

Plan B (Project)

COMM 298. Master's Project 1-4

Students take a total of 6 units of COMM 298 in consecutive semesters.

Plan B (Comprehensive Exam)

Students selecting this option complete the Comprehensive Exam in their final year and while enrolled in COMM 297.

Additional 6 units of electives selected in consultation with graduate advisor 6

Total Units Required	35

Students may take up to 6 units of graduate-level courses in programs other than Communication Studies selected in consultation with the graduate advisor and apply those units toward the MA, Communication Studies degree.

Elective courses must be planned in consultation with the Graduate Advisor.

The maximum number of upper-division undergraduate units that can be applied toward the master's degree is 6. Upper-division units must be linked to study abroad.

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU cumulative grade point averages of 3.0 in order to graduate.

Computer Engineering

College of Engineering

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Weider Yu

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David Anastasiu
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Hyeran Jeon
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Kaikai Liu
Younghee Park
Gokay Saldamli
Mahima Agumbe Suresh
Wencen Wu

Curricula

BS, Computer Engineering
BS, Software Engineering
Certificate, Cybersecurity Foundations
Certificate, Cybersecurity Engineering
Certificate, Secure Test Engineering
Certificate, Secure Software Engineering
MS, Computer Engineering
MS, Software Engineering

Introduction

Located in the center of Silicon Valley, the Department of Computer Engineering provides local and national high-tech companies with high quality, practice-oriented computer graduates. Bachelor's and master's degree programs are offered in both computer engineering and software engineering. Course topics range from computer hardware design and embedded systems to software design and construction of real-time systems, virtual systems, and enterprise software. Curriculum integrates concepts and hands-on practice using the latest developments in emerging technologies, design, verification, implementation, and computer systems applications to provide students with advanced hardware and software skills. High-tech companies seek out our graduates. Our alumni work in hardware/software analysis, design and verification, hardware/software co-design, systems software, domain applications and product testing at many Silicon Valley firms from start-ups to Fortune 100 companies. The undergraduate degree in Computer Engineering and Software Engineering are accredited by the Engineering Accreditation Commission of ABET, www.abet.org.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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BS - Computer Engineering

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

Major Exceptions

This degree program meets certain University Requirements through approved major modifications. Please see the Major Exceptions area in the Policy and Procedures section of this catalog to identify the specific adjustments for this degree program or contact your major advisor for more details.

Major-Specific Graduation Requirements

All courses in the Preparation and Required in Major (all courses in preparation, core, and concentration) must be completed with a grade of "C- or better". The following Preparation for the Major courses must be completed with a grade of "C or better": MATH 30, MATH 31, PHYS 50 and PHYS 51.

University Graduation Requirements 21

Core Lower Division General Education 6

Of the 39 units required by the university, 33 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

Upper Division General Education

Of the 9 units required by the university, 9 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 12

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

AMS 001A. American Cultures to 1877	M4	6
AMS 001B. American Cultures 1877 to present	M5	6

Physical Education

Graduation Writing Assessment Requirement 3

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

ENGR 100W. Engineering Reports	Z+R	3

Preparation for the Major 33

Students must complete the following courses with "C" or better to graduate: MATH 030, MATH 031, PHYS 050, PHYS 051. The remaining courses in Preparation for the Major must be completed with "C-" or better to graduate.

BIOL 010. The Living World	B2	3
ENGL 001B. Argument and Analysis	C2	3
or equivalent second semester composition course.		
ISE 130. Engineering Probability and Statistics		3
MATH 030. Calculus I	B4	3
MATH 031. Calculus II	B4	4
MATH 032. Calculus III	B4	3
MATH 042. Discrete Mathematics		3
MATH 123. Differential Equations and Linear Algebra		3
PHYS 050. General Physics/Mechanics	B1+B3	4
PHYS 051. General Physics/Electricity and Magnetism	B1+B3	4

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

For Legend please see page 2

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Requirements of the Major 66

Students must complete all the courses in Core Courses, Required Courses and Approved Upper Division Electives sections with "C-" or better to graduate.

Core Courses 13

CMPE 030. Programming Concepts and Methodology		3
CMPE 050. Object-Oriented Concepts and Methodology		3
ENGR 010. Introduction to Engineering	E	3
EE 097. Introductory Electrical Engineering Laboratory		1
EE 098. Introduction to Circuit Analysis		3

Required Courses 46

CMPE 102. Assembly Language Programming		3
CMPE 110. Electronics for Computing Systems		3
CMPE 124. Digital Design I		3
CMPE 125. Digital Design II		3
CMPE 126. Algorithms and Data Structure Design		3
CMPE 127. Microprocessor Design I		3
CMPE 130. Advanced Algorithm Design		3
CMPE 131. Software Engineering I		3
CMPE 140. Computer Architecture and Design		3
CMPE 142. Operating Systems Design		3
CMPE 146. Real-Time Embedded System Co-Design		3
CMPE 148. Computer Networks I		3
CMPE 152. Compiler Design		3
CMPE 195A. Senior Design Project I	S	2
CMPE 195B. Senior Design Project II	V	3
ENGR 195A. Global and Social Issues in Engineering	S	1
ENGR 195B. Global and Social Issues in Engineering	V	1

Note: Must complete CMPE 195A/B and ENGR 195 A/B with C or Better to meet GE Area requirements.

Approved Upper Division Electives 7

Selected in consultation with the student's advisor

Total Units Required 120

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

BS - Software Engineering

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

Major Exceptions

This degree program meets certain University Requirements through approved major modifications. Please see the Major Exceptions area in the Policy and Procedures section of this catalog to identify the specific adjustments for this degree program or contact your major advisor for more details.

Major-Specific Graduation Requirements

All courses in the Preparation and Required in Major (all courses in preparation, core, and concentration) must be completed with a grade of "C- or better". The following Preparation for the Major courses must be completed with a grade of "C or better": MATH 30, MATH 31, and PHYS 50.

University Graduation Requirements 21

Core Lower Division General Education 6

Of the 39 units required by the university, 33 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

Upper Division General Education

Of the 9 units required by the university, 9 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 12

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

AMS 001A. American Cultures to 1877	M4	6
AMS 001B. American Cultures 1877 to present	M5	6

Physical Education

Graduation Writing Assessment Requirement 3

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

ENGR 100W. Engineering Reports	Z+R	3

Preparation for the Major 33

Students must complete the following courses with "C" or better to graduate: MATH 030, MATH 031, PHYS 050. The remaining courses in Preparation for the Major must be completed with "C-" or better to graduate.

BIOL 010. The Living World	B2	3
ENGL 001B. Argument and Analysis	C2	3

or equivalent second semester composition course.

MATH 030. Calculus I	B4	3
MATH 031. Calculus II	B4	4
MATH 032. Calculus III	B4	3
MATH 042. Discrete Mathematics		3
PHYS 050. General Physics/Mechanics	B1+B3	4
PHYS 051. General Physics/Electricity and Magnetism	B1+B3	4

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

For Legend please see page 2

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COMPLETE ONE COURSE FROM:

MATH 123. Differential Equations and Linear Algebra	3
MATH 142. Introduction to Combinatorics	3

COMPLETE ONE COURSE FROM:

ISE 130. Engineering Probability and Statistics	3
MATH 161A. Applied Probability and Statistics I	3

Requirements of the Major 66

Students must complete all the courses in Core Courses, Required Courses and Approved Upper Division Electives sections with "C-" or better to graduate.

Core Courses 11

CS 046A. Introduction to Programming		4
CS 046B. Introduction to Data Structures		4
ENGR 010. Introduction to Engineering	E	3

Required Courses 49

CMPE 102. Assembly Language Programming		3
CMPE 120. Computer Organization and Architecture		3
CMPE 131. Software Engineering I		3
CMPE 133. Software Engineering II		3
CMPE 148. Computer Networks I		3
CMPE 165. Software Engineering Process Management		3
CMPE 172. Enterprise Software Platforms		3
CMPE 187. Software Quality Engineering		3
CMPE 195A. Senior Design Project I	S	2
CMPE 195B. Senior Design Project II	V	3
ENGR 195A. Global and Social Issues in Engineering	S	1
ENGR 195B. Global and Social Issues in Engineering	V	1

Note: Must Complete CMPE 195A/B and ENGR 195 A/B with C or Better to meet GE Area requirements

CS 146. Data Structures and Algorithms		3
CS 149. Operating Systems		3
CS 151. Object-Oriented Design		3
CS 157A. Introduction to Database Management Systems		3
CS 166. Information Security		3
ISE 164. Computer and Human Interaction		3

Approved Upper Division Electives 6

Selected in consultation with the student's advisor

Total Units Required 120

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Certificate - Cybersecurity Foundations

The Computer Engineering program offers an 18-unit certificate program to students seeking career opportunities in cyber security. The program aligns with the nationally defined knowledge areas and prepares the students with well-grounded fundamentals to become a professional in cyber security.

CMPE 130. Advanced Algorithm Design	3
CMPE 132. Information Security	3
CMPE 138. Database Systems I	3
CMPE 142. Operating Systems Design	3

Complete one course from:

CMPE 148. Computer Networks I	3
CS 158A. Computer Networks	3

Complete one course from:

CMPE 181. Internet of Things Platforms	3
CMPE 182. Internet of Things Security	3
CS 158B. Computer Network Management	3
Total Units Required	**18**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Certificate - Cybersecurity Engineering

With the global threats of cyber-crime, our nation's continued security and economic prosperity depend on the availability of increasing cyber security workforce. The Computer Engineering Department offers a 12-unit Cyber Security Engineering (CSE) Certificate program to students who seek career opportunities in cyber security and information assurance. The courses in the certificate program cover mobile-based software system, advanced topics, and project experience in information security.

CS 265. Cryptography and Computer Security	3
CMPE 235. Mobile Software System Design	3
CMPE 295B. Master Project II	3

Complete one course from:

CMPE 295A. Master Project I		3
CMPE 295W. Master Project	GWAR	3
Total Units Required		**12**

Certificate - Secure Test Engineering

With the global threats of cyber-crime, our nation's continued security and economic prosperity depend on the availability of increasing cyber security workforce. The Computer Engineering Department offers a 9-unit Secure Test Engineering (STE)Certificate program to students who seek career opportunities in cyber security and information assurance. The courses in the program cover the fundamentals in the design of secure software systems, including software systems engineering, quality assurance, and enterprise platforms.

BUS 248. Cyber Risk Management	3
CMPE 202. Software Systems Engineering	3
CMPE 287. Software Quality Assurance and Testing	3
Total Units Required	**9**

Certificate - Secure Software Engineering

With the global threats of cyber-crime, our nation's continued security and economic prosperity depend on the availability of increasing cyber security workforce. The Computer Engineering Department offers a 9-unit Secure Software Engineering (SSE) Certificate program to students who seek career opportunities in cyber security and information assurance. The courses in the certificate program cover critical aspects in security domain, including network security, software security, and cyber risk management.

CMPE 209. Network Security	3
CMPE 272. Enterprise Software Platforms	3
CMPE 279. Software Security Technologies	3
Total Units Required	**9**

MS - Computer Engineering

The MS CMPE program provides students with an educational experience that combines electrical engineering and computer science with the best of academia, the high-tech industry, and Silicon Valley. The high-tech industry increasingly requires engineers to be equipped with both hardware and software development knowledge and skills. The program provides in-class theory with hands-on hardware design and software development exercises to give students the skills necessary to create contemporary microelectronic products that are typically embedded computing systems containing both hardware and software. Graduates with an MS in Computer Engineering can expect to find significant opportunities in digital and computer hardware design and verification, system-level software development, and prototyping and testing as well as technical support and marketing.

Class schedules are designed for the convenience of employed engineers who wish to pursue graduate work on a part-time basis.

For more information, visit http://cmpe.sjsu.edu/content/masters-in-computer-engineering.

Educational Objectives of the Graduate Program

To provide MSCMPE graduates with

1. advanced knowledge of the practice of computer engineering, from vision to analysis, design, validation, and deployment.
2. the ability to tackle complex engineering problems and tasks, using contemporary engineering principles, methodologies, and tools.
3. leadership skills and the ability to participate in teamwork in an environment with people of different disciplines of engineering, science, and business.
4. understanding of the ethical, economic and environmental implications of their work, as appropriate.
5. the ability to advance successfully in the engineering profession and sustain a process of life-long learning in engineering or other professional areas.
6. the ability to communicate effectively in both oral and written forms.

Admissions Requirements

Candidates must meet all university admissions requirements. Applicants can be admitted in either classified or conditionally classified standing. If an applicant's preparation for advanced graduate work is considered inadequate to meet the course prerequisites or other departmental requirements, the conditions will include taking preparatory courses to meet these requirements. These courses will not count as part of the master's degree program requirements.

For acceptance by the Department of Computer Engineering, the applicant must satisfy the following requirements:

a) Academic Background

An applicant must have a degree equivalent to a four-year U.S. undergraduate baccalaureate degree with a GPA of 3.0 (B) or higher in a computer-related field, such as computer engineering or electrical engineering. Under special circumstances but very rarely, applicants with other academic backgrounds will be considered.

b) Standard Test Scores

An applicant who does not have a baccalaureate degree from an accredited university in the United States must meet SJSU's minimum requirements on an English-Language Proficiency Exam (TOEFL or equivalent; please visit the Graduate Program Test Requirements website at GAPE for more information). GRE scores are used by the MS CMPE program as an evaluation factor, on a competitive basis; they are generally required for any applicant whose bachelor's degree was from a non-ABET-accredited program or whose bachelor's degree GPA was beneath 3.0. Under some circumstances, applicants are eligible for a waiver of the GRE test requirement.

Requirements for Advancement to Graduate Candidacy

Students may advance to candidacy after completing all admission conditions and all prerequisites for the culminating experience (refer to the MSCMPE Student Handbook) including the Graduation Writing Assessment Requirement (GWAR). For graduate courses that meet the GWAR, refer to the GWAR Course List on the College of Graduate Studies website.

Requirements for Graduation

University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

MS - Computer Engineering Graduation Requirements

To obtain an MS degree in Computer Engineering, a student must meet the following requirements:

1. achieve a classified student status, *i.e.*, a conditionally admitted student must meet the admission conditions specified in the student's admission letter;
2. complete all course requirements leading up to the culminating experience courses, as listed below.
3. 2.3.complete 33 semester units of 200-level courses with a cumulative GPA of 3.0 or better. At least 24 units must be 200-level Computer Engineering courses. Undergraduate coursework does not count towards the master's degree. Students may enhance their degree by adding internships (CMPE 298i) to their plan of study.

Culminating Experience (Plan A or Plan B)

All students must complete one of the following culminating experiences: thesis or project. Theses and projects are completed under the supervision of an advisor.

Plan A (Thesis)

A master's thesis includes original research on a topic approved by the thesis committee and must meet university requirements as stipulated in this catalog and in the SJSU Master's Thesis and Doctoral Dissertation Guidelines. It undergoes a thorough review and revision process under the guidance of the candidate's thesis committee chair with the assistance of the thesis committee.

Plan B (Project)

A master's project is a research or development effort performed by a team of students on a topic chosen by mutual agreement between an advisor and the team. The choice of project topic is also approved by the Graduate Advisor. At the end of CMPE 295B, a project report is submitted for department review, and students present their project work in a department project exposition.

Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR). For information on the GWAR, please see http://info.sjsu.edu/gcw.html.

This requirement is satisfied by passing CMPE 294 or ENGR 100W

Requirements for the Master's — 30

Core — 9

- CMPE 200. Computer Architecture 3
- CMPE 220. System Software 3
- CMPE 240. Advanced Computer Design 3

Area of Specialization — 9

COMPLETE THREE CLASSES IN ONE OF THE SPECIALIZATIONS BELOW

System Design and Verification

- CMPE 212. System Verification 3
- CMPE 264. Advanced Digital and Computing System Design 3
- CMPE 297. Special Topics in Computer/Software Engineering 3

Network Systems

- CMPE 206. Computer Network Design 3
- CMPE 207. Network Programming and Application 3
- CMPE 208. Network Architecture and Protocols 3
- CMPE 209. Network Security 3

Embedded Systems

- CMPE 242. Embedded Hardware Design 3
- CMPE 243. Embedded Systems Applications 3
- CMPE 244. Embedded Software 3
- CMPE 245. Embedded Wireless Architecture 3
- CMPE 265. High Speed Digital System Design 3

Secure Systems

- CMPE 209. Network Security 3
- CMPE 279. Software Security Technologies 3
- CMPE 287. Software Quality Assurance and Testing 3

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Data Science and Artificial Intelligence

CMPE 255. Data Mining 3
CMPE 256. Large Scale Analytics 3
CMPE 257. Machine Learning 3

Approved Electives **6**

Six units of any 200-level CMPE courses except 295 or 299 culminating experience classes, 298, or 298i. Also permitted are 200-level classes from Engineering or Science disciplines selected in consultation with the MS-CMPE Graduate Advisor.

Culminating Experience **6**

COMPLETE ONE OPTION (PLAN A OR PLAN B)

Plan A (Thesis) **6**

CMPE 299A. Master Thesis I 3
CMPE 299B. Master Thesis II 3

Plan B (Project) **6**

CMPE 295A. Master Project I 3
CMPE 295B. Master Project II 3

Total Units Required **30**

Elective courses must be planned in consultation with the Graduate Advisor.

The maximum number of upper-division undergraduate units that can be applied toward the master's degree is 15.

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU cumulative grade point averages of 3.0 in order to graduate.

MS - Software Engineering

The MSSE program provides students with an educational experience that builds on traditional computer science and engineering and takes an integrative approach to software engineering. The program integrates the forces shaping software development, including emerging technologies, with the understanding of rapidly changing technologies and architectures and their influence on software engineering processes, where large-scale design is pre-eminent, service and component integration is the standard mode of development, and there is increased globalization of the software development workforce.

The program offers specializations in *Enterprise Software Technologies, Cloud Computing and Virtualization, Software Systems Engineering, Data Science, Cybersecurity and Networking Software*.

Class schedules are designed for the convenience of employed engineers who wish to pursue graduate work on a part-time basis.

The MSSE Program welcomes students with undergraduate degrees in other engineering or science disciplines.

For more information, visit msse.sjsu.edu.

Educational Objectives of the Graduate Program

To provide MSSE graduates with the ability to

1. Acquire advanced knowledge of the practice of software engineering, from vision to analysis, design, validation, and deployment;
2. Tackle complex engineering problems and tasks, using contemporary engineering principles, methodologies, and tools;
3. Demonstrate leadership and the ability to participate in teamwork in an environment with different disciplines of engineering, science, and business;
4. Understand the ethical, economic, and environmental implications of their work, as appropriate;
5. Advance successfully in the engineering profession and sustain a process of life-long learning in engineer or other professional areas; and
6. Communicate effectively in both oral and written forms.

Admissions Requirements

Candidates must meet all university admissions requirements. Applicants can be admitted in either classified or conditionally classified standing. If an applicant's preparation for advanced graduate work is considered inadequate to meet the course prerequisites or other departmental requirements, the conditions will include taking preparatory courses to meet these requirements. Such courses will not count as part of the master's degree program requirements.

Applicants may be considered for admission with conditionally classified standing if they have a BS degree in any engineering or science discipline from an accredited institution. Students with conditionally classified standing will take a series of core programming courses based on their evaluation by the MSSE Graduate Advisor.

To achieve classified standing, an applicant must possess a BSSE or BSCS degree from an accredited institution with a grade point average of 3.0 or better in the last 60 semester units.

The admission letter will explain required coursework, terms and conditions for removing deficiencies and attaining classified standing.

GRE scores must be submitted if an applicant's bachelor's degree is not from an ABET-accredited U.S. university. (Under some circumstances, applicants are eligible for a waiver of the GRE test requirement. Descriptions of the minimum GRE scores acceptable for admission and the conditions for waiver are listed on the msse.sjsu.edu admissions webpage. In addition, applicants who do not possess a degree from a US university must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirements webpage at GAPE.

Requirements for Advancement to Graduate Candidacy

Students may advance to candidacy after completing all prerequisites assigned during admissions, the degree core courses, specialization courses, and the Graduation Writing Assessment Requirement (GWAR). For graduate courses that meet the GWAR, refer to the GWAR Course List on the College of Graduate Studies website. MSSE program course requirements and the links to specialization course requirements are listed at msse.sjsu.edu.

Requirements for Graduation

University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

MS - Software Engineering Graduation Requirements

The Computer Engineering Department offers courses designed to provide a flexible curriculum structure that allows students to follow a course of study to meet their individual career goals. As shown below, the program consists of 30 semester units of 200-level courses with a cumulative GPA of 3.0 or better. At least 24 units must be 200-level software engineering courses, and undergraduate coursework does not count towards the master's degree unless approved by the MSSE Graduate Advisor. A detailed description of elective class requirements can be found at msse.sjsu.edu. Students may further their degree by adding internships (CMPE 298I) to their plan of study.

Culminating Experience (Plan A or Plan B)

All students must complete one of the following culminating experiences: thesis or project. Theses and projects are completed under the supervision of an advisor.

Plan A (Thesis)

A master's thesis includes original research on a topic approved by the thesis committee and must meet university requirements as stipulated in this catalog and in the SJSU Master's Thesis and Doctoral Dissertation Guidelines. It undergoes a thorough review and revision process under the guidance of the candidate's thesis committee chair with the assistance of the thesis committee.

Plan B (Project)

A master's project is a research or development effort performed by a team of students on a topic chosen by mutual agreement between an advisor and the team. The choice of project topic is also approved by the Graduate Advisor. At the end of CMPE 295B, a project report is submitted for department review, and students present their project work in a department project exposition.

Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR). For information on the GWAR, please see http://info.sjsu.edu/gcw.html.

This requirement is satisfied by passing CMPE 295W or ENGR 200W

Requirements of the Masters — 30

Common Core — 6

- CMPE 202. Software Systems Engineering — 3
- CMPE 272. Enterprise Software Platforms — 3

Area of Specialization — 6

Enterprise Software Technologies

- CMPE 273. Enterprise Distributed Systems — 3
- CMPE 275. Enterprise Application Development — 3

Cloud Computing and Virtualization

- CMPE 281. Cloud Technologies — 3
- CMPE 283. Virtualization Technologies — 3

Software Systems Engineering

- CMPE 285. Software Engineering Processes — 3
- CMPE 287. Software Quality Assurance and Testing — 3

Networking Software

- CMPE 206. Computer Network Design — 3
- CMPE 207. Network Programming and Application — 3

Data Science

- CMPE 255. Data Mining — 3
- CMPE 256. Large Scale Analytics — 3

Cybersecurity

- CMPE 209. Network Security — 3
- CMPE 279. Software Security Technologies — 3

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Approved Electives	**12**
Elective classes can be any 200-level CMPE course (except 295 or 299 culminating experience classes) from Engineering or Science disciplines selected in consultation with the graduate advisor	
Culminating Experience	**6**
Plan A (Thesis)	
CMPE 299A. Master Thesis I	3
CMPE 299B. Master Thesis II	3
Plan B (Project)	
CMPE 295B. Master Project II	3
COMPLETE ONE COURSE FROM:	
CMPE 295A. Master Project I	3
CMPE 295W. Master Project GWAR	3
Total Units Required	**30**

Elective courses must be planned in consultation with the Graduate Advisor.

The maximum number of upper-division undergraduate units that can be applied toward the master's degree is 15.

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU cumulative grade point averages of 3.0 in order to graduate.

Computer Science Department

College of Science

MACQUARRIE HALL 208
408-924-5060
www.sjsu.edu/cs/

Professors

Robert Chun
Cay S. Horstmann
Sami Khuri, Chair
Tsau Y. Lin
Sigurd Meldal
Melody Moh
Teng-Sheng Moh
Jon Pearce
Christopher Pollett
Mark Stamp
Chris Huan-Chi Tseng

Associate Professors

Thomas Austin
Suneuy Kim
David Taylor
Leonard P. Wesley

Assistant Professors

Nada Attar
Philip Heller
Katerina Potika
Benjamin Reed
Katarzyna Tarnowska
Ching-seh Wu

Curricula

BS, Computer Science
Minor, Computer Science
Certificate, Fundamentals of Cybersecurity
Certificate, Cybersecurity: Core Technologies
MS, Bioinformatics
MS, Computer Science

Introduction

Computer science is all about algorithms: inventing, testing, debugging and improving algorithms that might control a robot's brain, encrypt a stock trade, even simulate an ecosystem. Our bachelor's degree, accredited by the Computing Accreditation Commission of ABET, http://www.abet.org, provides a solid foundation in the basic theories that underpin computer software technology. For those who wish to pursue more advanced studies, our master's degree program offers convenient late afternoon and evening classes. Our prime Silicon Valley location fosters high-tech employment opportunities for our graduates, who currently make up a significant portion of the area's programmers, software architects, system analysts and computer scientists.

Honors Program in Computer Science

The requirements for computer science majors to graduate with departmental honors are: (1) at least a 3.0 G.P.A. overall, (2) at least a 3.5 G.P.A. in the major, (3) Completion of CS 180H (Individual Studies for Honors).

Minimum Grade Requirement

A grade of "C-" or better is required for courses being used to meet any requirement in any minor or major offered by the Department of Computer Science, including support courses.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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BS - Computer Science

This degree provides a solid background for a variety of careers in the computing profession. Entry level positions include jobs in programming, systems analysis, software engineering and customer support. Such positions are required by nearly every institution whether it is public or private. The Computer Science Program is accredited by the Computing Accreditation Commission of the Accreditation Board for Engineering and Technology (ABET), 111 Market Place, Suite 1050, Baltimore, MD, 21202-4012, 410.347.7700. The program not only prepares students for graduate work in computer science, but also for advanced work in the related fields of management science and operations research.

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

Major Exceptions

This degree program meets certain University Requirements through approved major modifications. Please see the Major Exceptions area in the Policy and Procedures section of this catalog to identify the specific adjustments for this degree program or contact your major advisor for more details.

Major-Specific Graduation Requirements

A grade of "C-" or better is required for courses being used to meet any requirement in any minor or major offered by the Department of Computer Science, including Preparation courses.

The Preparation for the Major and Requirements in the Major sections must include at least 37 units of upper division mathematics and computer science course work, excluding CS 100W.

University Graduation Requirements 44

Core Lower Division General Education 21

Of the 39 units required by the university, 18 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

NOTE: STUDENTS WHO HAVE COMPLETED THE ADT TRANSFER DEGREE (UNDER SB 1440) FOR THIS MAJOR WILL HAVE COMPLETED ALL LOWER DIVISION GE REQUIREMENTS AND SHOULD FOLLOW THE 60 UNIT GUARANTEE ROADMAP. MEET WITH AN ADVISOR PRIOR TO REGISTERING FOR YOUR FIRST SEMESTER FOR THE 60 UNIT ROADMAP OR SPECIFIC QUESTIONS.

Upper Division General Education 6

Of the 9 units required by the university, 3 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 12

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

AMS 001A. American Cultures to 1877	M4	6
AMS 001B. American Cultures 1877 to present	M5	6

Physical Education 2

Graduation Writing Assessment Requirement 3

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

CS 100W. Technical Writing Workshop	Z	3

Preparation for the Major 24

MATH 030. Calculus I	B4	3

MATH 030P (5-units) may be used in place of MATH 030.

MATH 031. Calculus II	B4	4
MATH 042. Discrete Mathematics		3
MATH 129A. Linear Algebra I		3
PHIL 134. Computers, Ethics and Society	V	3

Approved Science Electives 5

Approved science electives include BIOL 30, BIOL 31, CHEM 1A, GEOL 1, GEOL 4L, GEOL 7, METR 10, PHYS 50 and PHYS 51. Nine additional units of GE courses covering GE areas B1, B2, B3 and R are required.

For additional information, please see: www.sjsu.edu/cs/practicalities/science-requirements.

COMPLETE ONE COURSE FROM:

MATH 032. Calculus III B4 3
MATH 142. Introduction to Combinatorics 3
MATH 161A. Applied Probability and Statistics I 3

Requirements of the Major — 52

Lower Division — 11

CS 046A. Introduction to Programming 4
CS 046B. Introduction to Data Structures 4
CS 047. Introduction to Computer Systems 3

Upper Division — 24

CS 146. Data Structures and Algorithms 3
CS 147. Computer Architecture 3
CS 149. Operating Systems 3
CS 151. Object-Oriented Design 3
CS 152. Programming Paradigms 3
CS 154. Formal Languages and Computability 3
CS 160. Software Engineering 3

COMPLETE ONE COURSE FROM:

CS 116B. Computer Graphics Algorithms 3
CS 123B. Bioinformatics II 3
CS 153. Concepts of Compiler Design 3
CS 157B. Database Management Systems II 3
CS 157C. NoSQL Database Systems 3
CS 158B. Computer Network Management 3
CS 161. Software Project 3

Elective Computer Science Courses Not Counted Above — 17

At least two courses should be chosen from the following list of electives: CS

116A, CS 116B, CS 122, CS 123A, CS 123B, CS 134, CS 144, CS 153, CS 155, CS 156, CS 157A, CS 157B, CS 157C, CS 158A, CS 158B, CS 159, CS 161, CS 166, CS 174, CS 175. CS 190I or at most 3 units of CS 190 may be used. Additionally, at most 3 units of CS 085 and CS 185 may be used. CS 180, CS 180H, and MATH 203 may be used with prior approval.

Qualifying courses include all upper division CS courses except CS 100W and courses counted above.

QUALIFYING LOWER DIVISION CS COURSES INCLUDE:

CS 085C. Practical Computing Topics 3

CS 085C requires prior department approval. CS 49C and CS 49J can be used with department approval.

QUALIFYING MATH COURSES INCLUDE:

MATH 142. Introduction to Combinatorics 3
MATH 161A. Applied Probability and Statistics I 3
MATH 162. Statistics for Bioinformatics 3
MATH 177. Linear and Non-Linear Optimization 3
MATH 178. Mathematical Modeling 3
MATH 179. Introduction to Graph Theory 3
MATH 203. Applied Mathematics, Computation, and Statistics Projects 3

Total Units Required — 120

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Minor - Computer Science

At least 12 of units must be distinct from the student's major. At least three units of upper division course work must be completed in the Computer Science Department at SJSU. Students are expected to have satisfied the prerequisites for any of the courses taken to fulfill the requirements for the Computer Science Minor. A grade of "C-" or better is required for courses being used to meet any requirement in the minor.

University Graduation Requirements
To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Preparation for the Minor	**3**
MATH 042. Discrete Mathematics	3
Requirements of the Minor	**17**
Lower Division	**8**
CS 046A. Introduction to Programming	4
CS 046B. Introduction to Data Structures	4
Upper or Lower Division Elective	**3**
COMPLETE ONE COURSE FROM:	
MATH 030. Calculus I B4	3
CS 047. Introduction to Computer Systems	3
CS 049C. Programming in C	3
Or any permitted Upper Division Elective	
Upper Division Electives	**6**
COMPLETE SIX UNITS FROM:	
CS 116A. Introduction to Computer Graphics	3
CS 116B. Computer Graphics Algorithms	3
CS 122. Advanced Programming with Python	3
CS 123A. Bioinformatics I	3
CS 123B. Bioinformatics II	3
CS 134. Computer Game Design and Programming	3
CS 143C. Numerical Analysis and Scientific Computing	3
CS 143M. Numerical Analysis and Scientific Computing	3
CS 144. Advanced C++ Programming	3
CS 146. Data Structures and Algorithms	3
CS 147. Computer Architecture	3
CS 149. Operating Systems	3
CS 151. Object-Oriented Design	3
CS 152. Programming Paradigms	3
CS 153. Concepts of Compiler Design	3
CS 154. Formal Languages and Computability	3
CS 155. Introduction to the Design and Analysis of Algorithms	3
CS 156. Introduction to Artificial Intelligence	3
CS 157A. Introduction to Database Management Systems	3
CS 157B. Database Management Systems II	3
CS 157C. NoSQL Database Systems	3
CS 158A. Computer Networks	3
CS 158B. Computer Network Management	3
CS 159. Introduction to Parallel Processing	3
CS 160. Software Engineering	3
CS 166. Information Security	3
CS 174. Server-side Web Programming	3
CS 175. Mobile Device Development	3
Total Units Required	**20**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Certificate - Fundamentals of Cybersecurity

The certificate program aligns with the nationally defined knowledge areas in cyber security and information assurance, and prepares students with well-grounded fundamentals to become a professional in these areas.

Core Requirements	18
CS 146. Data Structures and Algorithms	3
CS 149. Operating Systems	3
CS 157A. Introduction to Database Management Systems	3
CS 158B. Computer Network Management	3
CS 166. Information Security	3
COMPLETE ONE COURSE FROM:	
CS 158A. Computer Networks	3
CMPE 148. Computer Networks I	3
Total Units Required	**18**

Certificate - Cybersecurity: Core Technologies

The Computer Science Department offers a 9-unit advanced (graduate) certificate program to students to advance knowledge of cyber security. The program aligns with nationally defined knowledge areas and prepares students to become a professional in cyber security and information assurance.

CS 158A. Computer Networks	3
CS 265. Cryptography and Computer Security	3
CS 266. Topics in Information Security	3

With the permission, CS 158A may be substituted for one regular CS course that lists CS 158A as a prerequisite (including CS 158B, CS 258, and CS 268).

Total Units Required	**9**

MS - Bioinformatics

The MS Bioinformatics features an interdisciplinary curriculum in bioinformatics, biology, computer science and mathematics. Questions in many areas of biology, including genomics, molecular biology, neuroscience, physiology, microbiology, ecology and evolution, must now be answered using mathematical and computational methods. New techniques allow the acquisitions of many thousands or millions of biological measurements, and the field of bioinformatics has developed to address this need. The MS Bioinformatics program will provide students with an understanding of biological questions, a background in mathematics, and the computational skills necessary to address complex problems in the biological sciences. Students will also gain experience utilizing these skills to answer biological questions, including those with biomedical applications. The goal of the MS in Bioinformatics program is to prepare students for careers in the growing field of bioinformatics both in academia and in the biotechnology industry.

For more information, please visit http://www.sjsu.edu/cs/programs/ms_bioinformatics

Admissions Requirements

University Admission

Candidates must apply through the CSU admissions portal, Cal State Apply, and meet all university admissions requirements. Applicants will need to apply separately to the university to obtain approval for university-level admission and to the department to obtain admission into the MS in Bioinformatics.

Applicants from countries in which the native language is not English or from countries with multiple native languages including English, must submit TOEFL scores. Minimum TOEFL scores acceptable for admission are 250 (Computer Based), 100 (Internet Based). Additional information about the TOEFL is given on the university webpage: Graduate Program Test Requirement.

Admission to the Program

Candidates must meet all the university admissions requirements. Students can be admitted in either classified or conditionally classified standing. To be admitted to classified standing, applicants must have a Bachelor's degree from an accredited college or university in the biological or computational sciences or in engineering, a minimum GPA of 3.0 on a 4.0 scale, and completion of all program prerequisites listed on the admission requirements webpage. Two letters of recommendation from academic instructors or advisors are also required. Currently, GRE exam results are not required.

To enter this program with classified standing, a student must have a minimum 3.0 GPA in the last 60 units of required degree course work and have completed each of the following courses with a grade of "C" or better:

- Biol 30 / Principles of Biology I (4 units)
- Biol 31 / Principles of Biology II (4 units)
- Biol 115 / General Genetics (4 units)
- CS 22A / Python Programming for Non-Majors I (3 units)
- CS 22B / Python Programming for Non-Majors II (3 units)
- Math 30 / Calculus I (3 units)
- Math 31 / Calculus II (4 units)
- Math 161A / Applied Probability and Statistics I (3 units)
- or equivalent courses

Students who meet the minimum university admission requirements can be conditionally classified if there is sufficient space in the program to accommodate them. Conditionally classified students will be required to complete undergraduate course work and prerequisite coursework (listed in "Requirements for Admission to Classified Standing"), as directed by the graduate coordinators.

Requirements for Advancement to Candidacy

To be admitted to candidacy for the MS degree, a student must meet the university requirements for advancement to candidacy for the master's degree as outlined in the Graduate Policies and Procedures section of this catalog. University requirements include completion of 9 letter graded units with a GPA of at least 3.0 and satisfaction of the Graduation Writing Assessment Requirement (GWAR). The GWAR is met in this program by a "B" grade in CS 200W.

Requirements for Graduation

University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Culminating Experience

Plan B (Project)

MS in Bioinformatics students will complete a written project as their culminating project. The project requires two consecutive semesters of enrollment in the 3-unit BIOL 298, CS 298B or MATH 298. Students not completing the project in one semester will be required to enroll in three additional units each semester until the project is completed. The student is responsible for identifying a project topic and for securing the commitment of a full-time tenured or tenure-track faculty member who agrees to serve as the project advisor. The student must also secure the commitments of two additional university faculty members, one of whom must be a full-time tenured or tenure-track faculty member, to serve as the student's project committee. Topics and committee selections must be approved by the Bioinformatics Graduate Coordinator. The project requires writing a manuscript describing original bioinformatics research and formatted for publication in a professional journal. It must be approved by the student's committee.

Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR). For information on the GWAR, please see http://info.sjsu.edu/gcw.html. *This requirement is satisfied by taking CS 200W*

Requirements of the Masters

Core Courses		19
BIOL 123A. Bioinformatics I		3
BIOL 123B. Bioinformatics II		3
BIOL 205. Advanced Molecular Techniques		4
CS 200W. Graduate Technical Writing	GWAR	3
CS 223. Bioinformatics		3
MATH 162. Statistics for Bioinformatics		3

Electives		9
At least 6 units must be graduate level		
BIOL 135A. Eukaryotic Cell and Molecular Biology I		3
BIOL 135B. Eukaryotic Cell and Molecular Biology II	R	3
BIOL 215. Seminar in Advanced Genetics		3
BIOL 298. MS Project Culminating Experience		3
CHE 293. Applied Bioinformatics		3
CS 122. Advanced Programming with Python		3
CS 255. Design and Analysis of Algorithms		3
CS 256. Topics in Artificial Intelligence		3
CS 257. Database System Principles		3
CS 267. Topics in Database Systems		3
CS 280. Graduate Individual Studies		1-3
MATH 129A. Linear Algebra I		3
MATH 161B. Applied Probability and Statistics II		3
MATH 163. Probability Theory		3
MATH 267A. Statistical Programming with R		3
MATH 298. Special Study		3
100- or 200-level courses chosen with advisor consent		

Culminating Experience		3
3 UNITS OF ONE OF THE FOLLOWING COURSES SELECTED IN CONSULTATION WITH THE GRADUATE ADVISOR:		
BIOL 298. MS Project Culminating Experience		3
CS 298B. Bioinformatics Master's Project		1-3
MATH 298. Special Study		3

Total Units Required	31

Elective courses must be planned in consultation with one of the Graduate Coordinators.
The maximum number of upper-division undergraduate units that can be applied toward the master's degree is 12.
Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU cumulative grade point averages of at least 3.0 in order to graduate.

MS - Computer Science

The Master of Science in Computer Science degree provides greater depth in computer science for more advanced positions in industry or teaching at the community college level. Check the Department website for details at http://www.sjsu.edu/cs/programs/mscs.

Admissions Requirements

University Admissions

Applicants must submit a complete graduate application by applying through Cal State Apply and meet all the university admission requirements. Applicants apply separately to the department to obtain admission into the Computer Science program. See the GAPE Graduate Admissions website and this Catalog for general information about graduate admissions at SJSU.

Applicants from countries in which the native language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirement webpage at GAPE. For TOEFL Requirements, see the Policies and Procedures section, Graduate and Post-Baccalaureate Information in this Catalog.

Requirements for Admission to Classified Standing

To enter this program with classified standing, a student must meet the minimum requirements for admission to the Graduate Division. In addition, entering students are expected to have a bachelor's degree in computer science or its equivalent, e.g., a degree presenting at least the breadth and depth of the SJSU BS, Computer Science program. An applicant holding a recent bachelor's degree in Computer Science from an ABET-accredited university will normally meet the course requirements for admission to the MSCS program.

Requirements for Admission to Conditionally Classified Standing

Applicants who meet the minimum requirements for admission to the Graduate Division but lack other prerequisite course knowledge can be admitted in conditionally classified status if there is sufficient space in the program to accommodate them. Conditionally classified students will be required to complete undergraduate coursework to attain Classified standing. The individual admission notification will explain required terms and conditions for attaining Classified standing.

Transfer of Courses into the Major

Students may transfer nine credits into the program from coursework completed in the SJSU Computer Science Department. A maximum of 6 units may be from courses outside the SJSU Computer Science Department. All transfer credit must fulfill MS, Computer Science program requirements and be approved by the Graduate Coordinator.

Requirements for Advancement to Graduate Candidacy

The University requires that all graduate students complete the Graduation Writing Assessment Requirement (GWAR) as a condition for advancement to candidacy. The Computer Science Department policy is that students should complete the GWAR requirement (usually by taking CS 200W) in their first year in the MS program and must complete it two semesters before graduation. Please refer to the SJSU catalog section titled "Graduation Writing Assessment Requirement" for details. For graduate courses that meet the GWAR, please refer to the Graduate Admissions and Program Evaluations website at www.sjsu.edu/gape.

Requirements for Graduation

University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

Culminating Experience

Students choose a Plan A (Thesis) or Plan B (Written Project) option as their program culminating experience.

Plan A (Thesis)

After being admitted to candidacy, the student choosing the thesis option must obtain a thesis director from among the tenured or tenure-track faculty of the Computer Science Department who then becomes his or her advisor. Before work can begin, the thesis topic must be approved by a three-member committee consisting of the thesis director, another professor from the CS Department, and a third member who is an expert in the field, selected by the thesis director and approved by the Department Chairperson. The candidate should register for the CS 297, Preparation for Writing Project or Thesis before the final semester, and take CS 299, Master's Thesis in the final semester of the program. Students who do not finish the thesis in that semester enroll in the 1290R for subsequent semesters until it is completed. Upon completion of the thesis, the candidate must pass a comprehensive oral examination in the area of his or her thesis and conducted by the thesis committee. The thesis must also meet university requirements as stipulated in this catalog and in the SJSU Master's Thesis and Doctoral Dissertation Guidelines.

Plan B (Written Project)

After being admitted to candidacy, the student must obtain a project director from the Computer Science Department who then becomes his or her advisor. Before work can begin, the project topic must be approved by a three-member committee consisting of the project director, another professor from the CS Department, and a third member who is an expert in the field, selected by the thesis director and approved by the Department Chairperson. The candidate should register for the CS 297, Preparation for Writing Project or Thesis before the final semester, and take the CS 298, Master's Writing Project in the final semester of the program. Students who do not finish the project in that semester enroll in the 1290R for subsequent semesters until it is completed. Upon completion of the project, the candidate must pass an oral examination in the area of his or her project conducted by the project committee.

Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR). For information on the GWAR, please see http://info.sjsu.edu/gcw.html

This requirement is satisfied by taking CS 200W

Requirements of the Masters 33

Core Courses 21

CS 200W. Graduate Technical Writing ..... GWAR 3

Foundations 3

CHOOSE ONE OF THE FOLLOWING FOUNDATIONS COURSES:

CS 252. Advanced Programming Language Principles 3
CS 254. Theory of Computation 3
CS 255. Design and Analysis of Algorithms 3
CS 262. Randomized Algorithms and Applications 3
MATH 279A. Graph Theory 3

Architecture 3

CHOOSE ONE OF THE FOLLOWING ARCHITECTURE COURSES:

CS 247. Advanced Computer Architecture 3
CS 258. Computer Communication Systems 3
CS 259. Advanced Parallel Processing 3
CS 268. Topics in Wireless Mobile Networking 3

Systems Software 3

CHOOSE ONE OF THE FOLLOWING SYSTEMS SOFTWARE COURSES:

CS 218. Topics in Cloud Computing 3
CS 249. Distributed Computing 3
CS 253. Advanced Compiler Design 3
CS 257. Database System Principles 3
CS 267. Topics in Database Systems 3

Specialty Courses 9

SELECT NINE UNITS OF 200-LEVEL COMPUTER SCIENCE COURSES FROM THE FOUNDATIONS, ARCHITECTURE OR SYSTEMS SOFTWARE CLASSES ABOVE OR FROM THE FOLLOWING LIST:

CS 216. Geometric Modeling 3
CS 223. Bioinformatics 3
CS 243A. Advanced Numerical Analysis 3
CS 243B. Advanced Topics in Numerical Analysis 3
CS 256. Topics in Artificial Intelligence 3
CS 265. Cryptography and Computer Security 3
CS 266. Topics in Information Security 3
CS 271. Topics in Machine Learning 3
CS 274. Topics in XML and Web Intelligence 3
CS 286. Advanced Topics in Computer Science 3

Variable topic courses may be repeated for up to 6 units.

Electives 6

SELECT 6 UNITS OF PERMISSIBLE ELECTIVE COURSES FROM THE DEPARTMENT LIST. COURSES NOT ON THE LIST MUST BE APPROVED IN ADVANCE BY A GRADUATE COORDINATOR.

Electives may include three units from:

CS 180. Individual Studies 1-3
CS 280. Graduate Individual Studies 1-3

Culminating Experience 6

COMPLETE ONE OPTION (PLAN A OR PLAN B)

Plan A (Thesis) 6

CS 297. Preparation for Writing Project or Thesis 3
CS 299. Master's Thesis 3

Comprehensive Oral Examination

Plan B (Project) 6

CS 297. Preparation for Writing Project or Thesis 3
CS 298. Master's Writing Project 3

Comprehensive Oral Examination

Total Units Required 33

No more than 6 units may be taken from outside the Department of Computer Science.

Elective courses must be planned in consultation with a CS Graduate Advisor or your CS Thesis or CS Writing Project advisor.

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU cumulative grade point averages of 3.0 in order to graduate.

Connie L. Lurie College of Education

SWEENEY HALL
(408) 924-3600
luriecollege@sjsu.edu
http://www.sjsu.edu/education/

Introduction

The Connie L. Lurie College of Education is a professional community of students, faculty and staff engaged in supportive partnerships to serve a community of culturally diverse children, youth and families by pursuing and promoting scholarly and reflective inquiry, and access to a quality lifelong education. Faculty, staff and graduates are compassionate and ethical professionals who are mindful of our responsibilities in a democratic society. The College's core values are excellence and equity. Excellence is manifested in the rigor of our academic programs, in our teacher/scholar faculty contributions, and in the high level of staff service. We challenge our students to strive for excellence in their academic and personal pursuits, as informed and active citizens in their own communities. To achieve equity, our students, faculty, and staff continuously work for social justice and educational opportunities for all members of our society.

The college offers Bachelor's and Master's degrees, a doctoral program, and numerous professional teaching credentials. Programs are offered through seven academic departments which are supplemented by a variety of resources including the Armstead Center for Communication Disorders and the Child Development Laboratory Preschool. The college, housed in William Sweeney Hall, offers two computer laboratories that are open to both undergraduate and graduate students. Students also have access to other high tech education applications.

Student Service Centers

The Kay A. Armstead Center for Communication Disorders provides speech-language-hearing evaluations and therapy services and to students, staff, faculty, and the local San Jose community.

The Child Development Laboratory Preschool is housed in two locations on the SJSU campus, including toddler and pre-school labs. These programs provide undergraduates with both observation and hands-on clinical/practicum opportunities.

The Credentials Office and Student Services Center in Sweeney Hall 108 provides students with information about the California Basic Education Skills Test (CBEST), California Subject Examinations for Teachers (CSET), and Reading Instruction Competence Assessment (RICA). General information on elementary (Multiple Subject), secondary (Single Subject) and special education (Education Specialist) teaching credentials, as well as other service credentials and certificate programs are provided.

Advisement

Advising and information related to applications are handled through the six academic departments and the Ed.D. program.

These departments include Child and Adolescent Development, Communicative Disorders and Sciences, Counselor Education, Educational Leadership, Teacher Education (formerly Elementary Education and Secondary Education).

Creative Arts Program

College of Humanities and the Arts

CLARK HALL 419
408-924-4481

Professors

Shannon Rose Riley
Jennifer Rycenga
Susan Verducci-Sandford

Assistant Professors

Tova Cooper

Curricula

BA, Creative Arts
Minor, Creative Arts

Introduction

Founded in 1956, the innovative Creative Arts Program is the only interdisciplinary arts and creativity studies program in the CSU. The program offers a flexible, interdisciplinary curriculum that examines creativity across the arts domains and emphasizes both creative and critical thinking. Students take core courses in creative arts in combination with art, English, comparative literature, music, dance, radio, film, and theatre courses, individualizing their program of study. We offer a major and a minor in Creative Arts. Key to the Program is an emphasis on creative thinking and the creative process-as a result, our students become effective thinkers and problem-solvers. Our graduates go on to become successful visual and performing artists, teachers, arts administrators, activists, software developers, software engineers, physicians, writers, sound recording engineers, costume designers, arts therapists, librarians, lawyers, and entrepreneurs.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

For Legend please see page 2

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CATALOG CONTENTS

BA - Creative Arts

Advisor: Shannon Rose Riley. M.F.A., Ph.D.

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

Major-Specific Graduation Requirements

The following Required Major courses must be completed with a grade of "C- or better": CA 172, CA 173, CA 175, CA 176 and CA 178.

University Graduation Requirements 32

Core Lower Division General Education 21

Of the 39 units required by the university, 18 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

NOTE: STUDENTS WHO HAVE COMPLETED THE ADT TRANSFER DEGREE (UNDER SB 1440) FOR THIS MAJOR WILL HAVE COMPLETED ALL LOWER DIVISION GE REQUIREMENTS AND SHOULD FOLLOW THE 60 UNIT GUARANTEE ROADMAP. MEET WITH AN ADVISOR PRIOR TO REGISTERING FOR YOUR FIRST SEMESTER FOR THE 60 UNIT ROADMAP OR SPECIFIC QUESTIONS.

Upper Division General Education 3

Of the 9 units required by the university, 6 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 6

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

COMPLETE ONE SEQUENCE FROM:

African American Studies 6

AFAM 002A. African Americans and the Development of America's History and Government	D2	3
AFAM 002B. African Americans and the Development of America's History and Government	M7	3

Asian American Studies 6

AAS 033A. Asian Americans in U.S. History I	D2	3
AAS 033B. Asian Americans in U.S. History II	M7	3

U.S. History and Government 6

HIST 015. Essentials of U.S. History	M12	3
POLS 015. Essentials of U.S. & California Government	M11	3

Chicana and Chicano Studies 6

CCS 010A. Mexican Americans and the Development of U.S. History and Government	D2	3
CCS 010B. Mexican Americans and the Development of U.S. History and Government	M7	3

Physical Education 2

Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Preparation for the Major 3

HUM 100W. Writing in the Humanities	Z	3

Requirements of the Major 45

To qualify for a baccalaureate in Creative Arts, a grade of "C" (2.0) or better is required in each of the following courses: CA 172, CA 173, CA 175, CA 176 and CA 178.

Lower Division Courses 9

CA 060. Creativity Matters	E	3

Six units of lower division non-studio, non-activity courses in history or theory in 2 disciplines selected from the following: Art; Art History; Comparative Literature; Dance; Design; English; Music; Radio, Television, Film; Theatre Arts; and others approved by the CAP Advisor

CA 095. Introduction to Queer Arts	C1	3
DANC 010. Dance Appreciation	C1	3
ENGL 010. Great Works of Literature	C2	3
ENGL 022. Fantasy and Science Fiction	C2	3
MUSC 010A. Music Appreciation	C1	3
MUSC 019. Music in World Cultures	C1	3
RTVF 082. Introduction to Film History		3
RTVF 031. Film and Television Aesthetics		3
TA 010. Theatre Appreciation	C1	3

Activity or Studio Courses 6

Six units of activity or studio courses in visual or performing arts or creative writing listed below or approved by the CAP Advisor

ART 012. Two-Dimensional Design and Color Concepts		3
ART 013. Three-Dimensional Design Concepts		3
ART 024. Drawing I		3
ART 026. Drawing II		3
DANC 040A. Topics in Modern Dance I	PE	2
DANC 042A. Topics in Jazz Dance I	PE	2
ENGL 071. Creative Writing	C2	3
TA 005. Acting	C1	3
TA 017. Intermediate Acting		3
TA 048. Voice & Movement for the Actor	E	3

Upper Division Courses 9

Nine unit program of study of upper division courses in two or more arts disciplines selected primarily from the following: Art; Art History; Comparative Literature; Dance; Design; English; Music; Radio, Television, Film; Theatre Arts; World Languages and Literatures (literature only); or for a complete list of electives, see the Creative Arts Advisor

ART 110. History and Theory of New Media		3
ARTH 126. History of Photography		3
AMS 179. American Popular Culture		3
CA 134. Religion Film & Media		3
DANC 102. Dance in World Cultures	V	3
DANC 148. Children's Dance		3
ENGL 176. The Short Story		4
RTVF 111. Alternative Cinema	V	3
RTVF 181. Modern Film History		3
SPAN 120A. Spanish Literature I		4
TA 120. Theatre History		3
TA 121. Topics in Performance History		3
TA 131. Storytelling		3

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Creative Arts Courses		**21**
CA 172. The Arts in U.S. Society	S	3
CA 173. Thinking About Contemporary World Arts	V	3
CA 175. Seminar in Creative Process		3
CA 176. Creativity and Creative Leadership		3
CA 178. Senior Seminar in Creative Arts		3
COMPLETE SIX UNITS FROM:		
CA 139. Teaching Diversity through Art		3
CA 150. Field Experience in the Arts		3
CA 174. Special Topics Seminar		3
CA 177. Interdisciplinary Arts for Teaching		3
CA 180. Individual Studies		1-4
CA 190. Field Work/Internship		1-3
CA 194. Community Building through Arts Orgs		3
RELS 120. Censors and Icons: Arts and Religion		3
University Electives		40
Total Units Required		**120**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

For Legend please see page 2

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CATALOG CONTENTS

Minor - Creative Arts

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Requirements of the Minor		18
CA 060. Creativity Matters	E	3
Three units of course work in arts disciplines from any of the following departments/schools (three units in each): School of Art and Design, School of Music and Dance, RTVF Department, English and Comparative Literature Department, World Languages and Literatures Department (literature only)		3
Three units of studio/activity courses in visual or performing arts or creative writing		3
Upper Division Requirements		**9**
COMPLETE ONE COURSE FROM:		
CA 175. Seminar in Creative Process		3
CA 176. Creativity and Creative Leadership		3
COMPLETE ONE COURSE FROM:		
CA 174. Special Topics Seminar		3
CA 177. Interdisciplinary Arts for Teaching *CA 177 for Prospective Teachers*		3
CA 194. Community Building through Arts Orgs		3
COMPLETE ONE COURSE FROM:		
CA 172. The Arts in U.S. Society	S	3
CA 173. Thinking About Contemporary World Arts	V	3
Total Units Required		**18**

Dance

School of Music and Dance
College of Humanities and the Arts

WASHINGTON SQUARE, ROOM 104
408-924-5041

Curricula

BA, Dance
BFA, Dance
Minor, Dance

Introduction

Located in the heart of Silicon Valley, SJSU's School of Music and Dance is a recognized leader in the performing arts. Accredited by the National Association of Schools of Music (NASM), the National Association of Schools of Dance (NASD), the National Council of Accreditation of Teacher Education (NCATE), and the California Commission on Teacher Credentialing (CCTC), the school produces some of the finest music teachers, composers, and performers in the world. Our curriculum includes courses in composition, performance, music systems and theory, choreography (for dancers), technology, pedagogy, and improvisation. Student performance organizations include, among others, the Choraliers, the Jazz Orchestra, the Opera Theater, The Wind Ensemble, the Symphony Orchestra, and the Spartan Marching Band. Our dance program features a student performing company, UDT, directed by faculty and distinguished guest choreographers. Our music education program produces some of California's leading educators, scholars, and administrators, and our certified music teacher graduates are in particularly high demand.

BA - Dance

This degree is listed with the Music and Dance, School of.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

For Legend please see page 2

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CATALOG CONTENTS

BFA - Dance

This degree is listed with the Music and Dance, School of.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

For Legend please see page 2

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CATALOG CONTENTS

Minor - Dance

This degree is listed with the Music and Dance, School of.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

Design Department

College of Humanities and the Arts

ART BUILDING 120
408-924-4343
http://www.sjsu.edu/design/

Professors

David Chai
Connie Hwang, Chair
Chang Sik Kim
John Loomis
John McClusky
Randall Sexton

Associate Professors

John Clapp
Raquel Coelho
Virginia SanFratello
Diana Seah

Assistant Professors

Yoon Chung Han
Diane Lee
Joshua Nelson
David Yee

Curricula

BA, Design Studies
BS, Industrial Design
BFA, Art, Animation/Illustration
BFA, Graphic Design
BFA, Interior Design
Minor, Graphic Design
Minor, Interior Design

Introduction

Our Department is one of a very few public schools in the State that offer complete education in Animation/Illustration, Graphic Design, Industrial Design, and Interior Design in a single entity. Accredited by the National Association of Schools of Art and Design (NASAD), all the design programs at SJSU have an excellent reputation in their respective disciplines and the resulting dynamic adds up to the strongest center of design education in the CSU and one of the strongest in California.

We offer undergraduate degrees in animation and illustration, graphic design, interior design and industrial design as well as a BA in Design studies. Our comprehensive curriculum provides current, innovative training in the practice and theory of design in a broad spectrum of fields and specializations, preparing students conceptually and practically for a variety of careers.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

For Legend please see page 2

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BA - Design Studies

The BA, Design Studies provides students with broad exposure to design principles, history, and theory. In addition to receiving a foundation through core courses, students tailor their studies by focusing on one of the areas of specialization described below. Students may be admitted to the BFA in Interior Design or BFA in Graphic Design or the BS in Industrial Design on a space available basis after successfully completing required portfolio reviews.

PLEASE NOTE: Admission to the BFA in Animation and Illustration is determined at the time students apply for admission to the university. There is no internal transfer into the BFA Animation and Illustration. Animation/Illustration: Students who were admitted as BFA Animation/Illustration and did not pass portfolio review will continue as BA-Design Studies majors with a specialization in Animation/Illustration.

- Graphic Design: Provides a basic understanding of the aesthetic and technical skills needed for graphic design. Students wishing to pursue a BFA in Graphic Design, which would encompass exposure to a wider range of design disciplines, must pass portfolio review. Students should consult with a major advisor about the portfolio review process and deadlines at the time they enter SJSU.
- Industrial Design: Provides basic knowledge of 3D computer-aided design, materials and manufacturing, prototyping, and team-based theory. Students will have a basic preparation for jobs in computer-aided design support and model making, or be prepared to apply to a graduate program in Industrial Design or other areas. Students who wish to pursue the BS Industrial Design must pass portfolio review. Students should consult with a major advisor about the portfolio review process and deadlines at the time they enter SJSU.
- Interior Design: Provides a basic understanding of the aesthetic and technical skills needed for interior design. Students wishing to pursue a BFA in Interior Design, which would encompass exposure to a wider range of design disciplines, must pass portfolio review. Students should consult with a major advisor about the portfolio review process and deadlines at the time they enter SJSU.

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

University Graduation Requirements 47

Core Lower Division General Education 27

Of the 39 units required by the university, 12 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

Upper Division General Education 9

Of the 9 units required by the university, 0 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 6

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

COMPLETE ONE SEQUENCE FROM:

African American Studies **6**

AFAM 002A. African Americans and the Development of America's History and Government	D2	3
AFAM 002B. African Americans and the Development of America's History and Government	M7	3

Asian American Studies **6**

AAS 033A. Asian Americans in U.S. History I	D2	3
AAS 033B. Asian Americans in U.S. History II	M7	3

U.S. History and Government **6**

HIST 015. Essentials of U.S. History	M12	3
POLS 015. Essentials of U.S. & California Government	M11	3

Chicana and Chicano Studies **6**

CCS 010A. Mexican Americans and the Development of U.S. History and Government	D2	3
CCS 010B. Mexican Americans and the Development of U.S. History and Government	M7	3

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

For Legend please see page 2

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Physical Education 2

Graduation Writing Assessment Requirement 3

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

DSGN 100W. Writing Workshop: Design ..... Z 3

Requirements of the Major 48

Core Courses 24

ARTH 072. Design in Society C1 3

ART HISTORY: COMPLETE ONE COURSE FROM:

ARTH 070A. Art History, Prehistoric to Medieval C1 3
ARTH 070B. Art History, Renaissance to Modern C1 3
ARTH 070C. Arts of Asia C1 3

DESIGN DRAWING: COMPLETE ONE COURSE FROM:

ANI 011. Illustration Fundamentals I 3
DSID 021. Visualization I 3
DSIT 010. Sketching, Drawing + Modeling 3

DESIGN FOUNDATION I: COMPLETE ONE COURSE FROM:

DSGD 063. Fundamental Graphic Visualization 3
DSID 022. Visualization II 3
DSIT 005. Introduction of Interior Design and Architecture 3

DESIGN FOUNDATION II: COMPLETE ONE COURSE FROM:

DSGD 083. Digital Applications: Basics 3
DSID 031. Industrial Design Foundation I 3
DSIT 029. Design Process 3

DESIGN METHODS I: COMPLETE ONE COURSE FROM:

ANI 031. 2D Animation I 3
DSID 137. Advanced Physical Prototyping 3
DSIT 033. Architectural Presentation 3

DESIGN METHODS II: COMPLETE ONE COURSE FROM:

DSGD 099. Introduction to Typography 3
DSID 032. Industrial Design Foundation II 3
DSIT 083. Visual Communication I 3

DESIGN HISTORY: COMPLETE ONE COURSE FROM:

DSGD 176A. Graphic Design History and Theory 3
DSID 122. Cont. & Crit. Studies: Industrial Design 3

COMPLETE ONE COURSE FROM:

ARTH 160. Modern Architecture 3
ARTH 161. Contemporary Architecture 3

Area Specialization 12

COMPLETE ONE OF THE THREE SPECIALIZATION AREAS BELOW.

Specializations are a cluster of courses used by departments for advising purposes. Specializations will not appear on transcripts or diplomas. Please see advisor for more details.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Graphic Design

DSGD 100. Visual Communication & Process	3
DSGD 104. Introduction to Graphic Design	3
DSGD 111. Design Values and Professional Practices	3
DSGN 197. BA Senior Project	3

Industrial Design

DSID 041. Materials and Processes I	3
DSID 129. Visualization III	3
DSID 136. Advanced Digital Workshop	3
DSID 143. Advanced Materials,Process & Technology	3

Interior Design

DSIT 034. Interior Architecture Foundation Studio	3

COMPLETE THREE COURSES FROM:

DSIT 100. Building Codes	3
DSIT 107. Furniture Design	3
DSIT 108. Architectural Lighting Design	3
DSIT 112. Professional Practice of Interior Archit	3

Lower Division Design Electives	**6**

Departmental advisor-approved Lower Division design electives

Upper Division Design Electives	**6**

Departmental advisor-approved Upper Division design electives

University Electives	25
Total Units Required	**120**

Professional Design Programs

The Department of Design offers professional programs in Animation/Illustration, Graphic, Industrial, and Interior Design. The curricula of the four programs combine the aesthetic sensitivity and technical knowledge necessary to function creatively in design, business and industry. Internships in design offices are integral to all four programs.

Admission Requirements for Animation/Illustration, Graphic, Industrial, and Interior Design

1. Meet university admission requirements; attain upper division standing by completing 60 transferable semester units or 90 transferable quarter units prior to enrollment.
2. Admission to the BFA in Animation and Illustration is determined at the time students apply for admission to the university. There is no internal transfer into this program. Students admitted to the BA Art Concentration in Design Studies may be admitted to the BFA in Graphic or Interior Design or the BS in Industrial Design on a space available basis after successfully completing required portfolio reviews in their first two years of study.

Portfolio reviews are held each semester for the following semester. Instructions are available in the Design department office. The following courses, or in some cases, their equivalent at another college via advisor approval, are required as preparation for the portfolio review.

- Animation/Illustration: ANI 10, 11, 13, 21, 31, 71, 101, 111, 121
- Graphic Design: ANI 11, DSGD 063, 083, 099, 100, 104.
- Industrial Design: DSID 021, DSID 022, DSID 031, DSID 032, DSID 032A.
- Interior Design: DSIT 005, 010, 029, 033, 034, 083, 102, and 103.

BS - Industrial Design

The Bachelor of Science Industrial Design (BSID) program prepares students for a career in industrial design through a curriculum in design studio, theory and skill classes supported by courses and content in technology, business, science, the arts and humanities. Emphasis is placed on critical thinking, creative design process management, aesthetic theory, communication skills and awareness of business as well as humanistic dimensions of product development. The program draws upon extensive resources of local and internationally prominent design firms and alumni. It emphasizes exposure to professional practice. Studio projects provide experience with a diverse spectrum of products, user scenarios, and industries, leading to a comprehensive professional portfolio. The Industrial Design Program is on the list of schools approved by the Industrial Designers Society of America (IDSA) and is accredited by National Association of Schools of Art & Design (NASAD).

Upon successful completion of the first year of study as a BA, Art Concentration in Design Studies, students can elect to participate in the BSID Portfolio Review. This review evaluates a student's demonstrated ability and successful candidates are accepted into the BSID major. The subsequent years of study in the BSID major are highly structured and require passing three annual portfolio courses: DSID 123A, DSID 125A, DSID 128A.

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

Major Exceptions

This degree program meets certain University Requirements through approved major modifications. Please see the Major Exceptions area in the Policy and Procedures section of this catalog to identify the specific adjustments for this degree program or contact your major advisor for more details.

University Graduation Requirements 39

Core Lower Division General Education 21

Of the 39 units required by the university, 18 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

Upper Division General Education 9

Of the 9 units required by the university, 0 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 6

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

COMPLETE ONE SEQUENCE FROM:

African American Studies **6**

AFAM 002A. African Americans and the Development of America's History and Government	D2	3
AFAM 002B. African Americans and the Development of America's History and Government	M7	3

Asian American Studies **6**

AAS 033A. Asian Americans in U.S. History I	D2	3
AAS 033B. Asian Americans in U.S. History II	M7	3

U.S. History and Government **6**

HIST 015. Essentials of U.S. History	M12	3
POLS 015. Essentials of U.S. & California Government	M11	3

Chicana and Chicano Studies **6**

CCS 010A. Mexican Americans and the Development of U.S. History and Government	D2	3
CCS 010B. Mexican Americans and the Development of U.S. History and Government	M7	3

Physical Education

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Graduation Writing Assessment Requirement 3

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

DSGN 100W. Writing Workshop: Design	Z	3

Preparation for the Major 24

Preparation Courses 9

ARTH 072. Design in Society	C1	3
PHYS 001. Elementary Physics	B1	3
ARTH 070B. Art History, Renaissance to Modern	C1	3

Additional Prep Courses 15

DSID 021. Visualization I		3
DSID 022. Visualization II		3
DSID 031. Industrial Design Foundation I		3
DSID 032. Industrial Design Foundation II		3

COMPLETE ONE COURSE FROM:

ENGL 002. Critical Thinking and Writing	A3	3
PHIL 057. Logic and Critical Reasoning	A3	3

Requirements of the Major 57

Major Requirements 50

DSID 032A. ID Portfolio Project I		1
DSID 041. Materials and Processes I		3
DSID 121. Industrial Design Process		3
DSID 122. Cont. & Crit. Studies: Industrial Design		3
DSID 123. Intermediate Industrial Design		3
DSID 123A. ID Portfolio Project 2		3
DSID 125. Advanced Industrial Design		3
DSID 125A. ID Portfolio Project 3		2
DSID 126. Ergonomics for Design		3
DSID 129. Visualization III		3
DSID 136. Advanced Digital Workshop		3
DSID 137. Advanced Physical Prototyping		3
DSID 143. Advanced Materials,Process & Technology		3
DSGN 127. Internship		1-4

COMPLETE FOUR COURSES FROM:

DSID 124. Design for All		3
DSID 130. Sustainable Design		3
DSID 131. Interaction Design		3
DSID 132. Softgoods		3
DSID 133. Design Projects: Making It		3
DSID 134. Design and Meaning		3
DSID 135. Design, Entrepreneurship, Intellectual Property and Professional Practice		3
DSID 144. Design for Healthcare		3

Capstone 7

DSID 128. Advanced Projects in Industrial Design		3

Students will take DSID 128 twice, for a total of 6 units.

DSID 128A. ID Portfolio Project 4		1

Total Units Required 120

BFA - Art, Concentration in Animation/Illustration

The award-winning Animation/Illustration program is committed to providing a world-class education at an affordable price, preparing students for careers in feature film animation, games, television and any other media that uses animation and storytelling as a core communication tool. Industry professionals and peer educators rank SJSU Animation/Illustration among the best in the nation. The core curriculum combines both traditional and innovative educational strategies. Rigorous drawing classes and intensive study of color theory, design, perspective, and conventional and digital painting are required, as well as the study of the principles of both traditional and 3-D animation, physics of motion, modeling, storyboarding, character design, and visual development. Upper-division classes further define these disciplines offering students an opportunity to specialize in their area of choice.

All students must pass a milestone portfolio review to remain in the BFA program. Students who were admitted as BFA Animation/Illustration and do not pass portfolio review will be changed to BA - Design Studies majors with a specialization in Animation/Illustration. This specialization provides instruction in A/I foundation skills, supplemented by studies in design, film, photography, and theater arts. Students receive basic preparation for entry-level jobs in the entertainment industry; optionally, they can later apply to a graduate program in Animation, Illustration or similar fields of study.

The BFA in Animation/Illustration is a highly impacted major. This means that the number of applications from fully eligible students far exceeds the number of spaces available in the program. Students interested in an impacted major must apply for admission during the initial filing period for admission in the fall. Applications for admission to impacted majors are not accepted after the initial filing period.

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

Major Exceptions

This degree program meets certain University Requirements through approved major modifications. Please see the Major Exceptions area in the Policy and Procedures section of this catalog to identify the specific adjustments for this degree program or contact your major advisor for more detail

University Graduation Requirements 36

Core Lower Division General Education 27

Of the 39 units required by the university, 12 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

Upper Division General Education

Of the 9 units required by the university, 9 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 6

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

COMPLETE ONE SEQUENCE FROM:

African American Studies **6**

AFAM 002A. African Americans and the Development of America's History and Government	D2	3
AFAM 002B. African Americans and the Development of America's History and Government	M7	3

Asian American Studies **6**

AAS 033A. Asian Americans in U.S. History I	D2	3
AAS 033B. Asian Americans in U.S. History II	M7	3

U.S. History and Government **6**

HIST 015. Essentials of U.S. History	M12	3
POLS 015. Essentials of U.S. & California Government	M11	3

Chicana and Chicano Studies **6**

CCS 010A. Mexican Americans and the Development of U.S. History and Government	D2	3
CCS 010B. Mexican Americans and the Development of U.S. History and Government	M7	3

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

For Legend please see page 2

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Physical Education

Graduation Writing Assessment Requirement **3**

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

DSGN 100W. Writing Workshop: Design ..... Z 3

Preparation for the Major **36**

ANI 011. Illustration Fundamentals I 3

ART 024 will also be accepted for transfer students

TA 005. Acting C1 3

Will also accept ARTH 72 Design in Society

COMPLETE ONE COURSE FROM:

ARTH 070A. Art History, Prehistoric to Medieval C1 3
ARTH 070B. Art History, Renaissance to Modern C1 3
ARTH 070C. Arts of Asia C1 3

Highly Recommend Students take ARTH 070B

Additional Support Courses **27**

ANI 010. Light and Optics 3

ART 012 will also be accepted for transfer students

ANI 013. Drawing for Animation/Illustration I 3
ANI 021. Color Principles for Screen Arts 3

ART 014 will also be accepted for transfer students

ANI 031. 2D Animation I 3
ANI 041. Introduction to 3D Modeling 3
ANI 061. Introduction to 3D Animation 3
ANI 071. Visual Principles 3
ANI 101. Visual Storytelling 3
ANI 111. Drawing for Animation/Illustration II 3

Requirements of the Major **48**

Core Courses **21**

ANI 121. Illustration Fundamentals II 3
ANI 122. Illustration Fundamentals III 3
ANI 131. 2D Animation II 3
ANI 132. 2D Animation III 3
Area R Course 3
Area S Course 3
Area V Course 3

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Specialization Area	**21**

Choose a Specialization area in Animation or Visual Development.

Specializations are a cluster of courses used by departments for advising purposes. Specializations will not appear on transcripts or diplomas. Please see advisor for more details.

Animation	**21**
ANI 161. Digital Animation I	3
ANI 162. Digital Animation II	3
Four Approved Electives	12
COMPLETE ONE COURSE FROM:	
ANI 133. Animation Production - Storyboarding	3
ANI 134. Animation Production II	3
Visual Development	**21**
ANI 123. Visual Development I	3
ANI 124. Visual Development II	3
ANI 141. Digital Modeling I	3
Four Approved Elective	12
Capstone Requirement	**6**
ANI 198. Senior Seminar Animation/Illustration	3
ANI 199. Senior Project Animation/Illustration	3
Total Units Required	**120**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

For Legend please see page 2

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CATALOG CONTENTS

BFA - Graphic Design

The BFA Graphic Design program prepares students for intellectually and aesthetically challenging careers in Graphic Design. Preparation involves both theoretical and practical study with emphasis on typography, form and image, information architecture, experience design and interactive design. Admission to the BFA Graphic Design program is by portfolio review, which takes place after completing preliminary course work. After admission, passage of portfolio reviews conducted at the end of each semester are required to continue to advance through the BFA GD program. All students are required to complete a professional internship. In addition to the regular curriculum, students have the opportunity to attend special classes and workshops led by studio professionals and faculty members.

Students must pass a milestone portfolio review to remain in the BFA program. Students who do not pass the review will be changed to the BA-Art with a concentration in Design Studies.

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

University Graduation Requirements 47

Core Lower Division General Education 27

Of the 39 units required by the university, 12 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

Upper Division General Education 9

Of the 9 units required by the university, 0 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 6

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

COMPLETE ONE SEQUENCE FROM:

African American Studies 6

AFAM 002A. African Americans and the Development of America's History and Government	D2	3
AFAM 002B. African Americans and the Development of America's History and Government	M7	3

Asian American Studies 6

AAS 033A. Asian Americans in U.S. History I	D2	3
AAS 033B. Asian Americans in U.S. History II	M7	3

U.S. History and Government 6

HIST 015. Essentials of U.S. History	M12	3
POLS 015. Essentials of U.S. & California Government	M11	3

Chicana and Chicano Studies 6

CCS 010A. Mexican Americans and the Development of U.S. History and Government	D2	3
CCS 010B. Mexican Americans and the Development of U.S. History and Government	M7	3

Physical Education 2

Graduation Writing Assessment Requirement 3

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

DSGN 100W. Writing Workshop: Design	Z	3

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

Preparation for the Major 21

Preparation Courses 6

COMPLETE ONE COURSE FROM:

ANI 011. Illustration Fundamentals I 3
ART 024 will also be accepted for transfer students

DSIT 010. Sketching, Drawing + Modeling 3

COMPLETE ONE COURSE FROM:

ARTH 070A. Art History, Prehistoric to Medieval C1 3
ARTH 070B. Art History, Renaissance to Modern C1 3
ARTH 070C. Arts of Asia C1 3
Highly Recommend Students take ARTH 070B

Additional Support Courses 15

ANI 031. 2D Animation I 3
ARTH 072. Design in Society C1 3
ARTH 176A. Graphic Design History and Theory 3
DSGD 063. Fundamental Graphic Visualization 3
DSGD 083. Digital Applications: Basics 3

Requirements of the Major 49

DSGD 099. Introduction to Typography 3
DSGD 100. Visual Communication & Process 3
DSGD 102. Intermediate Typography 3
DSGD 103A. Advanced Typography I 3
DSGD 104. Introduction to Graphic Design 3
DSGD 105. Intermediate Graphic Design 3
DSGD 106. Advanced Graphic Design 3
DSGD 108. Graphic Design Portfolio 3
DSGD 110. Visual Literacy: Image Making 3
DSGD 120. Exhibition Design & Info Graphics 3
DSGD 150. Degree Project: Senior Studio 4
DSGD 186. Digital Applications: Methodology 3

COMPLETE ONE COURSE FROM:

DSGD 127. Design Practicum 3
DSGN 127. Internship 3

COMPLETE THREE COURSES FROM:

DSGD 103B. Advanced Typography II 3
DSGD 107A. Special Topics in Graphic Design 3
DSGD 107B. Special Topics in Experience Design 3
DSGD 131. Motion Graphics 3
DSGD 132. User Interface & Interaction Design 3
DSGD 141. 3D Branding & Promotion Design 3

University Electives 3

Total Units Required 120

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

BFA - Interior Design

Students majoring in interior design draw upon a wide range of university and Bay Area community resources to prepare for professional careers in both the private and public sectors in areas such as corporate, hospitality, institutional, office and retail planning and design. Preparation involves both theoretical and practical study of interior architecture with emphasis on critical thinking, communication skills, design process, merging technologies, human factors, aesthetic sensibilities, laws, codes and regulations, and professional ethics. A portfolio review is required for this program. All students in the Interior Design Program are required to complete a 1 unit professional internship as part of their degree requirements.

San José State University is an accredited institutional member of the National Association of Schools of Art and Design (NASAD), which is recognized by both the California Council for Interior Design Certification (CCIDC) and the National Council for Interior Design Qualification (NCIDQ).

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

University Graduation Requirements 32

Core Lower Division General Education 21

Of the 39 units required by the university, 18 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

Upper Division General Education 3

Of the 9 units required by the university, 6 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 6

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

COMPLETE ONE SEQUENCE FROM:

African American Studies 6

AFAM 002A. African Americans and the Development of America's History and Government	D2	3
AFAM 002B. African Americans and the Development of America's History and Government	M7	3

Asian American Studies 6

AAS 033A. Asian Americans in U.S. History I	D2	3
AAS 033B. Asian Americans in U.S. History II	M7	3

U.S. History and Government 6

HIST 015. Essentials of U.S. History	M12	3
POLS 015. Essentials of U.S. & California Government	M11	3

Chicana and Chicano Studies 6

CCS 010A. Mexican Americans and the Development of U.S. History and Government	D2	3
CCS 010B. Mexican Americans and the Development of U.S. History and Government	M7	3

Physical Education 2

Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Preparation for the Major 39

Preparation Courses 12

ARTH 072. Design in Society	C1	3
DSGN 100W. Writing Workshop: Design	Z	3
DSIT 010. Sketching, Drawing + Modeling		3

COMPLETE ONE COURSE FROM:

ARTH 070A. Art History, Prehistoric to Medieval	C1	3
ARTH 070B. Art History, Renaissance to Modern	C1	3
ARTH 070C. Arts of Asia	C1	3

Highly Recommend Students take ARTH 070B

Additional Prep Courses 27

DSIT 005. Introduction of Interior Design and Architecture		3
DSIT 029. Design Process		3
DSIT 033. Architectural Presentation		3
DSIT 034. Interior Architecture Foundation Studio		3
DSIT 083. Visual Communication I		3
DSIT 102. Computer Graphics for Interior Architecture		3
DSIT 103. Interior Architecture Conceptual Design Studio		3
ENVS 001. Introduction to Environmental Issues	D1	3

COMPLETE ONE COURSE FROM:

ENGL 002. Critical Thinking and Writing	A3	3
PHIL 057. Logic and Critical Reasoning	A3	3

Requirements of the Major 43

DSIT 100. Building Codes	3
DSIT 101. Architectural Systems and Materials + Adv Modeling	3
DSIT 104. Interior Architecture Space Planning Studio	3
DSIT 105. Interior Architecture Advanced Design Studio	3
DSIT 106. Architectural Project Materials	3
DSIT 107. Furniture Design	3
DSIT 108. Architectural Lighting Design	3
DSIT 109. Object Design for Interiors	3
DSIT 110. Capstone Thesis Studio	3
DSIT 111. Interior Architecture Seminar	3
DSIT 112. Professional Practice of Interior Archit	3
DSGN 127. Internship	1-4

COMPLETE ONE COURSE FROM:

ARTH 160. Modern Architecture	3
ARTH 161. Contemporary Architecture	3

COMPLETE TWO COURSES FROM:

ART 046. Introduction to Ceramics	3
ART 047. Introduction to Metalsmithing	3
ART 105. Advanced Digital Video	3
ART 132. Topics in Intermediate Ceramics	3
ART 140. Topics in Glass	3
ART 141. Topics in Advanced Glass	3
ART 147. Topics in Metalsmithing and Jewelry	3
ART 149. Topics in Jewelry and Small Sculpture	3

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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ART 168. Topics in Woodworking		3
ART 169. Topics in Metal Sculpture		3
ARTH 162. California Architecture		3
ARTH 163. Twentieth Century Urban Design		3
ARTH 192C. History of Interior Design		3
DSGD 099. Introduction to Typography		3
ENVS 132. Solar Home Design		3
ENVS 137. Green Building Design Issues		3
PHIL 110. Science, Technology and Human Values	V	3
URBP 101. The City	S	3
URBP 120. Intro to Housing Economics and Policy		4
URBP 142. Introduction to Environmental Planning		4
URBP 151. Introduction to Urban Design		4
URBP 152. Introduction to Urban Design Studio		4
University Electives		**6**
Total Units Required		**120**

Student chapters of the American Society of Interior Designers (ASID) and the International Interior Design Association (IIDA) contribute to this professional program.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

For Legend please see page 2

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CATALOG CONTENTS

Minor - Graphic Design

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Preparation for the Minor		6
COMPLETE ONE COURSE FROM:		
ANI 011. Illustration Fundamentals I		3
ART 024 will also be accepted for transfer students		
DSID 021. Visualization I		3
DSIT 010. Sketching, Drawing + Modeling		3
COMPLETE ONE COURSE FROM:		
ARTH 070A. Art History, Prehistoric to Medieval	C1	3
ARTH 070B. Art History, Renaissance to Modern	C1	3
ARTH 070C. Arts of Asia	C1	3
Highly Recommend Students take ARTH 070B		

Additional Support for the Minor	6
DSGD 063. Fundamental Graphic Visualization	3
DSGD 083. Digital Applications: Basics	3

Requirements for the Minor	12
DSGD 099. Introduction to Typography	3
DSGD 100. Visual Communication & Process	3
DSGD 104. Introduction to Graphic Design	3
DSGN 197. BA Senior Project	3
Total Units Required	**24**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

For Legend please see page 2

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CATALOG CONTENTS

Minor - Interior Design

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Preparation for the Minor	**9**
DSIT 005. Introduction of Interior Design and Architecture	3
DSIT 010. Sketching, Drawing + Modeling	3
DSIT 083. Visual Communication I	3
Requirements of the Minor	**15**
DSIT 029. Design Process	3
DSIT 033. Architectural Presentation	3
DSIT 034. Interior Architecture Foundation Studio	3
COMPLETE TWO COURSES FROM:	
DSIT 106. Architectural Project Materials	3
DSIT 107. Furniture Design	3
DSIT 108. Architectural Lighting Design	3
DSIT 112. Professional Practice of Interior Archit	3
Total Units Required	**24**

Donald and Sally Lucas College and Graduate School of Business

BUSINESS TOWER 950
(408) 924-3400
http://www.sjsu.edu/cob/

Introduction

The Donald and Sally Lucas College and Graduate School of Business is the institution of opportunity, providing innovative business education and research for the Silicon Valley region and beyond since 1928. The College offers an accessible, high value education that empowers people of all ages and backgrounds to transform their lives. Faculty and staff are strongly committed to the College's mission; maintain a collegial, inclusive teaching and learning environment; and are dedicated to continuous improvement in all areas of academic achievement, scholarship, teaching and service.

The college is an active member of the San José and Silicon Valley community and provides a talent pool, thought leadership and service that supports the region's growth in the global marketplace. The college is one of the 755 institutions worldwide that are accredited by the prestigious AACSB International, the Association to Advance Collegiate Schools of Business. In addition, the college is accredited by the Western Association of Schools and Colleges and the California State Board of Education.

The college is dedicated to equipping graduates with the tools, work ethic and skills to succeed in the ever-changing global economy. This is accomplished through a challenging undergraduate curriculum and an innovative, high quality graduate education in the Donald and Sally Lucas Graduate School of Business.

Undergraduate Business Education

The college provides a rich undergraduate education through five departments and schools - Accounting and Finance, Information Systems and Technology, Management, Global Innovation and Leadership, and Marketing and Decision Sciences. Infused throughout the undergraduate program are opportunities to develop competencies in a number of key areas -- communication, teamwork, global perspectives, critical thinking, ethics, entrepreneurship, community service, and innovation. The rigorous and challenging curriculum prepares graduates to be future leaders that succeed in the global economy.

The college is building upon its existing expertise in entrepreneurship, management, global finance, accounting, and leadership and organizational change. In addition, the college showcases the best and brightest students through the Gary J. Sbona Honors Program and the Thompson Global Internship Program.

Jack Holland Student Success Center (Formerly BSAC)

The Jack Holland Student Success Center, located on the garden level of the Boccardo Business Center, provides advice to students about undergraduate business courses and programs. Prospective students are encouraged to talk with advisors about requirements for business major and general education courses. Prospective graduate students are encouraged to meet a graduate advisor in the Graduate Program Office in the Business Tower.

Business Tutoring Center

The Tutoring Center gives individual and group assistance to business students seeking subject matter tutoring. It is located on the ground level of the Boccardo Business Center.

Donald and Sally Lucas Graduate School of Business

The Donald and Sally Lucas Graduate School of Business offers a high-value education with a global focus, innovative programs, and deep ties to Silicon Valley corporations and leaders. Our distinguished faculty provide a relevant business education focusing on excellence in teaching and applied research and serving the needs of diverse students from the Silicon Valley and beyond.

We offer an on-campus Early Career MBA program with three tracks: accelerated (12 months), full-time (21-24 months), and part-time (33-36 months). Our off-campus MBA for Professionals is a flexible part-time program suitable for working professionals who set their own paces. We also offer Master of Science in Accountancy, Master of Science in Taxation, Master of Science in Transportation Management programs and a dual degree MBA/Master of Science in Software Engineering or MBA/Master of Science in Engineering with a specialization in Systems Engineering.

Economics Department

College of Social Sciences

DUDLEY MOORHEAD HALL 147
408-924-5400
www.sjsu.edu/economics

Professors

Colleen Haight, Chair
Matthew Holian
Jeffrey Hummel
Tom S. Means
Lydia Ortega
J. Michael Pogodzinski

Assistant Professors

Aidin Hajikhameneh
Rui Liu
Paul-Vincent Lombardi
Justin Rietz

Curricula

BA, Economics
BS, Economics
Minor, Economics
MA, Economics
MA, Economics, Concentration in Applied Economics

Introduction

Economics stresses the role of markets and institutions on business, political and socioeconomic outcomes. By emphasizing applied economics, the program encourages majors to hone their strategic thinking skills, learn to anticipate the unintended consequences of actions, and engage in consequential thinking about changes over time. By stressing oral and written communication and statistical analysis, the program encourages majors to acquire the skills necessary to communicate ideas. Economics graduates use economic tools to evaluate and pose reasoned solutions to multi-faceted, complex problems, as a result, they are in high demand in any field where decision making and reasoning are emphasized. Our bachelor's degree is an excellent springboard to an MBA or law degree. Our master's program prepares graduates for research and policy positions in government and business. Although we emphasize applied economics, we also provide students with the rigorous preparation necessary to pursue doctorates in economics.

Honors Program in Economics

To graduate with Economics Department honors student must have an overall GPA of 3.2; a GPA of 3.5 for all upper division economics courses. For more information, and to apply for honors, please consult the Economics Department web site.

BA - Economics

A general and flexible program to allow for a variety of student objectives.

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

Major-Specific Graduation Requirements

All courses required in the major (Core, Area Courses, and major electives) must be completed with a minimum grade of "C-".

University Graduation Requirements 44

Core Lower Division General Education 21

Of the 39 units required by the university, 18 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

NOTE: STUDENTS WHO HAVE COMPLETED THE ADT TRANSFER DEGREE (UNDER SB 1440) FOR THIS MAJOR WILL HAVE COMPLETED ALL LOWER DIVISION GE REQUIREMENTS AND SHOULD FOLLOW THE 60 UNIT GUARANTEE ROADMAP. MEET WITH AN ADVISOR PRIOR TO REGISTERING FOR YOUR FIRST SEMESTER FOR THE 60 UNIT ROADMAP OR SPECIFIC QUESTIONS.

Upper Division General Education 9

Of the 9 units required by the university, 0 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 12

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

AMS 001A. American Cultures to 1877 ..... M4 6
AMS 001B. American Cultures 1877 to present M5 6

Physical Education 2

Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Preparation for the Major 3

Math Courses must be completed with at least a grade of "C".

COMPLETE ONE COURSE FROM:

MATH 030. Calculus I B4 3
MATH 071. Calculus for Business and Aviation B4 3

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Requirements of the Major		52
Core Courses		**28**
ECON 001A. Principles of Economics: Macroeconomics		4
ECON 001B. Principles of Economics: Microeconomics	D1	4
ECON 003. Economic Statistics		4
ECON 100W. Writing Workshop: Economic Reports	Z	4
ECON 101. Microeconomic Analysis		4
ECON 102. Macroeconomic Analysis		4
COMPLETE ONE COURSE FROM:		
ECON 190. History of Economic Thought		4
ECON 191. Economic Thought of Nobel Prize Winners		4
Upper Division Economic Electives		**24**
Select any 100-level courses within the Economics Department with the exception of ECON 109, which is NOT intended for majors.		
University Electives		21
A minor in a field recommended by the advisor is encouraged.		
Total Units Required		**120**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

BS - Economics

Designed for those seeking a more quantitative study of economics.

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

Major-Specific Graduation Requirements

All courses required in the major (Core, Area Courses, and major electives) must be completed with a minimum grade of "C-". The following courses in Preparation for the Major must be completed with a "C" or better: MATH 30

University Graduation Requirements 44

Core Lower Division General Education 27

Of the 39 units required by the university, 12 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

NOTE: STUDENTS WHO HAVE COMPLETED THE ADT TRANSFER DEGREE (UNDER SB 1440) FOR THIS MAJOR WILL HAVE COMPLETED ALL LOWER DIVISION GE REQUIREMENTS AND SHOULD FOLLOW THE 60 UNIT GUARANTEE ROADMAP. MEET WITH AN ADVISOR PRIOR TO REGISTERING FOR YOUR FIRST SEMESTER FOR THE 60 UNIT ROADMAP OR SPECIFIC QUESTIONS.

Upper Division General Education 9

Of the 9 units required by the university, 0 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 6

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

COMPLETE ONE SEQUENCE FROM:

African American Studies 6

AFAM 002A. African Americans and the Development of America's History and Government	D2	3
AFAM 002B. African Americans and the Development of America's History and Government	M7	3

Asian American Studies 6

AAS 033A. Asian Americans in U.S. History I	D2	3
AAS 033B. Asian Americans in U.S. History II	M7	3

U.S. History and Government 6

HIST 015. Essentials of U.S. History	M12	3
POLS 015. Essentials of U.S. & California Government	M11	3

Chicana and Chicano Studies 6

CCS 010A. Mexican Americans and the Development of U.S. History and Government	D2	3
CCS 010B. Mexican Americans and the Development of U.S. History and Government	M7	3

Physical Education 2

Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Preparation for the Major		**3**
Math Courses must be completed with at least a grade of "C".		
MATH 030. Calculus I	B4	3
Requirements of the Major		**52**
Core		**32**
ECON 001A. Principles of Economics: Macroeconomics		4
ECON 001B. Principles of Economics: Microeconomics	D1	4
ECON 003. Economic Statistics		4
ECON 100W. Writing Workshop: Economic Reports	Z	4
ECON 101. Microeconomic Analysis		4
ECON 102. Macroeconomic Analysis		4
ECON 103. Intro to Econometrics		4
ECON 104. Mathematical Methods for Economics		4
Upper-Division Economic Electives		**20**
Select any 100-level courses within the Economics Department with the exception of ECON 109, which is NOT intended for majors.		
University Electives		**21**
A minor in a field recommended by the advisor is encouraged.		
Total Units Required		**120**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

Minor - Economics

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Requirements of the Minor	**20**
Lower Division Courses	**8**
ECON 001A. Principles of Economics: Macroeconomics	4
ECON 001B. Principles of Economics: Microeconomics D1	4
Upper Division Courses	**12**
The department recommends that 12 units of upper division in the minor be taken in residence.	
Total Units Required	**20**

Graduate Programs Admission

Requirements for Admission with Classified Standing

Applicants must first meet the requirements for admission to the university. Additionally applicants should possess an undergraduate grade point average of "B" or better. Bachelor degrees in fields other than economics are acceptable and welcomed. Admission to the program with classified standing, however, requires preparation in Intermediate Microeconomic and Intermediate Macroeconomic theory, one other upper division economics course, statistics, and proficiency in linear algebra and calculus. This coursework must be satisfactory (grades of "B" or better).

Requirements for Admission with Conditionally Classified Standing

Applicants who do not meet the Department's requirements for admission with classified standing, may be admitted into the program with conditionally classified standing if he or she has demonstrated an interest in and an ability to master economic analysis. Conditional standing requires students to complete specific courses to correct the deficiencies as listed by the graduate advisor on the admission notification. Prerequisites can be completed at SJSU, but must be taken before commencing graduate level classes. Upon completing these requirements the student must then petition for a change in status to classified standing.

Requirements for Admission to Candidacy for the MA - Economics

To be admitted to candidacy for the Master of Arts degree, a student must first meet the university requirements for the degree as stated in the Academic Regulations section of this catalog. Also, a candidate:

1. Must have at least a 3.0 ("B") average in nine semester hours of approved San José State University courses in economics at the 100- or 200-level.
2. Must obtain approval of a formal master's degree program from the departmental graduate advisor and from the University Graduate Committee.
3. Must have successfully completed the Graduation Writing Assessment Requirement (GWAR). The University requires that all graduate students complete the GWAR as a condition for advancement to candidacy. Please refer to the SJSU catalog section titled "Graduation Writing Assessment Requirement" for details. For graduate courses that meet the GWAR, please refer to the Graduate Admissions and Program Evaluations website at www.sjsu.edu/gape.

Graduate Theory Grade Requirement

All master's degree students must complete a microeconomic theory course (ECON 201) and macroeconomic theory or monetary theory course (ECON 202 or 235, if required) with a grade of "B" or better. All 100 - level courses must be completed with a "B" or better. Students must file for candidacy before taking the comprehensive examination. Policies concerning Probation and Disqualification are available online and in the Economics Office.

Undergraduate Course Grade Requirement

Master's degree students may count a limited number of 100-level undergraduate courses as approved electives; however, these courses must be completed with a grade of "B" or better and must be approved in advance by a department graduate advisor. Students earning less than a "B" in any of these classes are allowed one attempt to retake and achieve the minimum grade. Policies concerning Probation and Disqualification are available online and in the Department of Economics Office.

Requirements for Graduation

University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

In consultation with the department graduate coordinator, the candidate will develop and pursue a program of study. The candidate must successfully complete all requirements of the selected plan including the course work specified in the Master's Degree Approval Program. At an appropriate time, and with the assistance of the graduate advisor, the student chooses a proposed Master's degree program and Plan A or Plan B culminating experience as outlined below.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

MA - Economics

Culminating Experience

Plan A (Thesis)

The thesis must meet university requirements as stipulated in this catalog and in the SJSU Master's Thesis and Doctoral Dissertation Guidelines. It will be written under the guidance of the candidate's thesis committee chair with the assistance of the thesis committee. It is the candidate's responsibility to find an Economics Faculty member to Chair the thesis committee, and work with the Chair to determine the other members of the committee and the thesis topic.

Plan B (Comprehensive Examination)

Most students complete a final written examination not a thesis. The comprehensive exam covers three subjects: microeconomic theory, macroeconomic/monetary theory or Econometrics, and applied economics. Students register once, for one unit of ECON 298E in the semester they plan to take the examination. Students can take the exam a total of three times. Policies concerning Probation and Disqualification for failure to complete the exam are available online and in the Economics Office.

Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR). For information on the GWAR, please see http://info.sjsu.edu/gcw.html.

This requirement is satisfied by passing ECON 205.

Requirements of the Masters — 32

Core Courses — 16

ECON 104. Mathematical Methods for Economics		4
ECON 201. Seminar in Microeconomic Analysis		3
ECON 203A. Economic Research Methods		3
ECON 205. Workshop in Policy Analysis	GWAR	3

COMPLETE ONE COURSE FROM:

ECON 202. Seminar in Macroeconomic Analysis		3
ECON 235. Seminar in Monetary Theory and Policy		3

Electives — 12

Approved 100- or 200-level courses

Culminating Experience — 4

Plan A (Thesis)

ECON 299. Master's Thesis or Project		1-6

Plan B (Comprehensive Exam)

ECON 298E. Special Study Comprehensive Exam		1
One additional Economics elective		3

Total Units Required — 32

Elective courses must be planned in consultation with the Graduate Advisor.

The maximum number of upper-division undergraduate units that can be applied toward the master's degree is 12.

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU Cumulative grade point averages of 3.0 in order to graduate.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

MA - Economics, Concentration in Applied Economics

Culminating Experience

Plan B (Comprehensive Examination)

Most students complete a final written comprehensive examination. The exam covers three subjects: microeconomic theory, macroeconomic/monetary theory or Econometrics, and applied economics. Students register once for one unit of ECON 298E in the semester they plan to take the examination. Students not passing the exam may take it a total of three times. Policies concerning Probation and Disqualification for failure to complete the exam are available online and in the Economics Office.

Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR). For information on the GWAR, please see http://info.sjsu.edu/gcw.html.

This requirement is satisfied by passing ECON 205.

Requirements of the Masters 32-33

Core Courses 16

ECON 104. Mathematical Methods for Economics 4
ECON 201. Seminar in Microeconomic Analysis 3
ECON 203A. Economic Research Methods 3
ECON 205. Workshop in Policy Analysis ..... GWAR 3

COMPLETE ONE COURSE FROM:

ECON 202. Seminar in Macroeconomic Analysis 3
ECON 235. Seminar in Monetary Theory and Policy 3

Concentration Requirements 9-10

ECON 203B. Seminar in Econometric Methods 3

COMPLETE TWO COURSES FROM:

ECON 138. Business and Economic Forecasting 4
ECON 232. Seminar in Public Finance 3
ECON 241. Seminar in Law and Economics 3
ECON 251. Seminar in Labor Economics 3

Electives 6

Approved 100- or 200-level courses

Culminating Experience 1

ECON 298E. Special Study Comprehensive Exam 1

Total Units Required 32-33

Elective courses must be planned in consultation with the Graduate Advisor.

The maximum number of upper-division undergraduate units that can be applied toward the master's degree is 12.

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU Cumulative grade point averages of 3.0 in order to graduate.

Education - Communicative Disorders and Sciences, Department of

Connie L. Lurie College of Education

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Professors

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Jean Novak

Associate Professors

Nidhi Mahendra
Wendy Quach

Assistant Professors

Lyle Lustigman
Pei-Tzu Tsai

Curricula

BA, Communicative Disorders and Sciences
MA, Education, Concentration in Speech Pathology

Introduction

The mission of the Department of Communicative Disorders and Sciences is to provide rigorous academic and clinical preparation for students seeking careers working with individuals with communication disorders, and their families. One of the first Communicative Disorders and Sciences programs in California, the department has prepared students for careers as speech-language pathologists and audiologists for more than 40 years. Speech-language pathologists identify, evaluate and treat children and adults with speech-language, cognitive-communicative, and swallowing disorders. Audiologists diagnose and treat individuals with hearing or balance disorders. Our academic and pre-clinical undergraduate curriculum provides the basis for further graduate study, required for a career in either field. Our Master's Degree in Education with a concentration in Speech Pathology is accredited by the Council on Academic Accreditation of the American Speech-Language and Hearing Association. Both members of the SJSU community and the larger community receive speech-language and hearing services at the Kay Armstead Center for Communication Disorders (Sweeney Hall 118B).

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

BA - Communicative Disorders and Sciences

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

Communicative Disorders and Science courses are only offered once per year. That means that students begin CDS courses in Fall semesters only, as Spring semester courses cannot be taken without having completed the Fall semester prerequisites.

University Graduation Requirements 38

Core Lower Division General Education 18

Of the 39 units required by the university, 21 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

Upper Division General Education 9

Of the 9 units required by the university, 0 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 6

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

COMPLETE ONE SEQUENCE FROM:

African American Studies **6**

AFAM 002A. African Americans and the Development of America's History and Government	D2	3
AFAM 002B. African Americans and the Development of America's History and Government	M7	3

Asian American Studies **6**

AAS 033A. Asian Americans in U.S. History I	D2	3
AAS 033B. Asian Americans in U.S. History II	M7	3

U.S. History and Government **6**

HIST 015. Essentials of U.S. History	M12	3
POLS 015. Essentials of U.S. & California Government	M11	3

Chicana and Chicano Studies **6**

CCS 010A. Mexican Americans and the Development of U.S. History and Government	D2	3
CCS 010B. Mexican Americans and the Development of U.S. History and Government	M7	3

Physical Education 2

Graduation Writing Assessment Requirement 3

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Preparation for Major 15-18

STAT 095. Elementary Statistics	B4	3
COMPLETE ONE COURSE FROM:		
BIOL 030. Principles of Biology I	B2B3	4
BIOL 010. The Living World	B2	3
BIOL 021. Human Biology	B2+B3	3
COMPLETE ONE COURSE FROM:		
CHEM 001A. General Chemistry	B1+B3	5
CHEM 030A. Introductory Chemistry	B1+B3	3
PHYS 001. Elementary Physics	B1	3
must also take PHYS 001L		
COMPLETE ONE COURSE FROM:		
ANTH 011. Cultural Anthropology	D1	3
GERO 107. Aging and Society	S	3
PSYC 001. Introduction to Psychology	D1	3
PSYC 082. Foundations of Developmental Psychology		3
SOCI 057. Community Involvement and Personal Growth	E	3
SOCI 101. Social Theory		3
SOCI 080. Social Problems	D3	3
COMPLETE ONE COURSE FROM (WITH ADVISOR APPROVAL):		
CHAD 060. Child Development	E	3
HS 015. Human Life Span	D1	3
PSYC 102. Psychology of Childhood		3

Requirements of the Major 42

Core Courses 36

EDSP 102. Language Development in Children	3
EDSP 110. Resources for Human Communication Disorders	3
EDSP 111. Introduction to Phonetics	3
EDSP 112. Principles of Assessment and Treatment in Communicative Disorders	3
EDSP 113. Speech Science	3
EDSP 120. Communicative Disorders in Children	3
EDSP 161. Normal Processes of Speech, Language and Hearing	3
EDSP 162. Communicative Disorders in Adults	3
EDSP 176. Guided Professional Clinical Observations	3
EDAU 115. Introductory Hearing Science	3
EDAU 170. Audiology I	3
EDAU 172. Introduction to Principles of Aural Rehabilitation	3

Practicum 6

Placement in clinical practica is contingent upon class availability, major GPA verification of 3.0+ and an overall GPA of 2.7+. Students who do not receive a clinic placement will need to see their advisor to submit a course substitution form.

EDSP 177. Practicum in Speech Pathology	1-3
EDAU 177. Practicum in Audiology	1-3

University Electives 22-25

Selected in conference with advisor (may include a minor).

Total Units Required 120

MA - Education, Concentration in Speech Pathology

The Department of Communicative Disorders and Sciences (CD&S) Master's degree program offers an in-depth study of communication disorders with an emphasis on articulation and phonological disorders, fluency disorders (stuttering), augmentative and alternative communication, voice disorders, dysphagia (swallowing disorders), neurogenic disorders, hearing disorders, language disorders, social aspects of communication, and cognitive communication disorders. Courses and clinical training opportunities place a high priority on assessment and intervention within an evidence-based, ethical, and multicultural framework. Clinical practica are completed in varied settings, including the Kay Armstead Center for Communication Disorders housed in the department. Students have clinical opportunities for working with infants, toddlers, children, adolescents, and adults in multiple settings, including public, private and charter schools (preschool, elementary, middle, high schools), rehabilitation agencies, private practices, skilled nursing facilities, and hospitals.

Detailed information about the program can be found on the department website: http://www.sjsu.edu/cds/Programs/ma/

Admissions Requirements

Applicants must meet all university admission requirements. The university-level graduate application is separate from the application you send to the department. You will need to apply separately to the university to obtain approval for university-level admission and to the department to obtain admission into Master of Arts in Education with a concentration in Speech Pathology. Depending on their level of preparation, students can be admitted in either classified or conditionally classified standing. Minimum requirements for admission in classified standing are a completed bachelor's degree or post-baccalaureate program in communication disorders. An applicant holding a bachelor's degree in another field of study may be admitted with conditionally classified standing. The admissions letter will detail the preparatory coursework required for advancing to classified standing in the program. Additional requirements for international students are listed below.

Admission to the Department

Applicants who meet the following criteria beyond university requirements will be considered for classified admission into Department of Communicative Disorders and Sciences. The department admission process requires three (3) application processes and nine (9) tasks:

1. Via Communication Sciences and Disorders Centralized Application Service (CSDCAS)
    - a. Official Transcripts (3.0 minimum GPA)
    - b. Essay(reasons for pursuing Speech-Language Pathology; reasons for San Jose State University; personal qualities; any additional information)
    - c. Graduate Record Exam (GRE) Score. Minimum GRE score requirements can be found on the Graduate Program Test Requirement webpage at GAPE.
    - d. Three Letters of Recommendation
    - e. Transcript Evaluation Report (for International Students)
2. Via the San Jose State University Office of Applications and Program Evaluation (GAPE)
    - f. Official Transcripts
    - g. English-Language Skills Verification
3. Via the Departmental Office
    - h. CBEST Scores

A minimum scaled score of 41 in each of three sections (reading, writing, mathematics). A section score as low as 37 is acceptable if the total scaled score is at least 123.

We generally refer students to take the California Basic Educational Skills Test (CBEST) but you do not have to if you meet one of the other options outlined in the CTC leaflet cl-667. To submit test scores from one of the CTC leaflet alternatives, you must contact the SJSU Credentials Office (credentials@sjsu.edu) to verify the validity of your scores before submitting them to CSDCAS. Deadline for submission is February 1.

Applicants from countries in which the official native language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirements webpage at GAPE.

Requirements for Advancement to Candidacy (Program Continuation)

Students must meet the university requirements for candidacy. General university requirements for advancement to candidacy for the MA degree are detailed in the Graduate Policies and Procedures section of this catalog. Candidacy includes successful completion of the Graduation Writing Assessment Requirement (GWAR). For graduate courses that meet the GWAR, refer to the GWAR Course List on the College of Graduate Studies website. The department's GWAR is met by completing EDSP 221 with a grade of B or better.

Requirements for Graduation

University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

MA - Speech-Language Pathology Requirements

Students are expected to complete all required courses, the culminating experience, clinical practica, and observations. In order to meet degree requirements, candidates for the MA in Education with a concentration in Speech Pathology must maintain a 3.0 GPA in all courses with no single course grade below a B-. Students who earn less than a B- in any required course must retake the course and earn a grade of B- or better.

In addition to the CDS curriculum, students must demonstrate knowledge of five additional content areas as required by American Speech-Language Hearing Association (ASHA) and the California Commission on Teacher Credentialing (CCTC). They are ASHA Requirement 1: Biological Sciences; ASHA Requirement 2: Social/Behavioral Sciences; ASHA Requirement 3: Physical Sciences; ASHA Requirement 4: Statistics; and CCTC Requirement Child and/or Adolescent Development.

Candidates for the Master's degree must accumulate a minimum of 375 clock hours in supervised clinical practicum in three distinctively different settings and 25 hours of observation.

Prior to providing any speech-language assessment or intervention services during clinical practica, students must show evidence of all of the following: (a) Certificate of Clearance, (b) Negative TB (tuberculosis) test, (c) Negative Hepatitis test, (d) Physical Clearance to provide speech-language pathology services, (e) successful completion of online training related to HIPAA (Health Insurance Portability and Accountability Act), and (f) CPR (Cardiopulmonary resuscitation) Certification.

Culminating Experience

Plan C (Comprehensive Exam)

All students in the MA, Education, Concentration in Speech Pathology program must successfully complete the Comprehensive Examination during their last semester (Spring semester of the second year). The examination assesses broad knowledge and competency across topics in speech, language, hearing, cognitive-communication, and swallowing disorders. Upon completion of the program, students receive a Master of Arts degree and are eligible to work as speech-language pathologists.

Plan A (Thesis)

Students who have a strong interest in research may be approved to complete the Thesis (Plan A). It requires students to secure a thesis advisor and a thesis committee and enroll in EDSP 299, Thesis during Fall semester of the second year. (Enrolling in the EDSP 299 adds 3 units to the program for a total of 66 units.) Students electing to take this option must also successfully complete the comprehensive examination. Theses must be defended and approved by the thesis committee and follow the College of Graduate Studies Master's Thesis and Doctoral Dissertation Guidelines.

Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR). For information on the GWAR, please see http://info.sjsu.edu/gcw.html.

Program GWAR fulfilled by EDSP 221.

Requirements of the Masters — 63

Core Courses — 39

EDSP 221. Research Seminar in Communicative Disorders ..... GWAR 3
Students must earn a B (3.0) or better in EDSP 221

EDSP 222. School Age Language, Literacy, and Social Comm. 3
EDSP 250. Seminar in Voice Disorders 3
EDSP 251. Seminar in Phonological Disorders 3
EDSP 252. Seminar Fluency Disorders 3
EDSP 254. Seminar in Neurological Disorders 3
EDSP 255. Seminar in Motor Speech Disorders 3
EDSP 259. Seminar in Language Disorders in Children 3
EDSP 260. Seminar in Dysphagia 3
EDSP 262. Speech and Language in a Cross-Cultural Society 3
EDSP 264. Contemporary Professional Issues 3
EDSP 265. Seminar in Cognitive Disorders 3
EDSP 288. Seminar in AAC and Communication Disorders 3

Practicum — 24

EDSP 269. Field Experience in Public Schools - Speech Pathology and Audiology 6
EDSP 276. Practicum in Advanced Assessment 3
EDSP 277. Advanced Practicum-Speech Pathology 1-3
Students take EDSP 277 (3 units) three times for a total of 9 units

EDSP 278. Clinical Management and Practicum 6-10
Students take EDSP 278 once for a total of 6

Culminating Experience	0-3

COMPLETE ONE OPTION (PLAN A OR PLAN B):

Plan A (Thesis)

EDSP 299. Master's Thesis 3

Comprehensive Exam

The Plan A (Thesis) option add 3 units to program requirements and requires approval from the graduate advisor

Plan B (Comprehensive Exam)

Comprehensive Exam

Total Units Required	63

Elective courses must be planned in consultation with the Graduate Advisor.

The maximum number of upper-division undergraduate units that can be applied toward the master's degree is 15.

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU Cumulative grade point averages of 3.0 in order to graduate.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

Education - Counselor Education, Department of

Connie L. Lurie College of Education

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Professors

Xiaolu Hu
Jason Laker
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Associate Professors

Lisa Oliver

Curricula

Credential, K-12 School Counseling Specialization
Credential, K-12 School Counseling Internship
MA, Education, Concentration in Counseling and Student Personnel

Introduction

The Department of Counselor Education prepares individuals to assess and counsel students in culturally and economically diverse K-12 and postsecondary educational settings as well as work with clientsindividuals through community-based organizations. In addition to a Master's degree in Education with a concentration in Counseling and Student Personnel, we offer a Pupil Personnel Services (PPS) Credential in School Counseling and a Child Welfare and Attendance (CWA) specialization, which qualify individuals to work as guidance counselors in K-12 schools. Our faculty work closely with degree candidates to build effective assessment and counseling skills, nurture reflective thinking, and develop cultural skills and a commitment to social justice. Our graduates are prepared to facilitate individuals' personal and educational success and lifelong learning.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Credential, K-12 School Counseling Specialization

Our Pupil Personnel Services (PPS) School Counseling Credential is a 54-unit program, which qualifies individuals to work as guidance counselors in K-12 public schools. We also offer an added Child Welfare and Attendance (CWA) specialization (additional 6 units), which focuses on truancy and dropout prevention issues.

Individuals admitted into our PPS School Counseling Credential program are eligible to apply for a PPS Internship Credential (valid for up to two years) if they are offered a school counseling position by a local school district before completing the program requirements. To be eligible, a student must have completed a minimum of 9 units and have passed the CBEST.

Requirements for Credential, K-12 School Counseling Specialization 54

Core Courses 24

Take EDCO 215 and 218 in the first semester

EDCO 215. Introduction to Counseling and Guidance	GWAR	3
EDCO 218. Counseling Process & Techniques		3
EDCO 227. School-Family-Community Collaboration		3
EDCO 232. Law & Ethics in Counseling		3
EDCO 248. Dynamics of Behavior and Development		3
EDCO 266. Education and Career Planning	GWAR	3
EDCO 282. Assessment for Counselors		3

COMPLETE ONE COURSE FROM:

EDCO 244. Cultural Perspectives in Counseling		3
EDCO 280. Multicultural Counseling		3

Advanced Courses in Professional Development 21

EDCO 221. Research in Counselor Education		3
EDCO 279. Advanced Group Process Theory and Practice		3
EDCO 283. Advanced Educational Assessment		3
EDCO 286. Organizational Change and Development		3
EDCO 287. Comprehensive School Counseling Analysis		3
EDCO 288. Seminar in Counseling Theory and Practice	GWAR	3

COMPLETE ONE COURSE FROM:

EDCO 267. Practicum in Lifespan and Career Development		3
EDCO 268. Lifespan Development		3

Supervised Experience 9

COMPLETE 9 UNITS OF FIELDWORK EXPERIENCE ACROSS TWO SCHOOL LEVELS FOR A TOTAL OF THREE 200-HOUR SECTIONS (600 HOURS TOTAL)

EDCO 292. Supervised Experience in Counseling		9

Culminating Experience

Comprehensive Examination

Candidates must pass comprehensive examination to fulfill master's degree requirements

Total Units Required 54

Completion of coursework requires a minimum grade of C or higher in courses completed and a minimum overall GPA of 3.0.

MA - Education, Concentration in Counseling and Student Personnel

The Department of Counselor Education prepares its graduates to counsel and assess students in culturally and economically diverse K-12 and postsecondary educational settings as well as those involved with community-based organizations. Our department offers a Master of Arts degree in Education with a Concentration in Counseling and Student Personnel. Counselor Education faculty work closely with degree candidates to build effective assessment and counseling skills, nurture reflective thinking, and develop cultural skills and a commitment to social justice. Our graduates are prepared to facilitate student personal and educational success and lifelong learning.

Additional information is available on the Department of Counselor Education website: www.sjsu.edu/counselored.

Admissions Requirements

Applicants must submit a complete graduate application by applying through the CSU Cal State Apply system at calstate.edu/apply and meet all the university admission requirements. Applicants apply separately to the department to obtain admission into the MA, Education, Concentration in Counseling and Student Personnel. See the GAPE Graduate Admissions website and this Catalog for general information about graduate admissions at SJSU.

Applicants from countries in which the native language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirements webpage at GAPE. For TOEFL Requirements, see the Policies and Procedures section, Graduate and Post-Baccalaureate Information in this Catalog.

Requirements for Admission to Classified Standing

Applicants may be fully admitted if they meet the admissions requirements for the Graduate Division and the department's requirements. The minimum requirements for the program are a bachelor's degree in any discipline and a 3.0 GPA. Preference is given to candidates who demonstrate a strong inclination to serve others, an interest in K-12 or post-secondary education, and a commitment to social justice.

A. Candidates must meet all university admissions requirements.

B. Department application materials include the items listed below and are to be sent directly to the department office at:

Department of Counselor Education
San José State University
One Washington Square, SH 404
San Jose CA 95192-0073

1. Autobiographical and Professional Goals Statement (two to three pages, double-spaced) that includes the applicant's: a) educational background, b) experiences demonstrating a concern and capacity to work with people, c) professional goals in pursuing the degree and/or credential (include areas of interest in counseling), and d) any additional information explaining your interest in the Department of Counselor Education master's degree or credential program.
2. Three (3) letters of recommendation from current or former professors and/or employers who can testify to the applicant's ability to successfully pursue an advanced academic degree and/or discuss the applicant's experience within the proposed field of study. Forms for these letters can be found on the Department of Counselor Education website.

C. Official sealed transcripts from each college/university attended should be sent to:

Graduate Admissions and Program Evaluations
San José State University
One Washington Square, SH 404
San Jose CA 95192-0073

Admission to Conditionally Classified Standing

Applicants may be conditionally admitted (admitted with conditions) if they meet the admission requirements for the Graduate Division but do not fully meet departmental admissions requirements. The individual admission notification will explain required terms and conditions for attaining Classified standing.

Requirements for Advancement to Candidacy

Candidacy denotes that a student is fully qualified to complete the final stages of the Master of Arts degree. General university requirements for advancement to candidacy are detailed in the Graduate Policies and Procedures section of this catalog. Candidacy includes successful completion of the Graduation Writing Assessment Requirement (GWAR). For graduate courses that meet the GWAR, refer to the GWAR Course List on the College of Graduate Studies website.

Department Requirements

1. Complete 18 units of core courses (EDCO 215, 218, 232, 248, 266, 282)
2. Complete 9 units of advanced courses with a "C" or better
3. Maintain an overall graduate GPA of 3.0 or higher
4. Meet with your advisor to complete the Petition for Advancement to Graduate Candidacy form.

Requirements for Graduation

University Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures. Completion of the degree also requires a minimum grade of "C" in all courses taken and a minimum overall GPA of 3.0.

Department Requirements

1. Complete 6 practicum/fieldwork units from among (EDCO 267, 280, 292, 293, 294)
2. Complete 6 units of advanced courses (EDCO 288 and 289)
3. Complete 12 units of advanced elective courses from among the following (EDCO 227, 244, 268, 279, 283, 285, 286, 287; can include additional practicum/fieldwork courses)
4. Complete 3 units (EDCO 221) to develop a project proposal (Plan B) or a thesis proposal (Plan A)
5. Apply for graduation via MySJSU
6. Successfully complete either the project (Plan B, EDCO 298) or thesis (Plan A, EDCO 299)

Culminating Experience

Students choose a Plan A (Thesis) or Plan B (Project) option as their program culminating experience.

Plan A (Thesis)

Students selecting the Plan A option will write a master's thesis. The thesis will include original research on a topic approved by the thesis committee, and must meet university requirements as stipulated in this catalog and in the SJSU Master's Thesis and Doctoral Dissertation Guidelines. Thesis proposals must be approved by the graduate committee, which is made up of two department faculty and a third faculty member from outside the department. Students enroll in EDCO 299, Master's Thesis (3 units).

Plan B (Project)

Students selecting the Plan B option will complete a master's project or research paper. These students enroll in EDCO 298, Special Studies in Counselor Education (3 units).

Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR). For information on the GWAR, please see http://info.sjsu.edu/gcw.html.

This requirement is satisfied by passing EDCO 215, EDCO 266, or EDCO 288 with a grade of B or better.

Requirements for the Masters — 48

Core Courses — 18

TAKE EDCO 215 AND 218 IN THE FIRST SEMESTER

EDCO 215. Introduction to Counseling and Guidance	GWAR	3
EDCO 218. Counseling Process & Techniques		3
EDCO 232. Law & Ethics in Counseling		3
EDCO 248. Dynamics of Behavior and Development		3
EDCO 266. Education and Career Planning	GWAR	3
EDCO 282. Assessment for Counselors		3

Advanced Courses in Professional Development — 18

EDCO 288. Seminar in Counseling Theory and Practice	GWAR	3
EDCO 289. Seminar in Professional Counseling		3

COMPLETE 12 UNITS FROM:

EDCO 227. School-Family-Community Collaboration		3
EDCO 244. Cultural Perspectives in Counseling		3
EDCO 268. Lifespan Development		3
EDCO 279. Advanced Group Process Theory and Practice		3
EDCO 283. Advanced Educational Assessment		3
EDCO 285. Trauma Counseling & Crisis Intervention		3
EDCO 286. Organizational Change and Development		3
EDCO 287. Comprehensive School Counseling Analysis		3

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Practicum and Fieldwork	6

COMPLETE 6 UNITS FROM:

Up to 6 units of EDCO 292 may be completed. Additional courses from this section can be completed to fulfill the 12 units of advanced electives.

EDCO 267. Practicum in Lifespan and Career Development	1-3
EDCO 280. Multicultural Counseling	3
EDCO 292. Supervised Experience in Counseling	3-6
EDCO 293. Practicum in Child and Substance Abuse	3
EDCO 294. Practicum in Self-Development	3

Research	3
EDCO 221. Research in Counselor Education	3

Culminating Experience	3

COMPLETE ONE OPTION (PLAN A OR PLAN B):

Plan A (Thesis)

EDCO 299. Master's Thesis	3

Plan B (Project)

EDCO 298. Special Studies in Counselor Education	3

Total Units Required	48

Elective courses must be planned in consultation with the Graduate Advisor.

Upon completion of the degree requirements, the student must have achieved minimum candidacy and order to graduate.

Education - Ed.D. Educational Leadership

Connie L. Lurie College of Education

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Colette Rabin
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Curricula

EdD, Educational Leadership

Introduction

The Ed.D. in Educational Leadership at San José State University emphasizes human centered approaches to educational leadership. The program builds on the view that educational leaders serve in learner-centered systems in which inquiry, learning, equity, and human care are central concerns. The expected role for educational leaders involves creating a learning community, one that promotes collaboration and shared decision making. This view implies moving towards more distributed models of leadership and creating a public will that is networked, dispersed and charged with successfully educating all students. The doctoral program begins with an intensive on campus five-week summer session that meets three days per week. During the fall and spring semesters in years 1 and 2, two classes each semester are scheduled. Together, the classes meet one evening per week for 8-10 weeks and on 4 or 5 Saturdays. The second summer session includes a required a global experience including a two-week educational and cultural experience outside of the United States. No formal class sessions are scheduled during the final two semesters of the Ed.D. program, when students complete independent research as part of the dissertation.

Ed.D. - Doctor of Education in Educational Leadership

The Ed.D. Program in Educational Leadership at San José State University is dedicated to developing outstanding education leaders who are well prepared to meet the demands and challenges of schools, today and in the future. The program builds on the following two basic principles: (1) schools are learner-centered organizations; and (2) educational leaders serve in human-care systems. The expected role for educational leaders involves creating a learning community that promotes collaboration and shared decision making. The Ed.D. Program is designed so that it may be completed in nine semesters over three years. This timeframe allows for completion of all coursework, pre-proposal/literature review, dissertation proposal, and completion of the dissertation. The program begins with an intensive on campus five-week summer session that meets three days per week. Fall and spring semester classes are scheduled as hybrid classes and meet on evenings, weekends, and online during the semester. The second summer requires a global component that includes a two-week educational and cultural experience outside of the United States. It is anticipated that students will concurrently be working full time as they pursue their doctoral studies.

Additional information is available in the Ed.D. Leadership Program Office and on the department website: www.sjsu.edu/edd/.

Admissions Requirements

Candidates must meet all university and Ed.D. Program admission requirements. The university-level graduate application is separate from the application that is sent to the Ed.D. Program. Minimum requirements for the program include a master's degree from an accredited institution and a 3.0 grade point average (B or better) in the last 60 semester units completed.In exceptional cases, experience and service will be considered in lieu of the Master's degree requirement.

In addition to the university admissions requirements as outlined in this catalog, applicants must meet the Ed.D. Program requirements below.

- Three letters of recommendation attesting leadership ability and potential for success in a doctoral program. One of the letters should be from a school district employer indicating support for participation in the doctoral program. Recommendation forms are available on the Ed.D. Leadership Program webpage at www.sjsu.edu/edd. Recommendation letters should be submitted directly from the person writing the recommendation letter to edd-leadership@sjsu.edu.
- Current professional resume or curriculum vitae that includes leadership experience and/or leadership strengths as indicated through job experiences, administrative credentials, and/or other evidence of leadership capacity and practice. Resumes or vitae should not exceed 4 pages.
- A written statement of purpose that explains reasons for pursuing doctoral studies in educational leadership. The statement should include relevant personal and professional history and background, some of the core commitments and principles that drive one's career goals, and challenges facing education and educational leadership in California, nationally, and globally. Statements should not exceed 3 pages, single spaced.
- A recent writing sample (last 5 years) of an individually authored paper, research projects, or reports (maximum of 20 pages). All writing samples should be single-authored and include citations and references. The writing sample is intended to demonstrate ability to construct a meaningful argument on an education-related topic and to cite research/literature to support one's views. A PowerPoint presentation is not acceptable.

Requirements for Advancement to Graduate Candidacy

Students who have completed matriculation and have achieved classified standing in the Ed.D. Program curriculum will advance to candidacy for the Ed.D. degree. Students advance to candidacy after completing a minimum of 9 units of letter-graded work that is acceptable to the Ed.D. Program and fulfilling other university requirements for advancement to candidacy as detailed in the Graduate Policies and Procedures section of this catalog. Candidacy includes successful completion of the Graduation Writing Assessment Requirement (GWAR). For graduate courses that meet the GWAR, refer to the GWAR Course List on the College of Graduate Studies website.

Requirements for Graduation

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

Ed.D. Leadership Program Graduation Requirements

To be eligible for graduation, the candidate shall have completed all coursework and global out-of-country (or equivalent) requirements, pre-proposal/literature review, the dissertation proposal, IRB, and the doctoral dissertation. Students are required to complete the dissertation proposal in two attempts in order to proceed with the dissertation.

Dissertation Requirements

- The Ed.D. dissertation is expected to contribute to an improvement in education practice and/ or education policy in the context of a particular educational institution. It is expected that the dissertation will show evidence of originality, critical and independent thinking, appropriate form and organization, and a rationale for the examined research problem or question.
- The dissertation must meet all university requirements as stipulated in this catalog and in the SJSU Master's Thesis and Doctoral Dissertation Guidelines. It will be written under the guidance of the candidate's thesis committee chair with assistance from two other members of the dissertation committee. The Dissertation Committee consists of three members, one who serves as the committee chair (or in some cases, two co-chairs can be identified). Two members of the dissertation committee must be tenured or tenure-track members of the San Jose State University faculty. The third member of the committee is expected to be employed at a local school or school district and have achieved the terminal degree (e.g., Ed.D., J.D., Ph.D.).

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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- All students must enroll in a total of 12 units of dissertation credit during the final year of the program: 6 units in the fall semester and 6 units in the spring semester of Year 3 of the program. Once the candidate has enrolled in 12 dissertation units, the maximum allowable, continuous enrollment must be maintained until the dissertation is approved and filed and the degree is awarded.
- All students are expected to produce a dissertation that consists of five chapters, namely Introduction, Literature Review, Methodology, Results/Analysis, and Conclusions/ Recommendations. This is typically followed by a References section and relevant appendices. Alternatives to the traditional dissertation format will be considered, with approval by the faculty advisor/dissertation committee, within accepted norms of research, scholarship, and creative activities. The Lurie College of Education uses APA style for research and the SJSU Graduate Studies division provides additional formatting/style guidelines for theses and dissertations.Exception to the traditional five chapter dissertation will be made on a case by case basis.
- After completing the dissertation proposal defense and obtaining IRB approval, students carry out the research plan described in the approved proposal, collect and analyze data, and continue writing the dissertation. The Dissertation Committee Chair and committee members will guide the students to ensure their dissertation conveys scholarly work that results from an appropriate research study and contributes to the understanding and/or improvement of educational practice.
- All students are expected to submit drafts of their dissertation to their committee members in appropriately word-processed form. The completed final draft also includes the Abstract, Copyright Page, Title Page, Acknowledgments, Table of Contents, List of Tables, List of Figures, References, and Appendices. The students submit the final draft manuscript to committee members for a final reading and approval. The final dissertation may take a variety of forms depending upon the type of research undertaken. The conventional five-chapter dissertation may be revised to reflect a specific design and purpose.
- Dissertation Examination: Every candidate for the Ed.D. degree must successfully pass a final oral examination based on the dissertation. At the final oral defense, the candidate will make a public presentation of his or her dissertation research. The final oral defense is conducted as an open forum led by the candidate and guided by the Committee Chair and the two other members of the Dissertation Committee. The purposes of this formal meeting are to (1) examine and assess the quality of the dissertation; (2) evaluate the ability of the student to present research; and (3) provide an opportunity to share the research with the campus community. Unanimous agreement of the Dissertation Committee is required for approval of the dissertation and recommendation that the Ed.D. degree be conferred on the candidate.

Core Courses	**48**
Educational Leadership and Education Policy	**12**
EDD 510. Educational Leadership: Theory and Practice	3
EDD 512. Leadership, Complexity, and Systems Thinking	3
EDD 515. Leadership, Diversity, and Culture: Family, School and Community Connections	3
EDD 535. Education Policy, Resource Allocation and School Reform	3
Organizational Behavior and Adult Learning	**9**
EDD 511. Leadership for Learner Centered Organizations	3
EDD 520. Organizational Behavior and Change in Education	3
EDD 522. Communication and Educational Leadership	3
Contexts for Educational Leadership	**12**
EDD 530. Assessment, Testing and Evaluation: Contexts and Implications for School Reform	3
EDD 536. The Politics of Education and Finance of Schooling	3
EDD 540. Education and Leadership in Global Context: Globalization & Narrative Ethics	3
EDD 585. Field Experience: Global Context	3
Research Methodology: Tools for the Scholar-Practitioner	**15**
EDD 501. Quantitative Analysis for Educational Research	3
EDD 502. Qualitative Methods in Educational Research	3
EDD 591A. Proseminar I: Introduction to Doctoral Studies in Educational Leadership	3
EDD 591B. Proseminar II - Practitioner-Led Research GWAR	3
EDD 591C. Professional Seminar III: Structuring & Writing a High Quality Dissertation	3
Quality Dissertation	3
International Out-of-Country Experience	0

Culminating Experience	12
EDD 599. Dissertation	1-12
Students take EDD 599 for two semesters.	
Dissertation Defense	
Total Units Required	**60**

Satisfactory Academic Progress

All students are expected to make satisfactory progress in accordance with the Ed.D. cohort structure and program of study through the time of advancement to candidacy. The normal expectation is that students will attend and participate in all required program components. In the event that a lack of attendance/participation would cause a student to fail to maintain a grade point average of 3.0, the student would be notified and counseled regarding requirements for satisfactory progress toward the degree in the time specified by program faculty.

A student must earn a grade of "C" or better in all required classes in the doctoral program, with all "sub-C" grades considered as failure; those classes would have to be repeated, and students would have one additional chance to do so. Failure to achieve the "C" grade in two chances would result in a recommendation for administrative-academic disqualification. All students are expected to achieve a grade point average of 3.0 or above in all semesters of coursework. In addition to the university requirements for minimal grade point average and academic disqualification, the Ed.D. Program requires that all students achieve a minimum grade point average of 3.0 or above in every semester of coursework. A student who achieves less than a 3.0 GPA in a given semester will be required to attend a meeting with the Ed.D. Director, the student's advisor (if an advisor has been assigned), and the faculty member teaching the course (s) in which a grade below a "B" has been assigned. Possible outcomes of this meeting include (1) a recommendation for a remediation plan for the student, (2) academic probation in the Ed.D. Program with the recommendation of disqualification if achieved GPA falls below 3.0 in a subsequent semester, or (3) a recommendation that the student be immediately disqualified from taking further coursework in the doctoral program.

Additionally, satisfactory progress pertains to doctoral students' adherence to the high standards of professional ethics. Students must adhere to scholarly and ethical standards in all courses, fieldwork, and research endeavors. Such standards are defined by the faculty, the professional accrediting bodies, policies of the university and the CSU, and relevant statutes of federal, state, and local governments. Students may be placed on probation or disqualified based on unsatisfactory scholastic progress or failure to adhere to professional and ethical standards.

We note that, according to university policy, a student who falls below a 3.0 GPA in an academic term will be notified in writing that he/she has been placed on academic probation. When the student's overall GPA is below 3.0, failure to achieve a term GPA of 3.0 in any subsequent semester results in academic disqualification.

In all cases, a disqualified student will not be allowed to continue in the program, enroll in doctoral-level courses, or register in the doctoral program. The disqualification will be communicated to the student in writing through certified mail. A disqualified student will be permitted to apply for reinstatement into the Ed.D. Program; consideration of the student's application for reinstatement will occur along with consideration for all new applications into the program in a given year.

Students who need to make up assignments must work with the faculty member teaching a particular class, and it is up to each individual faculty member how best to negotiate missed assignments and/or requests for a grade of Incomplete. In the event that lack of attendance/participation causes a student to fail to maintain a GPA of 3.0, the student will be notified of academic probation and counseled regarding requirements for satisfactory progress toward the degree.

Any student may request a leave of absence from the Ed.D. Program for up to one year through a written request to the Ed.D. Director and a formal petition to the university. To be considered, the student should explain the reasons for the request and any mitigating circumstances involved. The request may be approved or denied by the Director in consultation with the Ed.D. Program faculty. If approved, the approval will stipulate the timeline and conditions or options for returning to the doctoral program. One possible option is for the student to join a later cohort and resume taking the classes that were missed.

Education - Educational Leadership, Department of

Connie L. Lurie College of Education

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Curricula

Credential, Educational Leadership, Preliminary Administrative Services Credential
MA, Educational Leadership, Concentration in Administration and Supervision

Introduction

If schools are to meet the needs of an increasingly diverse student population, they must be led by women and men passionate about the importance of schooling and capable of managing significant school change. Graduates of the Department of Educational Leadership are trained to rise to that challenge in K-12 settings. We offer a master's degree in educational administration and a preliminary administrative service credential (tier 1) that can be earned simultaneously. The fundamental goal of education, we believe, is the success of all students. To achieve that goal requires informed, courageous leadership.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Preliminary Administrative Services Credential

Basic Requirements to Earn Preliminary Credential

Applicants to the Preliminary Administrative Services credential must: possess a valid California teaching credential, Pupil Personnel, Health Services, Librarianship, or Clinical Rehabilitative credential; have at least three years of successful, full-time experience in the public schools, or in private schools of equivalent status; pass all parts of the CBEST exam; successfully complete the credential program; and two page writing sample, letter of recommendation from a supervisor attesting to probable success at the master's level and potential for leadership, and complete the portfolio exit process.

Recommended Preliminary Credential Course Pattern

Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR). For information on the GWAR, please see http://info.sjsu.edu/gcw.html.

Requirements of the Credential		45
EDAD 200. The School Manager		3
EDAD 201. The School Leader	GWAR	3
EDAD 202. The Educator		3
EDAD 203. The School Human Resources Administrator		3
EDAD 204. School Fiscal and Legal Leadership		3
EDAD 205. The School Leader in the Community		3
EDAD 206. Advocate for All Students		3
EDAD 221A. Research Seminar Ed Leadership		3
COMPLETE 21 UNITS FROM:		
EDAD 242A. Fieldwork:Effective Leadership		3
EDAD 242B. Fieldwork: Instructional Leadership		6
EDAD 242C. Fieldwork: Assessing Resources		6
EDAD 242D. Fieldwork: Advocacy		6
Total Units Required		**45**

An instructor may waive a course if a student demonstrates competency.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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MA - Education, Concentration in Administration and Supervision

Admission Requirements

Candidates must apply through the CSU admissions portal, calstate.edu/apply. Applicants must meet all admission requirements.

Follow the link for general information about the university admission requirements and process. Applicants from countries in which the native language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirement webpage at GAPE.

Admission to Graduate Standing, Classified

Applicants who meet the admission requirements for the Graduate Division and in addition meet the further requirements of the area of specialization for the master's degree are admitted to graduate standing. 3.0 GPA is required for entrance and exit.

Admission to Graduate Standing, Conditionally Classified

Applicants who meet the admission requirements for the Graduate Division but who fail to meet the requirements for classified standing in the area of specialization for the master's degree may be admitted to conditionally classified standing in the master's degree program. Individuals petitioning such admission should contact the chair for the specific prerequisites they must complete before receiving classified standing.

Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR). For information on the GWAR, please see http://info.sjsu.edu/gcw.html.

Requirements of the Masters 54

Core Courses		45
EDAD 200. The School Manager		3
EDAD 201. The School Leader	GWAR	3
EDAD 202. The Educator		3
EDAD 203. The School Human Resources Administrator		3
EDAD 204. School Fiscal and Legal Leadership		3
EDAD 205. The School Leader in the Community		3
EDAD 206. Advocate for All Students		3
COMPLETE 24 UNITS FROM:		
EDAD 242A. Fieldwork:Effective Leadership		3
EDAD 242B. Fieldwork: Instructional Leadership		6
EDAD 242C. Fieldwork: Assessing Resources		6
EDAD 242D. Fieldwork: Advocacy		6
EDAD 221A. Research Seminar Ed Leadership		3
Additional Courses		**9**
EDAD 221B. Research Seminar Ed Leadership: Methods		3
EDAD 221C. Research Ed Leadership:Data Collection		3
EDAD 253. Seminar in Administration in Educational Settings		3
Total Units Required		**54**

Education - Special Education, Department of

Connie L. Lurie College of Education

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Saili Kulkarni
Matthew Love
Lisa Simpson, Intern Coordinator

Curricula

Minor, Atypical Child Studies
Minor, Deaf Education
Minor, Special Education
Certificate, Theory, Knowledge and Practice about Autism Spectrum Disorders
Added Authorization, Special Education - Autism Spectrum Disorders
Credential, Education Specialist Preliminary Teaching Credential: Early Childhood Special Education
Added Authorization, Early Childhood Special Education
Credential, Education Teaching Specialist Credential: Mild/Moderate Disabilities
Credential, Education Teaching Specialist Credential: Moderate/Severe Disabilities
MA, Education, Concentration in Special Education

Introduction

Graduates of the Department of Special Education are advocates for children. Our programs provide the knowledge and expertise necessary to teach students and young children with disabilities, to serve as change agents, and to help make lives the very best they can be. Our alumni are passionate about learning and education. We offer preparation for the Preliminary Education Specialist Teaching Credential in three areas (mild to moderate disabilities, moderate to severe disabilities, and early childhood special education) that can be completed as an Intern (or first year teacher) or as a traditional student. The Concurrent Option is the opportunity to earn the Education Specialist Mild to Moderate Disabilities Credential and the Multiple Subjects and/or Single Subjects Credential at the same time. We also have programs for the Added Authorizations in Early Childhood Special Education and Autism Spectrum Disorders, as well as the Certificate in Theory, Knowledge and Practice about Autism Spectrum Disorders. We offer a Master's of Arts degree with a Special Education specialization.

The California Commission on Teacher Credentialing (CCTC) and the National Council on the Accreditation of Teacher Education Colleges (NCATE) accredit all teaching credential programs. CCTC identifies and defines the standards that all teachers must satisfy for the credential; students in the Department of Special Education programs meet these standards with completion of the program and then are recommended to CCTC for the Education Specialist credential.

Credential Programs Admission Requirements:

1. Application for admission to SJSU.
2. Application and required documents for admission to the Department of Special Education.
3. Graduation from an accredited university or college.
4. Passing scores on the California Basic Education Skills Test (CBEST).
5. Grade Point Average (GPA) of at least 2.75.
6. Completion of pre-professional experience.
7. Passing scores on the California Subject Examination for Teachers (CSET).
8. Department interview with passing results.
9. Completion of 165 pre-service coursework hours for Interns.
10. U.S. Constitution requirement for Interns.
11. It is recommended that any individual interested in applying for a program attend an orientation meeting and visit the website at www.sjsu.edu/specialed.

MA Program Admission Requirements:

1. Application for admission to SJSU.
2. Application and required documents for admission to the Department of Special Education.
3. Graduation from an accredited university or college.
4. Grade Point Average (GPA) of 3.0.
5. Department interview with passing results.
6. A passing score on the Department of Special Education writing assessment.
7. Statistics Class

Minor - Atypical Child Studies

This interdisciplinary minor is offered under the Child and Adolescent Development Department and the Early Childhood Special Education Program in the Department of Special Education.

This degree is listed with the Child and Adolescent Development, Department of.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

For Legend please see page 2

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Minor - Deaf Education

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Requirements of the Minor		12
EDSE 014A. American Sign Language I		3
EDSE 014B. American Sign Language II		3
EDSE 102. Speech, Language & Typical, Atypical Dev	S	3
EDSE 115. Introduction to Deaf Culture		3
Total Units Required		**12**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Minor - Special Education

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Requirements of the Minor		12
COMPLETE ONE TRACK FROM:		
Track 1- Mild/Moderate Disabilities		
EDSE 102. Speech, Language & Typical, Atypical Dev	S	3
EDSE 192A. Including and Supporting Students		3
EDSE 216A. Teaching Reading and Language Arts		3
EDSE 241. Emerging Technology for All Learners		3
Track 2- Moderate/Severe Disabilities		
EDSE 102. Speech, Language & Typical, Atypical Dev	S	3
EDSE 110. Autism Spectrum Disorders		3
EDSE 192A. Including and Supporting Students		3
EDSE 216A. Teaching Reading and Language Arts		3
Track 3- Early Childhood Special Education		
EDSE 102. Speech, Language & Typical, Atypical Dev	S	3
EDSE 104. Atypical Development in Young Children		3
EDSE 108. Assessment and Evaluation: Atypical Young Children		3
EDSE 110. Autism Spectrum Disorders		3
Total Units Required		**12**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Education Specialist Teaching Credential - Early Childhood Special Education

Education Specialist Preliminary Teaching Credential

Requirements of the Credential		**33**
Core Courses		**9**
EDSE 102. Speech, Language & Typical, Atypical Dev	S	3
EDSE 228A. Topics in Collaboration and Transition		3
EDSE 279. Managing Behavior and Emotional Problems of Students in Special Education		3
Specialization		**24**
EDSE 104. Atypical Development in Young Children		3
EDSE 108. Assessment and Evaluation: Atypical Young Children		3
EDSE 154. Practicum and Student Teaching in Special Education		6
EDSE 214A. Augmentative and Alternative Comm Strat		3
EDSE 218A. ASD: Moderate to Severe Disabilities		3
EDSE 221. Intervention for Young Children with Disabilities and Delays		3
EDSE 235A. Movement, Mobility, Sensory and Health		3
Internship Option		**21**
EDSE 105. Supervision Induction Plan Evaluation		6
Students will take 105 for three semesters.		
EDSE 224. Methodologies for Second Language Learners in Special Education Programs		3
Total Units Required		**33**

Added Authorization in Special Education - Early Childhood Special Education

The Added Authorization in Early Childhood Special Education is available to individuals who hold a Clear Education Specialist Credential. Completion of this authorization extends special education teaching authorization to students with disabilities between the ages of birth and pre-Kinder.

Requirements of the Credential	24
Specialized Courses	**24**
EDSE 104. Atypical Development in Young Children	3
EDSE 108. Assessment and Evaluation: Atypical Young Children	3
EDSE 154. Practicum and Student Teaching in Special Education	6
EDSE 214A. Augmentative and Alternative Comm Strat	3
EDSE 218A. ASD: Moderate to Severe Disabilities	3
EDSE 221. Intervention for Young Children with Disabilities and Delays	3
EDSE 235A. Movement, Mobility, Sensory and Health	3
Total Units Required	**24**

Added Authorization in Special Education - Autism Spectrum Disorders

Prerequisite	
Level II or Clear Education Specialist Credential K-12, please see CCTC website	
Requirements of Authorization	**9**
EDSE 218A. ASD: Moderate to Severe Disabilities	3
EDSE 218B. ASD: Mild to Moderate Disabilities	3
EDSE 218C. ASD: Collaboration and Implementation of Best Practices	3
Total Units Required	**9**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

Education Specialist Credential - Mild/Moderate Disabilities

Preliminary Credential Program

Required Upper Division Coursework	**6**
EDEL 108D. Curriculum: Mathematics	3
EDSE 102. Speech, Language & Typical, Atypical Dev S	3
Requirements of the Credential	**39**
Core Courses	**15**
EDEL 294. Research and Practices in Health and Special Education	3
EDSE 218B. ASD: Mild to Moderate Disabilities	3
EDSE 224. Methodologies for Second Language Learners in Special Education Programs	3
EDSE 241. Emerging Technology for All Learners	3
EDSE 279. Managing Behavior and Emotional Problems of Students in Special Education	3
Specialized Coursework	**18**
EDSE 215. Assessment And Evaluation of Individuals with Mild/Moderate Disabilities	3
EDSE 216A. Teaching Reading and Language Arts	3
EDSE 217A. Directed Teaching I	6
Plus 50 hours of fieldwork in a general education setting	
EDSE 228A. Topics in Collaboration and Transition	3
EDSE 230A. Curriculum and Instruction M/M	3
Internship Option	**18**
EDSE 105. Supervision Induction Plan Evaluation	6
Students will take 105 for three semesters	
Total Units Required	**39-57**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

Education Specialist Credential - Moderate/Severe Disabilities

Preliminary Credential Program

Required Lower Division Coursework		**3**
EDEL 108D. Curriculum: Mathematics		3
50 hours of field work in general education setting		
Requirements of the Credential		**36-44**
Core Courses		**15**
EDSE 102. Speech, Language & Typical, Atypical Dev	S	3
EDSE 192A. Including and Supporting Students		3
EDSE 216A. Teaching Reading and Language Arts		3
EDSE 218A. ASD: Moderate to Severe Disabilities		3
EDSE 279. Managing Behavior and Emotional Problems of Students in Special Education		3
Specialized Coursework		**18**
EDSE 154. Practicum and Student Teaching in Special Education		6
EDSE 206A. Assessment Strategies for M/S		3
EDSE 213A. Curriculum, Instruction and Transition		3
EDSE 214A. Augmentative and Alternative Comm Strat		3
EDSE 235A. Movement, Mobility, Sensory and Health		3
Internship Option		**21**
EDSE 105. Supervision Induction Plan Evaluation		6
Students will take 105 for three semesters		
EDSE 224. Methodologies for Second Language Learners in Special Education Programs		3
Total Units Required		**36-47**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Certificate in Theory, Knowledge and Practice about Autism Spectrum Disorders

Department consent.

Requirements of the Certificate	9
Specialized Coursework	**9**
EDSE 218A. ASD: Moderate to Severe Disabilities	3
EDSE 218B. ASD: Mild to Moderate Disabilities	3
EDSE 218C. ASD: Collaboration and Implementation of Best Practices	3
Total Units Required	**9**

MA - Education, Concentration in Special Education

Advisors: Dr. Peg Hughes, Dr. Hyun-Sook Park, Dr. Angela Rickford, Dr. Lisa Simpson, and Dr. Andrea Golloher

The MA in Education with a Concentration in Special Education is a 30-unit program designed to prepare students for leadership roles in Special Education through coursework in one of three areas of specialization: early childhood special education; mild/moderate or moderate/severe disabilities; or a combination of areas of interest. Students interested in the MA and a teaching credential must apply for both options. Please note that prospective teachers with the MA must also complete a credential program in an area of interest to work in public schools in the State of California. For more information see www.sjsu.edu/specialed/

Admission Requirements

Prospective students must apply separately to the university to obtain approval for graduate-level admission and to the department to obtain admission into the MA program. Applicants who meet the following requirements will be considered for admission in classified standing into the MA in in Education with a Concentration in Special Education:

- Bachelors Degree or equivalent and a cumulative GPA of 3.0 or better;
- Passing score on the Department of Special Education writing assessment or GRE Analytical Writing (passing score of 4.0 score or better);
- Certificate of Clearance;
- STAT 095, Elementary Statistics or equivalent basic statistics course with a grade of 3.0 or better; and
- A teaching credential in special education is recommended.

In addition to the same requirements mentioned above, applicants from countries in which the native language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirement webpage at GAPE.

Requirements for Admission to Candidacy

To be admitted to candidacy for the Master of Arts degree, a student must first meet the university requirements for the degree as stated in the Advancement to Candidacy section of this catalog. Candidates must also have:

- At least a 3.0 ("B") average in nine semester hours of approved San José State University courses;
- Approval of a formal master's degree program from the departmental graduate advisor and from the Graduate Committee; and
- Successfully completed the graduate English Writing Requirement. The University requires that all graduate students complete the Graduation Writing Assessment Requirement (GWAR) as a condition for advancement to candidacy. For graduate courses that meet the GWAR, please refer to the Graduate Admissions and Program Evaluations website at www.sjsu.edu/gape.

University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

Culminating Experience

Plan B (Project)

Students will complete a research project that involves identification of a research problem, data collection, analysis, and discussion. The written requirement includes five chapters similar to the thesis format and a poster presentation to meet the oral requirement.

Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR). For information on the GWAR, please see http://info.sjsu.edu/gcw.html.

Requirements of the Masters 30

A statistics course is required as part of this masters program.

Core Courses 12

EDSE 218A. ASD: Moderate to Severe Disabilities 3
Students may also take 218B or 218C

EDSE 231. Issues and Research in Special Education 3
EDSE 231X. Educational Research: Design and Implementation 3
EDSE 285. Seminar on Issues Related to Teaching Exceptional Individuals ..... GWAR 3

Electives 15

Electives to be chosen with the approval of the advisor.

Culminating Experience 3

Plan B- Project
EDSE 220. Research Seminar on Exceptional Individuals 3

Total Units Required 30

Elective courses must be planned in consultation with the Graduate Advisor.

The maximum number of upper-division undergraduate units that can be applied toward the master's degree is 15.

The maximum number of graduate units (with a grade of "B" or better) that can transferred from approved accredited universities is 9. Continuing education and extended studies units are not accepted for transfer.

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU Cumulative grade point averages of 3.0 in order to graduate.

Education - Teacher Education, Department of

Connie L. Lurie College of Education

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Lara Kassab
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Curricula

Minor, Education
Credential, Single Subject
Credential, Multiple Subject
Certificate, Teaching Certificate in Common Core Mathematics (K-8)
MA, Education, Concentration in Curriculum and Instruction with Multiple Subject Credential
MA, Education, Concentration in Curriculum and Instruction (LACES)

Introduction

The Teacher Education Program at San Jose State University is California's oldest public teacher preparatory program. We are committed to preparing the highest quality educators (PreK-12), with knowledge, skills, dispositions, and ethics to teach students in our culturally diverse and technologically complex global communities. Teaching is a reliable and rewarding profession for those desiring to influence the lives of children and adolescents.

The Teacher Education Department offers a California multiple (grades PK-8) or single subject (grades 9-12) teaching credential offered by the State of California to teach pre-school, elementary, middle, and high school students in a California public school. These programs are post baccalaureate, offered at the graduate level, and are approved by the CCTC (California Commission on Teacher Credentialing). The Teacher Education Department offers many options, including a Teaching Credential only (in multiple or single subject), a Teaching Credential plus a Master of Arts Degree (in Elementary: Curriculum & Instruction) or a Master of Arts Degree(LACES) only (also in Elementary: Curriculum & Instruction). In addition, the Teacher Education Department offers an Advanced Teaching Certificate in the CCTC Common Core State Standards in Mathematics (K-8).

The links below will provide information on the department's two programs, Elementary Education and Secondary Education.

Elementary Education

Secondary Education

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Admissions Requirements

The following chart identifies admission requirements for all degree, credential and certificate programs in the Teacher Education Department. Applicants from countries in which the native language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirement webpage at GAPE (Graduation Admissions and Program Evaluations).

TEACHER EDUCATION ADMISSION REQUIREMENTS	MULTIPLE SUBJECT CREDENTIAL - ONLY	COMBINED MULTIPLE SUBJECT CREDENTIAL / MASTER OF ARTS PROGRAM - Curriculum & Instruction	ELEMENTARY ED/ MASTER OF ARTS PROGRAM (LACES)	SINGLE SUBJECT CREDENTIAL PROGRAM	SINGLE SUBJECT CREDENTIAL / INTERN PROGRAM
SJSU GRADUATE ADMISSIONS & PROGRAM EVALUATIONS REQUIREMENTS					
Calstate.edu/apply Application	X	X	X	X	X
Official Transcripts (all schools) to GAPE	X	X	X	X	X
Application Fee	X	X	X	X	X
International Students - Non-English Language Degree Addition Requirements	X	X	X	X	X
DEPARTMENTAL REQUIREMENTS					
GPA (minimum)	2.87	2.87	3.00	2.75	2.75
Application Checklist	X	X			
Application Form	X	X	X	X	X
Resume	X	X	X	X	X
Statement of Purpose	X	X			
Cover Letter			X		
Letters of Recommendation (3)	X	X		X	X
CBEST (Basic Skills Requirement)	X	X		X	X
Second Set of Transcripts to TED	X	X	X	X	X
Pre-Professional Experience	45 hours	45 hours		45 hours	45 hours
CSET - Multi-Subject Exam	X	X			
CSET - Single Subject (or waiver based on course-work) *				X	X
Subject Matter Competancy (SMC) Interview & signed form				X	X
Current Teacher Credential			X		
United States Constitution Requirement					X
Department Administered Writing Task				X	X
Interview	X	X			X

Requirements for Program Continuation / Advancement to Candidacy

Students must meet the university requirements for candidacy. General university requirements for advancement to candidacy for the MA degree are detailed in the Graduate Policies and Procedures section of this catalog. Candidacy includes successful completion of the Graduation Writing Assessment Requirement (GWAR). For graduate courses that meet the GWAR, refer to the GWAR Course List on the College of Graduate Studies website.

Applicants must also

- complete successfully 9 units of graduate coursework in the Elementary Education program;
- demonstrate aptitude for advanced work in professional education as measured by instructor appraisals, evaluation of previous academic work, recommendation by qualified professionals, or other assessments;
- meet with a graduate advisor to plan a formal course of study. The MA degree approved programs are individually designed to meet specific student objectives.

The proposed graduate program must be approved by the graduate coordinator before the student may be considered a candidate for the MA degree.

TEACHER EDUCATION ADMISSION REQUIREMENTS	MULTIPLE SUBJECT CREDENTIAL - ONLY	COMBINED MULTIPLE SUBJECT CREDENTIAL / MASTER OF ARTS PROGRAM - Curriculum & Instruction	ELEMENTARY EDUCATION / MASTER OF ARTS PROGRAM (LACES)	SINGLE SUBJECT CREDENTIAL PROGRAM	SINGLE SUBJECT CREDENTIAL / INTERN PROGRAM
DEPARTMENTAL REQUIREMENTS					
GPA (minimum)	3.00	3.00	3.00	3.00	3.00
CSET - Multi-Subject Exam	X	X			
CSET - Single Subject (or waiver based on course-work)				X	X
Certificate of Clearance	X	X		X	X
Current Teacher Credential			X		
United States Constitution Requirement				X	X
Current Negative TB Test	X	X		X	

Minor in Education

The minor in Education is available to students who are interested in education from a variety of perspectives. Students in a degree program who may want to work with children in capacities inside or outside the classroom may be interested in this minor. For example, students interested in the following career paths could benefit from this course of study: becoming a teacher, working in the non-profit sector (e.g., educational foundations) or in any type of child advocacy work such as law or social work; or anyone working in a diverse environment where understanding how individuals learn and process information could benefit. Successful completion of the minor will enable students to earn 12 credits toward their multiple subject teaching credential.

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Requirements of the Minor	12
EDEL 102. Psychological Foundations of Education	3
EDEL 103. Social-Multicultural Foundations of Education	3
EDTE 162. Meeting the Needs of Second Language Learners	3
EDTE 190. Health Education for the Classroom Teacher	3
Total Units Required	**12**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

For Legend please see page 2

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Teaching Certificate in Common Core Mathematics (K-8)

The Advanced Teaching Certificate in Common Core Mathematics K-8 is designed for practicing teachers and mathematics coaches. Courses focus on developing the mathematical knowledge for teaching K-8 Common Core Standards and Mathematical Practices. Additional emphasis will be placed on pedagogical strategies that foster motivation, engagement, and the development of academic language in mathematics.

Requirements of the Certificate	9

COMPLETE THREE COURSES FROM:

EDTE 230. Mathematics: Teaching Common Core (K-3)	3
EDTE 231. Math Seminar: Common Core (grades K-3)	3
EDTE 232. Mathematics: Teaching Common Core (4-8)	3
EDTE 233. Math Seminar: Common Core (grades 4-8)	3

Total Units Required	9

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Multiple Subject Credential

Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR). For information on the GWAR, please see http://info.sjsu.edu/gcw.html.

Requirements for the Multiple Subject Credential 41

Core Courses

EDEL 108A. Curriculum: Reading/Language Arts	3
EDEL 108B. Curriculum: Science	3
EDEL 108C. Curriculum: Social Studies	3
EDEL 108D. Curriculum: Mathematics	3
EDEL 143A. Beginning Student-Teaching (Phase I)	4
EDEL 143B. Advanced Student-Teaching (Phase II)	10
Students will take up to 10 units of EDEL 143B	
EDEL 294. Research and Practices in Health and Special Education	3
EDTE 208. Educational Sociology GWAR	3
EDTE 224. Seminar in Educational Psychology	3
EDTE 260. Critical Perspectives on Schooling for a Pluralist Democracy	3
EDTE 262. Classroom Issues in the Language/Literacy Development of L2 Learners	3

Total Units Required 41

Upon completion of the credential requirements, students must have achieved a SJSU cumulative grade point average of 3.0 in order to be recommended for a credential.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

Single Subject Credential

Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR). For information on the GWAR, please see http://info.sjsu.edu/gcw.html.

Core Courses 35-38

EDSC 162. Language/Literacy Development of L2 Learners 3
EDSC 172A. Social, Philosophical Multicultural Fdn 3
EDSC 173. Psychological Foundations of Secondary Teacher Education 3
EDSC 182. Assessment and Evaluation 3
EDSC 184X. Student Teaching I 6
EDSC 246. Learning Communities: Methods and Management 3
EDEL 294. Research and Practices in Health and Special Education 3

Methods 3-4

COMPLETE ONE OF THE METHODS COURSE LISTED BELOW:

ARED 238. Principles of Art Education 3
ENED 353. Methods of Teaching English 4
FLED 380. Teaching Foreign Languages 3
KNED 339. Instructional Materials and Procedures in Physical Education 3
MTED 394. Secondary School Mathematics 3
MUED 370A. Methodology for Music Educators: Elementary K-8 2
MUED 370B. Methodology for Music Educators: Secondary 2
SCED 173. Secondary School Science 3
SSED 378. Social Science Methods 3

Student Teaching Phase II 4

COMPLETE ONE OF THE STUDENT TEACHING PHASE II COURSES LISTED BELOW:

ARED 184Y. Student Teaching II - Classroom Teaching 4
ENED 184Y. Student Teaching II - Classroom Teaching 4
FLED 184Y. Student Teaching II - Classroom Teaching 4
KNED 184Y. Student Teaching II: Classroom Teaching 4
MTED 184Y. Student Teaching II - Classroom Teaching 4
MUED 184Y. Student Teaching II - Classroom Teaching 4
SCED 184Y. Student Teaching II - Classroom Teaching 4
SSED 184Y. Student Teaching II - Classroom Teaching 4

Student Teaching Phase III 4-5

COMPLETE ONE OF THE STUDENT TEACHING PHASE III COURSES LISTED BELOW:

ARED 184Z. Student Teaching III - Classroom Teaching 4
ENED 184Z. Student Teaching III - Classroom Teaching 4
FLED 184Z. Student Teaching III - Classroom Teaching 4
KNED 184Z. Student Teaching III - Classroom Teaching 4
MTED 184Z. Student Teaching III - Classroom Teaching 5
MUED 184Z. Student Teaching III-Classroom Teaching 4
SCED 184Z. Student Teaching III - Classroom Teaching 4
SSED 184Z. Student Teaching III - Classroom Teaching 4

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Seminar	0-2
COMPLETE ONE OF THE SEMINAR COURSE LISTED BELOW:	
ARED 365. Field Experience Seminar in Art Education	1
ENED 365. Seminar in English Education	2
FLED 285. Student Teaching Seminar In Foreign Language Education	1
MTED 184S. Math Education Phase II Seminar	1
SCED 375. Colloquium in Science Education	2
Total Units Required	**35-38**

Elective courses must be selected in consultation with the Graduate Advisor.

Upon completion of the credential requirements, students must have achieved a SJSU Cumulative grade point average of 3.0 in order to be recommended for a credential.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

MA- Education, Concentration in Curriculum and Instruction with Multiple Subject Credential

Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR). For information on the GWAR, please see http://info.sjsu.edu/gcw.html.

Requirements of the Masters 47

Core Courses 44

EDEL 108A. Curriculum: Reading/Language Arts		3
EDEL 108B. Curriculum: Science		3
EDEL 108C. Curriculum: Social Studies		3
EDEL 108D. Curriculum: Mathematics		3
EDEL 143A. Beginning Student-Teaching (Phase I)		4
EDEL 143B. Advanced Student-Teaching (Phase II)		10
EDEL 294. Research and Practices in Health and Special Education		3
EDTE 208. Educational Sociology	GWAR	3
EDTE 224. Seminar in Educational Psychology		3
EDTE 250. Qualitative Research in Education		3
EDTE 260. Critical Perspectives on Schooling for a Pluralist Democracy		3
EDTE 262. Classroom Issues in the Language/Literacy Development of L2 Learners		3

Culminating Experience 3

MA Presentation at MA Colloquium

COMPLETE ONE OPTION (PLAN A OR PLAN B):

Plan A (Thesis)

EDTE 299. Master's Thesis 1-6

Plan B (Project)

EDTE 298. Special Studies in Education 1-6

Total Units Required 47

Upon completion of the credential requirements, students must have achieved a SJSU cumulative grade point average of 3.0 in order to be recommended for a credential.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

MA- Education, Concentration in Curriculum and Instruction (LACES)

University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR). For information on the GWAR, please see http://info.sjsu.edu/gcw.html.

Requirements of the Masters 30

Core Courses 27

EDTE 210. Becoming a Reader at Any Age		3
EDTE 211. Developing Academic Language for Reading Across the Curriculum		3
EDTE 212. Leadership, Politics and Literacy Program Evaluation		3
EDTE 214. Learning in a High Tech Environment		3
EDTE 216. Ongoing Assessment in Your Classroom		3
EDTE 217A. Reading Practicum I		3
EDTE 217B. Reading Practicum 2		3
EDTE 290C. Research on Literacy Across the Curriculum for an Equitable Society	GWAR	3
EDTE 292. Writing Across Cultures and the Curriculum	GWAR	3

Culminating Experience 3

MA Presentation at MA Colloquium

COMPLETE ONE OPTION (PLAN A OR PLAN B):

Plan A (Thesis)

EDTE 299. Master's Thesis 1-6

Plan B (Project)

EDTE 298. Special Studies in Education 1-6

Total Units Required 30

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU cumulative grade point averages of 3.0 in order to graduate.

Electrical Engineering Department

College of Engineering

ENGINEERING BUILDING 349
408-924-3950
ee.sjsu.edu

Professors

Tri Caohuu
Chang Choo
Sotoudeh Hamedi-Hagh
Lili He
Ping Hsu
Thuy Le, Chair
Essam Marouf
Nader Mir
Robert Morelos-Zaragoza
David Parent, Undergraduate Coordinator

Associate Professors

Jalel Rejeb
Birsen Sirkeci, Graduate Coordinator

Assistant Professors

Mohamed Badawy
Jonathan Ponniah
Hiu Yung Wong
Juzi Zhao

Curricula

BS, Electrical Engineering
MS, Electrical Engineering

Introduction

Top-ranked among national BS/MS programs by U.S News and World Report, the Electrical Engineering Department powers Silicon Valley. We provide more electrical engineering graduates to this region than are provided by any other college or university anywhere. At the forefront of technological research and innovation in multimedia computing, global communications, and high-speed integrated circuitry, electrical engineers push technology to the limits of physical and mathematical laws. There is no greater challenge for the creative mind. We prepare students for exciting careers in diverse areas of hi-tech engineering, including micro and nano technologies, chip-scale integration, embedded hardware and software systems, controls, robotics and autonomy, power electronics and energy systems, communication and machine learning, networking and cybersecurity. Our accomplished faculty brings real-world experience to the classroom, and the department's links with local industry ensure that our laboratories are among the area's most advanced instructional facilities with up-to-date, state-of-the-art equipment. The BS Electrical Engineering program is accredited by the Engineering Accreditation Commission of ABET, www.abet.org

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

BS - Electrical Engineering

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

Major Exceptions

This degree program meets certain University Requirements through approved major modifications. Please see the Major Exceptions area in the Policy and Procedures section of this catalog to identify the specific adjustments for this degree program or contact your major advisor for more details.

Major-Specific Graduation Requirements

Students in this major must complete the following Preparation and Required for the Major courses with a "C or better": ENGL 001B, EE 097, EE 098, EE 110, EE 118, EE 122, EE 128, EE 198A, ENGR 100W, MATE 153, MATH 133A or MATH 123. All other required courses in Engineering, Mathematics, Chemistry and Physics require a "C- or better". Prerequisite requirements may be higher than graduation requirements.

University Graduation Requirements 18

Core Lower Division General Education 6

Of the 39 units required by the university, 33 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

Upper Division General Education

Of the 9 units required by the university, 9 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 12

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

AMS 001A. American Cultures to 1877	M4	6
AMS 001B. American Cultures 1877 to present	M5	6

Physical Education

Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Preparation for the Major 33

CHEM 001A. General Chemistry	B1+B3	5
ENGL 001B. Argument and Analysis	C2	3
or equivalent second semester composition course.		
MATH 030. Calculus I	B4	3
MATH 031. Calculus II	B4	4
MATH 032. Calculus III	B4	3
PHYS 050. General Physics/Mechanics	B1+B3	4
PHYS 051. General Physics/Electricity and Magnetism	B1+B3	4
PHYS 052. General Physics/Waves, Light, Heat	B1+B3	4

COMPLETE ONE COURSE FROM:

MATH 123. Differential Equations and Linear Algebra	3
MATH 133A. Ordinary Differential Equations	3

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

For Legend please see page 2

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Requirements of the Major 69

Students must complete the following courses with a "C" or better to graduate: EE 097, EE 098, EE 110, EE 112, EE 118, EE 122, EE 128, EE 198A, ENGR 100W, MATE 153. All other required courses in Engineering, Mathematics, and Physics require a "C-" or better to graduate.

Core Courses 13

EE 097. Introductory Electrical Engineering Laboratory		1
EE 098. Introduction to Circuit Analysis		3
ENGR 010. Introduction to Engineering	E	3
ENGR 100W. Engineering Reports	Z+R	3

COMPLETE ONE COURSE FROM:

CMPE 030. Programming Concepts and Methodology		3
EE 030. Introduction to Programming Micro-Controllers for Electrical Engineering		3

Required Courses 41

EE 102. Probability and Statistics in Electrical		3
EE 110. Circuits and Systems		3
EE 110L. Continuous and Discrete Time Systems Lab		1
EE 112. Introduction to Signal Processing		3
EE 118. Digital Logic Circuit Design		4
EE 120. Microprocessor Based System Design		4
EE 122. Electronic Design I		4
EE 124. Electronic Design II		4
EE 128. Physical Electronics		3
EE 140. Principles of Electromagnetic Fields		3
EE 198A. Senior Design Project I	S	1
EE 198B. Senior Design Project II	V	3
ENGR 195A. Global and Social Issues in Engineering	S	1
ENGR 195B. Global and Social Issues in Engineering	V	1

Students must take EE 198A/B and ENGR 195 A/B to meet GE Area S&V requirements or take a 3-unit Area S course and a 3-unit Area V course.

MATE 153. Electronic, Optical and Magnetic Properties of Materials		3

Additional Required Courses 3

COMPLETE ONE COURSE FROM:

EE 132. Theory of Automatic Controls		3
EE 160. Principles of Communication Systems		3

Approved Upper Division Electives 12

Elective courses as approved by advisor.

Total Units Required 120

MS - Electrical Engineering

The Master of Science in Electrical Engineering is one of the largest graduate programs in the university with more than 500 graduate students and over twenty full-time faculty members. The curriculum is continually updated to keep abreast of advances in the engineering profession and industry. Along with the traditional emphasis on fundamental scientific knowledge, current engineering practice using computer design tools is integrated into the curriculum. Information about the MSEE program can be found at http://ee.sjsu.edu/

Admissions Requirements

Candidates must apply through the CSU admissions portal, calstate.edu/apply. Applicants must meet all admission requirements.

Follow the link for general information about the university admission requirements and process. Applicants from countries in which the native language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirement webpage at GAPE.

Requirements for Admission to Classified Standing

To be admitted to classified standing, an applicant must possess a baccalaureate degree with a major in Electrical Engineering or its equivalent and a grade point average of 3.0 or better on a 4.0 scale in the last 60 units from a U.S. university with an ABET-accredited Electrical Engineering program.

Requirements for Admission to Conditionally Classified Standing

Some applicants who do not qualify for classified standing may be admitted as conditionally classified graduate students. They must petition for a change to classified status after completing the common core graduate courses with grades of "B" or better. A maximum of 15 units earned before the student attains the classified status may be counted towards the MSEE degree requirements.

Applicants with a BSEE Degree from an Accredited University in the U.S.:

An applicant with a BS degree in Electrical or Computer Engineering from an accredited university within the United States, whose GPA in the last 60 units is 3.0 or above on a 4.0 scale, will be admitted to classified standing (GRE is not required). An applicant with a GPA in the last 60 units lower than 3.0 but higher than 2.75 on a 4.0 scale is required to submit his or her general GRE scores with the application. If accepted, the applicant will be admitted as a conditionally classified graduate student. Such a student may petition for a change to classified standing after successfully completing two of the following three courses: EE 210, EE 221, or EE 250 with a "B" or better grade in each course. Information about GRE score requirements can be found at Graduate Program Test Requirement.

Applicants with a BS Degree in Another Branch of Engineering from an Accredited University in the U.S.:

An applicant who possesses a baccalaureate degree in another branch of Engineering or in Physics or Mathematics with a minimum GPA of 3.0 on a 4.0 scale in the last 60 units is required to submit his/her general GRE scores with the application. If accepted, the applicant will be admitted as a conditionally classified graduate student. Such an applicant may be required to complete four undergraduate courses at the beginning of the graduate program. The four undergraduate courses are specified in the admission letter and are selected from EE 110 (Circuits and Systems), EE 112 (Introduction to Signal Processing), EE 118 (Digital Logic Circuit Design), EE 120 (Microprocessor Based System Design), EE 122 (Electronic Design I), EE 124 (Electronic Design II) and EE 140 (Principles of Electromagnetic Fields). Following the completion of the undergraduate courses, the student must successfully complete two of the three graduate core courses, EE 210, EE 221, or EE 250, with a "B" or better grade in each course. He or she may not enroll in more than two other graduate courses before completing these requirements. Units for the undergraduate courses are not counted toward the MSEE degree unit requirement. Information about GRE score requirements can be found at Graduate Program Test Requirement.

Applicants with Undergraduate Degrees from Foreign Universities

An applicant with a baccalaureate degree in Electrical, Electronic, Telecommunications, or Computer Engineering with a minimum GPA of 3.0 on a 4.0 scale in the last 60 semester units is eligible to apply. Applicants are required to take an English-proficiency test (TOEFL or equivalent) and general Graduate Record Exam (GRE). Information about minimum score requirements for English-proficiency tests and GRE can be found at Graduate Program Test Requirement. In general, there are no hard cut-offs on the GRE scores but the scores will be used with applicants' degree and GPA to rank the candidates for admission.

Applicants satisfying these requirements may be admitted as conditionally classified graduate students with the condition that they must complete two of the three core graduate courses, EE 210, EE 221, or EE 250, with a "B" or better grade in each course before enrolling in any other graduate course. However, a student with a high GPA and GRE may be admitted into classified standing.

Applicants from Other Graduate Programs within the University

A graduate student who has been admitted to another department in San José State University has to complete at least one semester of work in that department before asking for transfer to the Electrical Engineering Department. A minimum GPA of 3.0 in the last 60 semester units and general GRE score are required. There are no hard cut-offs on the GRE scores but the scores will be used with applicants' degree and GPA to rank the candidates for admission.

A "Change of Major Form" has to first be approved by the GAPE office and the file transferred to the Electrical Engineering Department before the student may be considered for transferring into the Electrical Engineering program.

Requirements for Advancement to Graduate Candidacy

Matriculated graduate students must submit a Petition for Advancement to Graduate Candidacy a minimum of one semester prior to graduating. See the link for information about this requirement.

Students also must fulfill the Graduation Writing Assessment Requirement (GWAR) before advancing to candidacy. See the link for information about the GWAR.

Requirements for Graduation

University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

Course Requirements

To meet the requirements for the MS - Electrical Engineering degree, a student must complete 33 units including GWAR with a cumulative GPA of 3.0 or better. The program provides three options (two plans): MS thesis (Plan A), MS Project (Plan B), or courses only followed by a comprehensive exam (Plan B).

Culminating Experience

Plan A (Thesis)

Students choosing this option must complete the MSEE Thesis Proposal course (EE 299A) and MSEE Thesis course (EE 299B) in a two-semester sequence. The student is responsible for securing the commitment of three university faculty members, two of whom must be full-time EE faculty members, to serve as the student's thesis committee, with one full-time EE faculty member agreeing to serve as thesis committee chair. The student must write a thesis proposal and have it approved by the thesis committee and pass the MSEE Thesis Proposal course (EE 299A) before enrolling in EE 299B. The thesis must meet university requirements as stipulated in this catalog and in the SJSU Master's Thesis and Doctoral Dissertation Guidelines. It will be written under the guidance of the candidate's thesis committee chair with the assistance of the thesis committee. The candidate for the MSEE degree must successfully pass a final oral defense of the thesis.

Plan B (Project)

The student must complete the MSEE Project Proposal course (EE 297A) and MSEE Project course (EE 297B) in a two-semester sequence. The student is responsible for securing the commitment of a full-time EE faculty member to serve as MSEE Project Advisor. The student must write a project proposal and have it approved by the project advisor and pass the MSEE Project Proposal course (EE 297A) before enrolling in the final MSEE Project course (EE 297B). The candidate for the MSEE degree must successfully pass a final defense of the project.

Plan B (Comprehensive Exam)

Students opting for the courses-only option must pass the Comprehensive Exam (given once a semester) to earn the MSEE degree. The exam is a 90-minute closed book exam with 14 problems selected from fourteen EE graduate-level elective courses. Students are required to answer three problems from the fourteen appearing on the exam.

Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR). For information on the GWAR, please see http://info.sjsu.edu/gcw.html.

Requirements of the Masters 33

Core Courses 9

EE 295. Technical Writing - Engineering Ethics ..... GWAR 3

Students with GWAR waivers take an additional 3 units of electives

COMPLETE TWO COURSES FROM:

EE 210. Linear System Theory 3
EE 221. Semiconductor Devices I 3
EE 250. Probabilities, Random Variables and Stochastic Processes 3

Area of Specialization 9

Electives 9

9 units of Approved Electives

Culminating Experience	6
Plan A (Thesis)	**6**
EE 299A. MSEE Thesis Proposal	3
EE 299B. MSEE Thesis	3
Plan B (Project)	**6**
EE 297A. MSEE Project Proposal	3
EE 297B. MSEE Project	3
Plan B (Courses Only)	**6**
Comprehensive Exam	0
Additional 6 units of Approved Electives	6
Total Units Required	**33**

A coherent plan of study must be approved on the prescribed form by the graduate coordinator. In special circumstances, a maximum of 3 units of approved courses taken outside the Electrical Engineering Department may be applied toward the MS - Electrical Engineering degree. Students who wish to take courses outside the Electrical Engineering Department must have pre-approval by the Graduate Coordinator.

Students opting for the courses-only option must also pass the required Comprehensive Exam (given once per semester) to earn the MSEE degree.

In addition to the above requirements, students must satisfy all university requirements and procedures as stated in this catalog.

Areas of Specialization

- Device Physics/Logic/Digital/Embedded System Design
- ASIC/VLSI Circuits
- Analog/Mixed-Signal IC
- Communications/Signal Processing/Machine Learning
- Networking/Cybersecurity
- Power Electronics/Control/Energy Systems

Students desiring to pursue an area of specialization not listed above should consult his or her area advisor. A coherent plan of study must be approved on the prescribed form by the area advisor and the graduate coordinator.

English and Comparative Literature

College of Humanities and the Arts

FACULTY OFFICES 102
408-924-4425
www.sjsu.edu/english

Professors

Angela Noelle Brada-Williams, Chair
Paul Douglass
Katherine Harris
Revathi Krishnaswamy
Samuel Maio
Richard McNabb
Kathleen McSharry
Cathleen Miller
Linda Mitchell
Thomas Moriarty
Susan Shillinglaw
Alan Soldofsky
Nancy P. Stork
Nicholas Taylor
Mary Warner
William A Wilson

Associate Professors

Balance T.P. Chow
Adrienne Eastwood

Assistant Professors

Selena Anderson
Cindy Baer
Allison Johnson
Jennifer Johnson
Keenan Norris
Ryan Skinnell
Mark Thompson
Sara West

Curricula

BA, English
BA, English, Concentration in Creative Writing
BA, English, Concentration in Professional and Technical Writing
BA, English, Concentration in Preparation for Teaching
Minor, Literature
Minor, Comparative Literature
Minor, Creative Writing
Minor, Professional and Technical Writing
Certificate, Professional and Technical Writing
MA, English
MFA, English, Creative Writing

Introduction

Study with award-winning teachers and professional writers. Develop editing and production skills by working on Reed Magazine, one of the oldest literary journals in the West. Prepare for a variety of careers in teaching, career and technical writing, or advanced study in English, law and medicine. The Department of English and Comparative Literature offers programs in English, American, world, and comparative literature, and creative and professional writing. Our MA prepares students for teaching careers or doctoral studies. Our MFA in creative writing trains professional writers in the history and craft of poetry, creative nonfiction, fiction, script- and screen-writing. Home to the Steinbeck Fellows and the Lurie Visiting Distinguished Author programs, the department also houses the Center for Literary Arts, which brings distinguished poets, fiction writers and creative nonfiction writers to campus to give public readings.

Undergraduate Honors Program

Upper-division students with a minimum grade point average of 3.0 overall and 3.5 in the major are eligible for Departmental Honors. Honors students complete an Honors Colloquium (ENGL 190). Application to the honors program should be made through the English Department Office.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

For Legend please see page 2

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CATALOG CONTENTS

BA - English

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

University Graduation Requirements 47

Core Lower Division General Education 33

Of the 39 units required by the university, 6 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

NOTE: STUDENTS WHO HAVE COMPLETED THE ADT TRANSFER DEGREE (UNDER SB 1440) FOR THIS MAJOR WILL HAVE COMPLETED ALL LOWER DIVISION GE REQUIREMENTS AND SHOULD FOLLOW THE 60 UNIT GUARANTEE ROADMAP. MEET WITH AN ADVISOR PRIOR TO REGISTERING FOR YOUR FIRST SEMESTER FOR THE 60 UNIT ROADMAP OR SPECIFIC QUESTIONS.

Upper Division General Education 6

Of the 9 units required by the university, 3 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 6

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

COMPLETE ONE SEQUENCE FROM:

African American Studies 6

AFAM 002A. African Americans and the Development of America's History and Government	D2	3
AFAM 002B. African Americans and the Development of America's History and Government	M7	3

Asian American Studies 6

AAS 033A. Asian Americans in U.S. History I	D2	3
AAS 033B. Asian Americans in U.S. History II	M7	3

U.S. History and Government 6

HIST 015. Essentials of U.S. History	M12	3
POLS 015. Essentials of U.S. & California Government	M11	3

Chicana and Chicano Studies 6

CCS 010A. Mexican Americans and the Development of U.S. History and Government	D2	3
CCS 010B. Mexican Americans and the Development of U.S. History and Government	M7	3

Physical Education 2

Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Preparation for the Major 0-10

One year of foreign language study at the college level or equivalency through examination 0-10

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

For Legend please see page 2

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CATALOG CONTENTS

Requirements of the Major	43-48
Core Courses	**13**
ENGL 050. Beginnings to the "American" Experiment	3
ENGL 060. The Emergence of "British" and "American" Literatures (1680 to 1860)	4
ENGL 070. Emerging Modernisms and Beyond	3
ENGL 100W. Writing Workshop Z	3
Additional Requirements	**15**
ENGL 101. Introduction to Literary Criticism	4
ENGL 125. European Literature: Homer through Dante	4
COMPLETE ONE COURSE FROM:	
ENGL 123A. Literature for Global Understanding-The Americas V	3
ENGL 123B. Literature for Global Understanding-Africa V	3
ENGL 123C. Literature for Global Understanding-Oceania V	3
ENGL 123D. Literature for Global Understanding-Asia V	3
COMPLETE ONE COURSE FROM:	
ENGL 144. Shakespeare I	4
ENGL 145. Shakespeare and Performance	4
Elective Requirements	**15-20**
Any five English upper-division courses	
University Electives	15-30
Total Units Required	**120**

Explanations and Limitations

English majors who complete the Humanities Honors Program (HUM 001A, 001B, 002A, 002B) will be credited for ENGL 125A.

Details and advising information on the above requirements are available in the English Department Office.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

For Legend please see page 2

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CATALOG CONTENTS

BA - English, Concentration in Creative Writing

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

University Graduation Requirements 47

Core Lower Division General Education 30

Of the 39 units required by the university, 9 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

NOTE: STUDENTS WHO HAVE COMPLETED THE ADT TRANSFER DEGREE (UNDER SB 1440) FOR THIS MAJOR WILL HAVE COMPLETED ALL LOWER DIVISION GE REQUIREMENTS AND SHOULD FOLLOW THE 60 UNIT GUARANTEE ROADMAP. MEET WITH AN ADVISOR PRIOR TO REGISTERING FOR YOUR FIRST SEMESTER FOR THE 60 UNIT ROADMAP OR SPECIFIC QUESTIONS.

Upper Division General Education 9

Of the 9 units required by the university, 0 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 6

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

COMPLETE ONE SEQUENCE FROM:

African American Studies 6

AFAM 002A. African Americans and the Development of America's History and Government	D2	3
AFAM 002B. African Americans and the Development of America's History and Government	M7	3

Asian American Studies 6

AAS 033A. Asian Americans in U.S. History I	D2	3
AAS 033B. Asian Americans in U.S. History II	M7	3

U.S. History and Government 6

HIST 015. Essentials of U.S. History	M12	3
POLS 015. Essentials of U.S. & California Government	M11	3

Chicana and Chicano Studies 6

CCS 010A. Mexican Americans and the Development of U.S. History and Government	D2	3
CCS 010B. Mexican Americans and the Development of U.S. History and Government	M7	3

Physical Education 2

Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

Preparation for the Major			**3-13**
ENGL 071. Creative Writing	C2	3	
One year of foreign language study at the college level or equivalency through examination		0-10	
Requirements of the Major			**45-49**
Core Courses			**17**
ENGL 050. Beginnings to the "American" Experiment		3	
ENGL 060. The Emergence of "British" and "American" Literatures (1680 to 1860)		4	
ENGL 070. Emerging Modernisms and Beyond		3	
ENGL 100W. Writing Workshop	Z	3	
COMPLETE ONE COURSE FROM:			
ENGL 125. European Literature: Homer through Dante		4	
ENGL 144. Shakespeare I		4	
ENGL 145. Shakespeare and Performance		4	
Creative Writing Concentration			**16**
COMPLETE FOUR COURSES FROM:			
Courses may be repeated a maximum of 2x)			
ENGL 130. Writing Fiction		4	
ENGL 131. Writing Poetry		4	
ENGL 135. Writing Nonfiction		4	
Major Electives			**12-16**
University Electives or Minor			**11-25**
Total Units Required			**120**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

For Legend please see page 2

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CATALOG CONTENTS

BA - English, Concentration in Professional and Technical Writing

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

University Graduation Requirements 47

Core Lower Division General Education 33

Of the 39 units required by the university, 6 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

NOTE: STUDENTS WHO HAVE COMPLETED THE ADT TRANSFER DEGREE (UNDER SB 1440) FOR THIS MAJOR WILL HAVE COMPLETED ALL LOWER DIVISION GE REQUIREMENTS AND SHOULD FOLLOW THE 60 UNIT GUARANTEE ROADMAP. MEET WITH AN ADVISOR PRIOR TO REGISTERING FOR YOUR FIRST SEMESTER FOR THE 60 UNIT ROADMAP OR SPECIFIC QUESTIONS.

Upper Division General Education 6

Of the 9 units required by the university, 3 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 6

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

COMPLETE ONE SEQUENCE FROM:

African American Studies 6

AFAM 002A. African Americans and the Development of America's History and Government	D2	3
AFAM 002B. African Americans and the Development of America's History and Government	M7	3

Asian American Studies 6

AAS 033A. Asian Americans in U.S. History I	D2	3
AAS 033B. Asian Americans in U.S. History II	M7	3

U.S. History and Government 6

HIST 015. Essentials of U.S. History	M12	3
POLS 015. Essentials of U.S. & California Government	M11	3

Chicana and Chicano Studies 6

CCS 010A. Mexican Americans and the Development of U.S. History and Government	D2	3
CCS 010B. Mexican Americans and the Development of U.S. History and Government	M7	3

Physical Education 2

Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

Preparation for the Major		**0-10**
One year of foreign language study at the college level or equivalency through examination		0-10
Requirements of the Major		**46-49**
Core Courses		**13**
ENGL 050. Beginnings to the "American" Experiment		3
ENGL 060. The Emergence of "British" and "American" Literatures (1680 to 1860)		4
ENGL 070. Emerging Modernisms and Beyond		3
ENGL 100W. Writing Workshop	Z	3
Professional and Technical Writing Required Courses		**27-28**
ENGL 103. Modern English		4
ENGL 106. Editing for Writers		4
ENGL 107. Professional Technical Writing		4
COMPLETE ONE COURSE FROM:		
ENGL 144. Shakespeare I		4
ENGL 145. Shakespeare and Performance		4
COMPLETE ONE COURSE FROM:		
ENGL 123A. Literature for Global Understanding-The Americas	V	3
ENGL 123B. Literature for Global Understanding-Africa	V	3
ENGL 123C. Literature for Global Understanding-Oceania	V	3
ENGL 123D. Literature for Global Understanding-Asia	V	3
ENGL 125. European Literature: Homer through Dante		4
COMPLETE TWO COURSES FROM:		
ENGL 105. Seminar in Advanced Composition		4
ENGL 110. Visual Rhetoric and Digital Document Design for Writers		4
ENGL 129. Introduction to Career Writing		4
Major Electives		**6-8**
Any two upper division English Courses		0
University Electives		**14-27**
Total Units Required		**120**

BA - English, Preparation for Teaching (Single Subject)

The following course work satisfies San José State University's requirements for a BA in English. The BA- English Preparation for Teaching is approved as subject matter preparation for a single subject credential by the California Commission on Teacher Credentialing (CCTC). Individuals who do not wish to complete one of the degree program, or individuals seeking a single subject credential in subject areas not listed must pass all portions of the appropriate Commission-approved subject matter examination(s).

Minimum grade point average (GPA) and completion of the program will not guarantee admission to the credential program. Like all other applicants, students must meet credential program standards and undergo screening for admission. See "Teaching: How to Become a Teacher in California" (see Teaching) for information on application and admission to credential programs.

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

University Graduation Requirements 47

Core Lower Division General Education 33

Of the 39 units required by the university, 6 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

NOTE: STUDENTS WHO HAVE COMPLETED THE ADT TRANSFER DEGREE (UNDER SB 1440) FOR THIS MAJOR WILL HAVE COMPLETED ALL LOWER DIVISION GE REQUIREMENTS AND SHOULD FOLLOW THE 60 UNIT GUARANTEE ROADMAP. MEET WITH AN ADVISOR PRIOR TO REGISTERING FOR YOUR FIRST SEMESTER FOR THE 60 UNIT ROADMAP OR SPECIFIC QUESTIONS.

Upper Division General Education 6

Of the 9 units required by the university, 3 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 6

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

COMPLETE ONE SEQUENCE FROM:

African American Studies 6

AFAM 002A. African Americans and the Development of America's History and Government	D2	3
AFAM 002B. African Americans and the Development of America's History and Government	M7	3

Asian American Studies 6

AAS 033A. Asian Americans in U.S. History I	D2	3
AAS 033B. Asian Americans in U.S. History II	M7	3

U.S. History and Government 6

HIST 015. Essentials of U.S. History	M12	3
POLS 015. Essentials of U.S. & California Government	M11	3

Chicana and Chicano Studies 6

CCS 010A. Mexican Americans and the Development of U.S. History and Government	D2	3
CCS 010B. Mexican Americans and the Development of U.S. History and Government	M7	3

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

For Legend please see page 2

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Physical Education	**2**

Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Preparation for the Major	**0-10**

One year of foreign language study at the college level or equivalency through examination....0-10

Requirements of the Major	**49-52**

Core Courses	**40**

ENGL 050. Beginnings to the "American" Experiment....3
ENGL 060. The Emergence of "British" and "American" Literatures (1680 to 1860)....4
ENGL 070. Emerging Modernisms and Beyond....3
ENGL 100W. Writing Workshop....Z....3
ENGL 101. Introduction to Literary Criticism....4
ENGL 103. Modern English....4
ENGL 109. Writing and the Young Writer....4
ENGL 112B. Literature for Young Adults....4
ENGL 125. European Literature: Homer through Dante....4
ENGL 145. Shakespeare and Performance....4

COMPLETE ONE COURSE FROM:

ENGL 123A. Literature for Global Understanding-The Americas....V....3
ENGL 123B. Literature for Global Understanding-Africa....V....3
ENGL 123C. Literature for Global Understanding-Oceania....V....3
ENGL 123D. Literature for Global Understanding-Asia....V....3

Major Electives	**9-12**

Complete three upper division English courses

University Electives or Minor	**11-24**
Total Units Required	**120**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

Minor - Literature

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Requirements of the Minor	17-19
Lower Division Courses	**6-7**
COMPLETE TWO COURSES FROM:	
ENGL 050. Beginnings to the "American" Experiment	3
ENGL 060. The Emergence of "British" and "American" Literatures (1680 to 1860)	4
ENGL 070. Emerging Modernisms and Beyond	3
Upper Division Courses	**11-12**
Select 11-12 units of Upper Division Advisor Approved Literature classes.*	
Total Units Required	**17-19**

*Note: The following courses DO NOT count for the Literature Minor: ENGL 100W, ENGL 103, ENGL 105, ENGL 106, ENGL 107, ENGL 110, ENGL 120, ENGL 127, ENGL 128, ENGL 129, ENGL 130, ENGL 131, ENGL 132, ENGL 133, ENGL 134, ENGL 135, ENGL 137, ENGL 173, ENGL 199.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

Minor - Comparative Literature

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Requirements of the Minor		17-20
Literature		**6-8**
CHOOSE TWO COURSES FROM:		
ENGL 040. Contemporary World Fiction	C2	3
ENGL 117B. Global Film, Literature, and Cultures	V	3
ENGL 123A. Literature for Global Understanding-The Americas	V	3
ENGL 123B. Literature for Global Understanding-Africa	V	3
ENGL 123C. Literature for Global Understanding-Oceania	V	3
ENGL 123D. Literature for Global Understanding-Asia	V	3
COLT 121. Introduction to Comparative Literature		4
COLT 122. Topics in Comparative World Literature		4
Select 11-12 units of Upper Division Instructor Consent and Advisor Approved World Language Literature courses (ENGL 120 or above) or Advisor Approved Upper-Division literature-in-translation courses with extensive reading in the original language.		11-12
Total Units Required		**17-20**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

Minor - Creative Writing

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Requirements of the Minor		18-19
Lower Division		**3**
ENGL 071. Creative Writing	C2	3
Upper Division		**12**
COMPLETE 12 UNITS FROM:		
ENGL 130. Writing Fiction		4
ENGL 131. Writing Poetry		4
ENGL 133. Reed Magazine		4
ENGL 135. Writing Nonfiction		4
Literature Courses		**3-4**
Select either one survey course (ENGL 50, ENGL 60 or ENGL 70) or one upper division literature course		
Total Units Required		**18-19**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

For Legend please see page 2

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Minor - Professional and Technical Writing

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Requirements of the Minor	16
Core Courses	**16**
ENGL 103. Modern English	4
ENGL 106. Editing for Writers	4
ENGL 107. Professional Technical Writing	4
COMPLETE ONE COURSE FROM:	
ENGL 105. Seminar in Advanced Composition	4
ENGL 110. Visual Rhetoric and Digital Document Design for Writers	4
ENGL 129. Introduction to Career Writing	4
Total Units Required	**16**

Certificate Program in Professional and Technical Writing

The English Department offers a 16-unit program consisting of a twelve-unit core (ENGL 106, 107 ENGL 129) and four units of an advisor approved elective. This program is designed for those seeking greater specialization, including postbaccalaureate students who hold or seek employment in technical or professional writing. Prerequisite: Passage of WST or graduate standing.

Requirements of the Certificate	16
Core	**12**
ENGL 106. Editing for Writers	4
ENGL 107. Professional Technical Writing	4
ENGL 129. Introduction to Career Writing	4
Electives	**4**
COMPLETE ONE COURSE FROM:	
ENGL 103. Modern English	4
ENGL 105. Seminar in Advanced Composition	4
ENGL 110. Visual Rhetoric and Digital Document Design for Writers	4
Total Units Required	**16**

MA - English

The written word grounds the Master of Arts in English. Its students learn to analyze literature and to write on literary topics at an advanced level. Students complete a rigorous program of courses that introduce them to cutting-edge research while training them to understand a range of theoretical and literary-historical frameworks for understanding literature. Before students earn a Master of Arts in English, they pass a two-part comprehensive exam. They also may choose to write a thesis. Students have the option to engage in graduate study in rhetoric and to train as college-level writing teachers. The program also offers students pathways to prepare for doctoral work.

Additional information is available in the Department of English and Comparative Literature Department Office and on the department website: http://www.sjsu.edu/english/graduate/ma/.

Admissions Requirements

Applicants must submit a complete graduate application by applying through the CSU Cal State Apply system at calstate.edu/apply and meet all the university admission requirements. Applicants apply separately to the department to obtain admission into the Master of Arts in English. See the GAPE Graduate Admissions website and this Catalog for general information about graduate admissions at SJSU.

Applicants from countries in which the native language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirements webpage of GAPE.

Admission to Classified Standing

In addition to meeting the minimum university requirements for admissions to the Graduate Division as outlined in this catalog, applicants must have

- 3.0 grade point average in English or literature courses;
- a minimum of 24 semester hours of acceptable undergraduate upper-division course work in English or other literary studies;
- earned 2 semesters (3 quarters) credit in foreign language course or have the equivalent fluency as attested to by a credible academic source;
- approval by the department graduate committee

In addition to the university application requirements, applicants to the English MA must submit a writing sample directly to the MA advisor.

Admission to Conditionally Classified Standing

Applicants who do not qualify for classified standing but who do meet university requirements for graduate admission and whose past performance gives promise of satisfactory completion of requirements for graduate admission to classified standing may, with approval of the department graduate committee, be admitted as conditionally classified in the English MA program. Generally, this category is used if the applicant has not yet earned the equivalent fluency of 2 semesters/3 quarters of credit in a foreign language course OR an applicant has not yet completed 24 units of upper-division coursework in literature but otherwise shows promise as a graduate student.

Requirements for Advancement to Graduate Candidacy

Candidacy denotes that the student is fully qualified to complete the final stages of the MA, English. In order to achieve candidacy, students must meet the university requirements. General university requirements for advancement to candidacy for the MA degree are detailed in the Graduate Policies and Procedures section of this catalog. Candidacy includes successful completion of the Graduation Writing Assessment Requirement (GWAR). For graduate courses that meet the GWAR, refer to the GWAR Course List on the College of Graduate Studies website. MA, English students must complete ENGL 201, the program GWAR course, before they can apply for candidacy. Application for advancement to candidacy should be done by the middle of the semester before students intend to graduate.

Requirements for Graduation

University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

MA - English Graduation Requirements

Students must complete an approved 30-unit program with a grade point average of 3.0 or better. At least 21 of these units must be graduate-level (i.e., 200-numbered) courses. Any undergraduate coursework to be applied to the MA program must be approved in advance by the graduate advisor.

Included in these 30 units, are the ENGL 201 and ENGL 297. The ENGL 297 requirement will be waived if a student completes a thesis (which requires 6 units of ENGL 299 in lieu ENGL 297 and one 4-unit graduate-level course).

Culminating Experience

Students choose Plan A (Thesis) or Plan B (Comprehensive Examinations) as their program culminating experience.

Plan A (Thesis)

To receive credit for ENGL 299 (thesis) units, students must submit a thesis proposal to the department graduate committee by the deadline in the semester prior to the one in which the student plans to take the 299 units and complete the thesis.

The thesis must meet university requirements as stipulated in this catalog and in the SJSU Master's Thesis and Doctoral Dissertation Guidelines. It will be written under the guidance of the candidate's thesis committee chair with the assistance of the thesis committee (made up of three readers arranged by the student and approved by the department graduate committee).

Students choosing the Plan A (Thesis) option must also pass the two-part MA, English comprehensive examinations but are not required to enroll in ENGL 297.

Plan B (Comprehensive Examinations)

Students choosing this option must enroll in ENGL 297 and pass the two-part MA comprehensive examinations. They are also required to take an additional 4-unit elective.

Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR). For information on the GWAR, please see http://info.sjsu.edu/gcw.html.

Requirements of the Masters 30

Core Courses 4

ENGL 201. Materials and Methods of Literary Research.....GWAR.....4

Electives 20

Five additional graduate-level courses chosen

with MA advisor's approval

Culminating Experience 6

COMPLETE ONE OPTION (PLAN A THESIS PLUS COMP EXAM OR

PLAN B COMP EXAM ONLY):

Plan A (Thesis, plus Comprehensive Exam)

ENGL 299. University Thesis 6

Comprehensive Exam

Plan B (Comprehensive Exam)

ENGL 297. MA Comprehensive Exam Preparation 2

Comprehensive Exam

One additional graduate-level course chosen with MA advisor's approval

Total Units Required 30

Elective courses must be planned in consultation with the English MA Advisor.

The maximum number of upper-division undergraduate units that can be applied toward the master's degree is 6.

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU cumulative grade point averages of 3.0 in order to graduate.

MFA - Creative Writing

The Master of Fine Arts degree in Creative Writing is the recognized terminal degree that offers the minimum professional training deemed necessary by the major schools in the United States for university and college teaching and for positions in the publishing industry. It is also the degree most frequently held by professional writers.

For additional information, please see the program website at http://www.sjsu.edu/english/graduate/mfa/

Admissions Requirements

Requirements for Admission to Classified Standing

Applicants must meet university requirements for admission to the Graduate Division and classified standing as outlined in this catalog. In addition, they must meet the following department requirements:

- Earned a 3.0 grade point average in major courses.
- Demonstrate ability in Creative Writing by submitting a creative writing portfolio in Fiction (20-30 pages), Creative Nonfiction (20-30 pages), Poetry (10 pages), or Scriptwriting (20-30 pages).
- Be approved by the departmental MFA in Creative Writing Committee. For each annual cycle, applications are due by March 1, when review will begin.

Achieved one of the following:

- Possess a bachelor's degree or master's degree in English, Creative Writing, or a related field from an accredited institution.
- Passed a minimum of 12 semester hours in English, Creative Writing, or a related field beyond freshman composition.
- Demonstrated equivalent literary training or experience as determined by the Director of the MFA in Creative Writing Program.

Additional preparation may be required before a student can be considered for classified status in the degree program, at the discretion of the MFA Director (see *Requirements for Admission to Conditionally Classified Standing*).

Applicants from countries in which the native language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirements webpage of GAPE.

Requirements for Admission to Conditionally Classified Standing

Students who do not qualify for classified standing but who meet university requirements for graduate admission and whose past performance and creative writing ability gives promise of satisfactory completion of requirements for admission to classified graduate standing may, with the approval of the departmental MFA in Creative Writing Committee, be admitted as conditionally classified in the MFA program.

Requirements for Advancement to Graduate Candidacy

Candidacy denotes that the classified graduate student is fully qualified to complete the final stages of the MFA in Creative Writing program and is thus eligible to enroll in ENGL 291: Literary Practicum, and ENGL 299: Thesis. In order to advance to candidacy, the student must meet the university requirements for advancement to candidacy as outlined in this catalog. The university requires that all graduate students complete the Graduation Writing Assessment Requirement (GWAR) as a condition for advancement to candidacy. Please refer to the SJSU catalog section titled Graduation Writing Assessment Requirement for details. Most graduate-level literary seminars meet the GWAR. For graduate courses that meet the GWAR, please refer to the GWAR Course List on the College of Graduate Studies website. In addition, the student must:

- complete 24 units of an approved 44-unit program with a GPA of 3.0 or better. At least one-half of these units must be graduate-level (i.e., 200-numbered) courses. Any upper-division courses to be applied to the MFA must be approved in advance by the MFA Director.
- formalize his or her MFA thesis committee by obtaining the signatures of three university faculty members (two must be members of the Creative Writing or English faculty) to serve as members of the student's committee. A tenure-line Creative Writing faculty member who teaches in the student's major area of emphasis must serve as chair.
- propose to write a substantial full-length work, with critical introduction or preface (see below), in one of the four program emphases: Poetry, Fiction, Nonfiction, or Script Writing.
- sign up to take the MFA Comprehensive Examination, which a student must pass before an MFA degree is awarded.

Culminating Experience

All candidates for the MFA degree in Creative Writing must complete a book-length thesis in their primary genre. The thesis must be approved by a three-member committee, of which at least two members must be full-time SJSU faculty. Thesis committees and projects are declared in the Departmental Thesis Proposal, which is submitted to the Graduate Committee of the Department of English & Comparative Literature the semester before the candidate registers for four units of ENGL 298D or ENGL 299.

At the time of filing for candidacy, MFA candidates must select from two options for filing the final documents. Plan A (Thesis), which we refer to as a University Thesis, will require enrollment in ENGL 299, and the resulting thesis will be reviewed by the College of Graduate Studies and published online, as described below. Plan B (Project), which the Department of English and Comparative Literature refers to as a Departmental Thesis, will require enrollment in ENGL 298D and is considered by the university as a "project" and thus not subject to review by the College of Graduate Studies nor to the policy requiring university theses to be published. Please note that the departmental requirements for the thesis itself as well as the composition of the thesis committee are the same under both options.

Candidates select their Thesis Plan on the Petition for Advancement to Graduate Candidacy form, typically submitted the semester prior to graduation (e.g., in October for May graduation, or in April for December graduation). Although the Candidacy Form lists three plans -- A, B, and C -- MFA candidates may select only Plan A or Plan B.

Plan A (Thesis): University Thesis

After approval by the three-member thesis committee, MFA candidates submit the final manuscript as a PDF to the University's College of Graduate Studies, where it is checked for format. Once certified by Graduate Studies, the PDF is published in two places: on ProQuest (a commercial academic publisher) and on ScholarWorks (the University's open-access repository). Distribution through these two channels assures that research generated by SJSU students is available to as many readers as possible. Candidates who wish to shield their work from public view temporarily, for example to allow time for commercial publication, can request an embargo of up to five years. After the embargo expires, candidates can ask for an extension or allow the document to be released online. It is possible for access to be restricted to users of the SJSU campus network. Embargo and access options are chosen by candidates when they submit their theses to Graduate Studies.

Only theses submitted via Plan A are eligible for the University's Outstanding Thesis Award, a distinction given annually to the one or two exceptional theses in the entire university. The award is presented at graduation and includes a monetary stipend. Candidates should ask their thesis directors or department chairs for more information about this award.

Plan B (Project): Departmental Thesis

Under this option, the thesis manuscript is prepared according to University guidelines and approved by a three-member thesis committee, and then signed off by the Chair of the Graduate Committee and the Department Chair. The manuscript is not submitted to the College of Graduate Studies. Instead, candidates may deposit a printed, bound copy of their thesis in the collection of the Department of English & Comparative Literature and, optionally, on the thesis shelf of the University Library (binding paid for by the candidate). Because the Departmental Thesis is never published online, this option makes sense for MFA candidates who wish to give their work the maximum possible protection. It is recommended for those students who wish to protect copyright of their creative work for future publication.

Departmental Theses are neither eligible for the University's Outstanding Thesis Award nor for nomination to the Proquest Thesis Award.

Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR). For information on the GWAR, please see http://info.sjsu.edu/gcw.html.

Requirements of the Major 44

Core Courses 4

ENGL 291. Lit Practicum 4

Workshops 20

COMPLETE 12 UNITS IN PRIMARY GENRE AND 8 UNITS IN SECONDARY GENRE FROM THE FOLLOWING.

THE WORKSHOP COURSES ARE ALL REPEATABLE FOR CREDIT AS LONG AS THE TOPIC HAS CHANGED:

ENGL 240. Poet Writ Workshop 4
ENGL 241. Fic Writ Workshop 4
ENGL 242. Nonfiction Writing Workshop 4

Literary Research 8

COMPLETE EIGHT UNITS FROM:

ENGL 202. Poetic Craft and Theory 4
ENGL 203. Narrative Craft and Theory 4
ENGL 204. Seminar in Modern Approaches to Literature ..... GWAR 4
ENGL 208. Seminar in Comparative Literature ..... GWAR 4
ENGL 211. Seminar in Twentieth Century Poetry ..... GWAR 4
ENGL 215. Seminar in Myth and Symbolism ..... GWAR 4
ENGL 216. Seminar in Medieval English Literature ..... GWAR 4
ENGL 224. Studies in English Early Modern Literature ..... GWAR 4
ENGL 225. Seminar in Shakespeare ..... GWAR 4
ENGL 228. Seminar in Genre Studies ..... GWAR 4
ENGL 230. Seminar in Eighteenth Century British Literature ..... GWAR 4
ENGL 232. Seminar in Romanticism 4
ENGL 233. Seminar in the Victorian Period ..... GWAR 4
ENGL 253. Seminar in Period Studies of American Literature ..... GWAR 4
ENGL 254. Seminar in Genre Studies of American Literature ..... GWAR 4
ENGL 255. Seminar in Thematic Studies of American Literature ..... GWAR 4
ENGL 256. Seminar in Twentieth Century British Literature ..... GWAR 4

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Professional Development	8
COMPLETE EIGHT UNITS FROM:	
ENGL 133. Reed Magazine	4
ENGL 257. Seminar in the History of Rhetoric	4
ENGL 259. Seminar in Composition Studies	4
ENGL 298. Special Study	4
Other literary research classes with consent of advisor	
Culminating Experience	**4**
Plan A (Thesis)	
ENGL 299. University Thesis	4
Comprehensive Exam	
Foreign Language Requirement	
Plan B (Project)	
ENGL 298D. Departmental Thesis or Project	4
Comprehensive Exam	
Foreign Language Requirement	
Total Units Required	**44**

*Note that College of Graduate Studies requires all creative works that serve as theses (novels, poetry collections, screen plays, and so forth) to be accompanied by a preface. At a minimum of 10 pages, the preface should put the creative work in historical, cultural, literary, or other contexts. It should also expound on the literary influences on the student. The text must be written according to a style guide, APA being the guide of choice in the English and Comparative Literature Department, and include formal literature citations and a References Cited section, both written in accordance with the style guide rules.

Elective courses must be planned in consultation with the English MA Advisor.

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU cumulative grade point averages of 3.0 in order to graduate.

Environmental Studies, Department of

College of Social Sciences

WASHINGTON SQUARE HALL 118
408-924-5450 (Voice)
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Professors

Katherine Cushing, Global Studies Coordinator
Kathryn Davis
Gary A. Klee
Rachel O'Malley
William Russell, Graduate Program Coordinator
Lynne A. Trulio, Chair

Associate Professors

Dustin Mulvaney

Assistant Professors

Carolina Prado
Costanza Rampini

Curricula

BA, Environmental Studies
BA, Environmental Studies, Preparation for Teaching
BS, Environmental Studies
BA, Global Studies
Minor, Environmental Studies
Minor, Environmental Justice
Minor, Environmental Impact Assessment
Minor, Environmental Restoration
Minor, Global Studies
Minor, Park Ranger and Administration
Minor, Recreation and Nature
Minor, Sustainable Energy
Minor, Sustainable Water Resources
Certificate, Global Citizenship
MS, Environmental Studies

Introduction

The mission of the Department of Environmental Studies is to provide students with rigorous interdisciplinary tools to study, manage and resolve environmental challenges. Among the first such programs in the country, the Department of Environmental Studies at SJSU has been granting degrees and training environmental professionals since 1970. Today, our students experience hands-on learning through field courses, the Center for Development of Recycling, the Environmental Resource Center and off-campus internships. Alumni fill positions in fields including environmental impact assessment, habitat restoration, renewable energy, water policy, environmental education, sustainable agriculture, park management, environmental policy, integrated waste management, and recycling. The program in Global Studies recently joined the Department, expanding offerings and opportunities to students. The BA in Global Studies is an interdisciplinary program that looks at the world holistically, examining the connections between international human migrations, the movement of goods, technology transfers, and environmental change. The Department offers a BS degree, BA degree, and a BA preparation for teaching in Environmental Studies in addition to the BA in Global Studies. We also offer a range of minors to students around campus. For students wishing to go further, the Department offers one of the few research-based Master of Science degrees in Environmental Studies in the country.

Structure of the BS, BA and MS Degrees

The undergraduate Environmental Studies degrees are structured around four components: the preparation sequence, consisting of specific classes in economics, sciences, and math; the core classes in Environmental Studies, which provide a solid foundation in environmental issues integrating science, social science, and the humanities; advisor-approved minor focused on a specific career pathway; and electives. Electives may consist of classes both within and outside the department and must be approved in advance by an Environmental Studies faculty advisor. The Master of Science graduate degree is a thesis-based program that requires original research. Information on all aspects of these degrees is found on the advising sheets available in the department office in Washington Square Hall 118 and on the department website at http://www.sjsu.edu/envs/.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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BA - Environmental Studies

The BA degree is designed to prepare students for career opportunities in coastal resource management, environmental communications, environmental regulation and policy, integrated and solid waste management, human ecology and environmental planning.

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

University Graduation Requirements 29

Core Lower Division General Education 21

Of the 39 units required by the university, 18 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

Upper Division General Education

Of the 9 units required by the university, 9 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 6

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

COMPLETE ONE SEQUENCE FROM:

African American Studies 6

AFAM 002A. African Americans and the Development of America's History and Government	D2	3
AFAM 002B. African Americans and the Development of America's History and Government	M7	3

Asian American Studies 6

AAS 033A. Asian Americans in U.S. History I	D2	3
AAS 033B. Asian Americans in U.S. History II	M7	3

U.S. History and Government 6

HIST 015. Essentials of U.S. History	M12	3
POLS 015. Essentials of U.S. & California Government	M11	3

Chicana and Chicano Studies 6

CCS 010A. Mexican Americans and the Development of U.S. History and Government	D2	3
CCS 010B. Mexican Americans and the Development of U.S. History and Government	M7	3

Physical Education 2

Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Preparation for the Major — 16

CHEM 030A. Introductory Chemistry	B1+B3	3
ECON 001B. Principles of Economics: Microeconomics	D1	4
ENVS 010. Life on a Changing Planet	B2	3
MATH 018A. College Algebra	B4	3
STAT 095. Elementary Statistics	B4	3

Requirements of the Major — 75

Core Courses — 26

ENVS 001. Introduction to Environmental Issues	D1	3
ENVS 100W. Environmental Research and Writing	Z	3
ENVS 107. Introduction to Environmental Economics and Policy		3
ENVS 110. Resource Analysis		4
ENVS 117. Human Ecology		3
ENVS 124. Introduction to Environmental Law		3
ENVS 185. Environmental Impact Analysis		4
ENVS 198. Senior Seminar		3

Major Electives — 31

7-8 UNITS OF FIELD COURSES REQUIRED FROM:

ENVS 118. Sustainable Home Gardens		4
ENVS 144. California Wetland Controversies		4
ENVS 154. Sustainable Agriculture		4
ENVS 161. California Wildlands		4
ENVS 165. National Parks		3
ENVS 166. Nature and Conservation Photography		4
ENVS 173. Forest Ecology and Conservation		4
ENVS 187. Environmental Restoration		4
ENVS 189. Coastal Field Studies		4
ENVS 190. Advanced Environmental Impact Assessment		4
ENVS 191. Advanced Environmental Restoration		4
ENVS 270. Field Studies in Water Resource Management		4

RECOMMENDED THAT STUDENTS TAKE 1-9 UNITS OF:

ENVS 194. Environmental Internship		1-9

IN CONSULTATION WITH YOUR ADVISOR, COMPLETE ONE SEQUENCE (6-9 UNITS) FROM:

Sequence One

ENVS 168A. Global Climate Change I		6
ENVS 168B. Global Climate Change II	R+S+V	3

Sequence Two

ENVS 150. Introduction to Environmental Thought	S	3
ENVS 159. Nature and World Cultures	V	3

COMPLETE ONE 'R' COURSE FROM:

ENVS 111. Geology and the Environment	R	3
ENVS 113. Atmospheric Pollution	R	3
ENVS 119. Energy and the Environment	R	3
ENVS 152. Globalization and the Environment	R	3

Advisor Approved Minor — 18

Advisor approved minor and/or electives

University Electives — 0-6

Total Units Required — 120

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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BA - Environmental Studies, Preparation for Teaching

This major is designed for students interested in teaching in elementary school or middle school. Students who wish to pursue a high school teaching career should complete a BA or BS in Environmental Studies in consultation with the department's undergraduate advisor for teaching. The following course work satisfies San José State University's requirements for a BA in Environmental Studies. The Commission on Teacher Credentialing in the state of California (CCTC) no longer recognizes Teacher Prep degrees as verification of subject matter competence. In order to verify subject matter competence for Multiple Subject Teaching Credential (K-8) individuals must pass all portions of the appropriate Commission-approved subject matter examination(CSET for Multiple Subjects).

Maintaining a minimum grade point average (GPA) of at least 2.87 and completion of the program will not guarantee admission to the credential program. Like all other applicants, students must meet credential program standards and undergo screening for admission. See "Teaching: How to Become a Teacher in California" (see Teaching) for information on application and admission to credential programs.

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

University Graduation Requirements 11

Core Lower Division General Education 9

Of the 39 units required by the university, 30 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

Upper Division General Education

Of the 9 units required by the university, 9 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

SEE COURSES IN REQUIREMENTS OF MAJOR, OR CONSULT MAJOR ADVISOR FOR DEPARTMENT RECOMMENDED COURSEWORK TO MEET GE REQUIREMENT.

Physical Education 2

Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Requirements of the Major 97-107

Core Courses 12

ENVS 001. Introduction to Environmental Issues	D1	3
ENVS 117. Human Ecology		3
ENVS 158. Environmental Education		3
SOCS 177. Sociology of Education		3

Specialized Courses 12-13

Complete one area of specialized coursework

Energy Resources 12

ENVS 119. Energy and the Environment	R	3
ENVS 132. Solar Home Design		3
ENVS 133. Sustainable Energy Strategies		3
ENVS 100W. Environmental Research and Writing	Z	3

or elective

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Natural Resources **12**

ENVS 128. Water Resource Management		3
ENVS 148. Sustainable Materials Management		4
ENVS 165. National Parks		3
ENVS 100W. Environmental Research and Writing	Z	3

or elective

Policy and Procedures **12**

ENVS 124. Introduction to Environmental Law		3
ENVS 187. Environmental Restoration		4
ENVS 189. Coastal Field Studies		4
ENVS 100W. Environmental Research and Writing	Z	3

or elective

Requirements for Multiple Subjects Preparation Core Curriculum **73-82**

Reading, Language and Literature **22-25**

ENGL 001A. First Year Writing	A2	3
ENGL 002. Critical Thinking and Writing	A3	3

ENGL 001B also accepted for Transfer Students.

ENGL 010. Great Works of Literature	C2	3
ENGL 103. Modern English		4
ENGL 112A. Children's Literature		3

COMPLETE ONE SEQUENCE FROM:

Sequence One

COMM 045. Media and Culture	A3	3
LING 108. Introduction to Second Language Development, Teaching, and Assessment		3
EDEL 108E. Teaching Reading in Linguistically and Culturally Diverse Classrooms		3

Sequence Two

CHAD 150. Development of Communicative Competence		3
CHAD 151. Developing Literacy in a Diverse Society		3

History and Social Science **15**

SOCS 137. California History for Teachers		3
SOCS 138. US History for Teachers	S	3
SOCS 139. World History for Teachers	V	3

COMPLETE ONE SEQUENCE FROM:

Asian American History Sequence

AAS 033A. Asian Americans in U.S. History I	D2	3
AAS 033B. Asian Americans in U.S. History II	M7	3

must complete both AAS 33A/B to meet requirement.

US History Sequence

HIST 015. Essentials of U.S. History	M12	3
POLS 015. Essentials of U.S. & California Government	M11	3

must complete both HIST 15 and POLS 15 to meet requirement.

Mathematics **9**

MATH 012. Number Systems	B4	3
MATH 105. Concepts in Mathematics, Probability, Statistics		3
MATH 106. Intuitive Geometry		3

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Science		**12**
BIOL 021. Human Biology	B2+B3	3
CHEM 030A. Introductory Chemistry	B1+B3	3
GEOL 103. Earth Systems and the Environment	R	3
SCI 110. Global Themes of Science		3
Visual and Performing Arts		**9**
CA 177. Interdisciplinary Arts for Teaching		3
COMPLETE TWO COURSES FROM:		
ART 039. Multicultural Arts for Children		3
ART 138. Elementary Art Methods		3
DANC 148. Children's Dance		3
MUSC 010B. Introduction to Music	C1	3
MUSC 185A. Music for Children		3
TA 131. Storytelling		3
Physical Education and Health		**3-6**
COMPLETE ONE SEQUENCE FROM:		
Sequence One		
KIN 177. Movement Experiences for Children		3
EDTE 190. Health Education for the Classroom Teacher		3
Sequence Two		
CHAD 149. Child Health and Physical Activity		3
Human Development		**3-6**
COMPLETE ONE SEQUENCE FROM:		
Development Sequence One		
CHAD 060. Child Development	E	3
Development Sequence Two		
CHAD 070. Lifespan Development in the 21st Century	E	3
PSYC 082. Foundations of Developmental Psychology		3
Internship		**3**
ENVS 194. Environmental Internship		1-9
University Electives		0-10
Total Units Required		**120**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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BS - Environmental Studies

The BS degree is designed to prepare students for career opportunities in energy or water resources management, biological resource protection, aquatic environments, sustainable agriculture, energy resources, environmental health and safety, environmental impact assessment, environmental restoration, and wilderness open space resource management.

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

University Graduation Requirements 29

Core Lower Division General Education 21

Of the 39 units required by the university, 18 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

Upper Division General Education

Of the 9 units required by the university, 9 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 6

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

COMPLETE ONE SEQUENCE FROM:

African American Studies 6

AFAM 002A. African Americans and the Development of America's History and Government	D2	3
AFAM 002B. African Americans and the Development of America's History and Government	M7	3

Asian American Studies 6

AAS 033A. Asian Americans in U.S. History I	D2	3
AAS 033B. Asian Americans in U.S. History II	M7	3

U.S. History and Government 6

HIST 015. Essentials of U.S. History	M12	3
POLS 015. Essentials of U.S. & California Government	M11	3

Chicana and Chicano Studies 6

CCS 010A. Mexican Americans and the Development of U.S. History and Government	D2	3
CCS 010B. Mexican Americans and the Development of U.S. History and Government	M7	3

Physical Education 2

Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Preparation for the Major 28

BIOL 030. Principles of Biology I	B2+B3	4
CHEM 001A. General Chemistry	B1+B3	5
ECON 001B. Principles of Economics: Microeconomics	D1	4
ENVS 010. Life on a Changing Planet	B2	3
MATH 019. Precalculus	B4	5
PHYS 002A. Fundamentals of Physics	B1+B3	4
STAT 095. Elementary Statistics	B4	3

Requirements of the Major 63

Core Courses 26

ENVS 001. Introduction to Environmental Issues	D1	3
ENVS 100W. Environmental Research and Writing	Z	3
ENVS 107. Introduction to Environmental Economics and Policy		3
ENVS 110. Resource Analysis		4
ENVS 117. Human Ecology		3
ENVS 124. Introduction to Environmental Law		3
ENVS 185. Environmental Impact Analysis		4
ENVS 198. Senior Seminar		3

Major Electives 19

7-8 UNITS OF FIELD COURSES ARE REQUIRED FROM:

ENVS 118. Sustainable Home Gardens		4
ENVS 144. California Wetland Controversies		4
ENVS 154. Sustainable Agriculture		4
ENVS 161. California Wildlands		4
ENVS 165. National Parks		3
ENVS 166. Nature and Conservation Photography		4
ENVS 173. Forest Ecology and Conservation		4
ENVS 187. Environmental Restoration		4
ENVS 189. Coastal Field Studies		4
ENVS 190. Advanced Environmental Impact Assessment		4
ENVS 191. Advanced Environmental Restoration		4
ENVS 270. Field Studies in Water Resource Management		4

RECOMMENDED THAT STUDENTS TAKE 1-3 UNITS OF:

ENVS 194. Environmental Internship		1-9

IN CONSULTATION WITH YOUR ADVISOR, COMPLETE ONE SEQUENCE (6-9 UNITS) FROM:

Sequence One

ENVS 168A. Global Climate Change I		6
ENVS 168B. Global Climate Change II	R+S+V	3

Sequence Two

ENVS 150. Introduction to Environmental Thought	S	3
ENVS 159. Nature and World Cultures	V	3

COMPLETE ONE 'R' COURSE FROM:

ENVS 111. Geology and the Environment	R	3
ENVS 113. Atmospheric Pollution	R	3
ENVS 119. Energy and the Environment	R	3
ENVS 152. Globalization and the Environment	R	3

Advisor-Approved Required Minor 18

Total Units Required 120

BA - Global Studies

This degree is listed with the Global Studies.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Minor - Environmental Studies

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Requirements of the Minor		19
ENVS 001. Introduction to Environmental Issues	D1	3
ENVS 124. Introduction to Environmental Law		3
ENVS 185. Environmental Impact Analysis		4
Two Advisor-approved electives		6
COMPLETE ONE COURSE FROM:		
ENVS 107. Introduction to Environmental Economics and Policy		3
ENVS 119. Energy and the Environment	R	3
Total Units Required		**19**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

Minor - Environmental Impact Assessment

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Requirements of the Minor		24
ENVS 010. Life on a Changing Planet	B2	3
ENVS 124. Introduction to Environmental Law		3
ENVS 151. Race, Class and the Environment		3
ENVS 185. Environmental Impact Analysis		4
ENVS 190. Advanced Environmental Impact Assessment		4
COMPLETE ONE COURSE FROM:		
ENVS 119. Energy and the Environment	R	3
ENVS 128. Water Resource Management		3
ENVS 129. Water Policy in the Western U.S.		3
COMPLETE ONE COURSE FROM:		
ENVS 144. California Wetland Controversies		4
ENVS 173. Forest Ecology and Conservation		4
ENVS 187. Environmental Restoration		4
ENVS 270. Field Studies in Water Resource Management		4
Total Units Required		**24**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Minor - Environmental Justice

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Requirements of the Minor		18
ENVS 127. Community-Based Participatory Research		3
ENVS 150. Introduction to Environmental Thought	S	3
ENVS 151. Race, Class and the Environment		3
COMPLETE ONE COURSE FROM:		
ENVS 001. Introduction to Environmental Issues	D1	3
AFAM 025. The Changing Majority: Power and Ethnicity in America	D2	3
COMPLETE ONE COURSE FROM:		
ENVS 119. Energy and the Environment	R	3
ENVS 124. Introduction to Environmental Law		3
ENVS 129. Water Policy in the Western U.S.		3
ENVS 140. Politics and the Environment		3
ENVS 159. Nature and World Cultures	V	3
COMPLETE ONE COURSE FROM:		
AFAM 130. Psychology of the Black Community		3
AFAM 133. Introduction to Social Issues in Planning		4
AFAM 142. Race, Ethnicity, and the Law		3
AFAM 145. Urban Policy and Its Impact on Inner City Residents		4
AFAM 159. Economic Issues in the Black Community		3
AFAM 160. Blacks in U.S. Politics and Society		3
Total Units Required		**18**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

Minor - Environmental Restoration

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Requirements of the Minor		24
BIOL 030. Principles of Biology I	B2B3	4
ENVS 144. California Wetland Controversies		4
ENVS 154. Sustainable Agriculture		4
ENVS 173. Forest Ecology and Conservation		4
ENVS 187. Environmental Restoration		4
ENVS 191. Advanced Environmental Restoration		4
Total Units Required		**24**

Minor - Global Studies

Students may complete a minor in Global Studies by completing 15 units of lower and upper division core coursework in Global Studies.

This degree is listed with the Global Studies.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Minor - Park Ranger and Administration

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Requirements of the Minor	19-21
Core Courses	**13**
ENVS 187. Environmental Restoration	4
Three 3-unit lower division (CSU-transferable) courses from an A.S. degree in Park Management, from West Valley College or equivalent program	9
Additional Units	**6-8**
COMPLETE TWO COURSES FROM:	
ENVS 144. California Wetland Controversies	4
ENVS 154. Sustainable Agriculture	4
ENVS 165. National Parks	3
ENVS 173. Forest Ecology and Conservation	4
ENVS 189. Coastal Field Studies	4
POLS 114. Introduction to Public Administration	3
Total Units Required	**19-21**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Minor - Recreation and Nature

This multidisciplinary minor covers topics including conceptual foundations of play, recreation and leisure; understanding structures and processes of living systems; managing outdoor recreation behavior; human activity impacts on living systems; and design and implementation of interpretive programs. Students will learn how to balance recreation needs with protecting and enhancing the natural environment. This is an ideal minor for students who are passionate about promoting and protecting outdoor recreational spaces and nature.

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Requirements of the Minor		20
Core Courses		**20**
ENVS 010. Life on a Changing Planet	B2	3
RECL 090. Foundations of Recreation Parks & Tourism		3
COMPLETE TWO COURSES FROM:		
ENVS 144. California Wetland Controversies		4
ENVS 161. California Wildlands		4
ENVS 173. Forest Ecology and Conservation		4
ENVS 187. Environmental Restoration		4
ENVS 189. Coastal Field Studies		4
ENVS 191. Advanced Environmental Restoration		4
COMPLETE TWO COURSES FROM:		
RECL 136. Principles of Recreation and Park Admin		3
RECL 144. Natural and Cultural Resource Interpretation in Recreation and Parks		3
RECL 155. Outdoor Recreation Systems		3
RECL 157. Sustainable Recreation & Ecotourism		3
Total Units Required		**20**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Minor - Sustainable Energy

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Requirements of the Minor		23
PHYS 002A. Fundamentals of Physics	B1+B3	4
PHYS 002B. Fundamentals of Physics	B1B3	4
ENVS 116. Solar Energy Analysis		3
ENVS 119. Energy and the Environment	R	3
ENVS 130. Energy Policy Analysis		3
ENVS 133. Sustainable Energy Strategies		3
CHOOSE ONE COURSE FROM:		
ENVS 132. Solar Home Design		3
ENVS 137. Green Building Design Issues		3
Total Units Required		**23**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

Minor - Sustainable Water Resources

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Requirements of the Minor		21
ENVS 001. Introduction to Environmental Issues	D1	3
ENVS 128. Water Resource Management		3
ENVS 129. Water Policy in the Western U.S.		3
ENVS 144. California Wetland Controversies		4
ENVS 154. Sustainable Agriculture		4
ENVS 270. Field Studies in Water Resource Management		4
Total Units Required		**21**

Certificate - Global Citizenship

Global Citizenship is an interdisciplinary certificate program intended to assist students and members of the non-student community in understanding the interconnectedness of peoples, genders, cultures, and societies and celebrating the richness of human diversity in a global context. The program complements SJSU's goals of globalizing the campus and graduating students who are globally responsible citizens. Students will examine questions of meaning and value associated with citizenship in today's increasingly connected world. Students will also develop their own understanding of personal, social, and corporate responsibility to the global community. In a rapidly changing world, it is necessary for college students to acquire the knowledge, skills, values, and attitudes to adapt and thrive in the enlarged and evolving global context.

This degree is listed with the Global Studies.

MS - Environmental Studies

The Master of Science in Environmental Studies program is designed to prepare students for careers as environmental professionals or to pursue further academic training in Ph.D. and other advanced degree programs. Global and local perspectives are integrated in the coursework and the faculty and students embrace a diversity of perspectives. Faculty members work closely with graduate students within the above areas of specialization to execute a program of study. For additional information, review the list of faculty thesis advisors and contact those with focus areas of interest to you. See the department website for more information: http://www.sjsu.edu/envs/graduate/

Our interdisciplinary curriculum embraces both quantitative and qualitative research, and some of the topics that it focuses on include:

- California Wild (Protected) Lands
- Forest Ecology and Conservation
- Climate Impacts Research
- Human Ecology
- Coastal Environments
- Agroecology
- Insect Conservation
- Corporate Sustainability
- Marine Environments
- Energy
- Nature and Conservation Photography
- Environmental Education
- Political Ecology
- Environmental Impact Assessment
- Pro-environmental Behavior
- Environmental Justice
- Sustainable Food Systems
- Environmental Policy
- Water Resources Management
- Environmental Restoration
- Wetlands Ecology, Restoration, and Management
- Wildlife Conservation and Management

Admissions Requirements

Applicants must submit a complete graduate application by applying through the CSU Cal State Apply system at calstate.edu/apply and meet all the university admission requirements. Applicants apply separately to the department to obtain admission into the Environmental Studies Program. See the GAPE Graduate Admissions website and this Catalog for general information about graduate admissions at SJSU.

Applicants from countries in which the native language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirements webpage at GAPE. For TOEFL Requirements, see the Policies and Procedures section, Graduate and Post-Baccalaureate Information in this Catalog.

Requirements for Admission to Classified Standing

The Department of Environmental Studies admits students to the Master of Science programs in Classified or Conditional Standing. Contact the department or see our admissions materials for specific application deadlines. For admission to classified standing the department requires the following:

1. An undergraduate degree in Environmental Studies or related field from an accredited institution;
2. An overall grade point average of 3.0 ("B") or better for the last 60 semester units of academic study;
3. The capability, in the opinion of the graduate committee, of successfully completing degree requirements;
4. The removal of deficiencies if preparation differs markedly from the BS - Environmental Studies at San José State University. (BA students may be required to complete a general science background.) Courses used to remove such deficiencies cannot be used to fulfill MS requirements. For further information, see graduate coordinator;
5. Two letters of recommendation from university faculty members or professionals in the field;

6. A personal statement of purpose that describes your background and objectives for seeking the MS - Environmental Studies at SJSU. This letter should also convey a sense of focus and direction for thesis research and potential faculty thesis advisers in the department; and
7. Applicants from countries in which the native language is not English must achieve a minimum score of 580 (Paper Based), 237 (Computer Based), or 92 (Internet Based) on the TOEFL exam for foreign students.

Requirements for Admission to Conditionally Classified Standing

If not accepted into classified standing, the applicant may qualify for conditionally classified status for which the following will be required: the ability, in the opinion of the departmental graduate committee, to remove deficiencies in a period not to exceed the equivalent of one full-time semester of coursework. The individual admission letter will explain required terms and conditions for attaining Classified standing.

Requirements for Advancement to Candidacy

Once a student has completed all required courses, with the exception of ENVS 299: Master's Thesis or Project, and has submitted a completed and signed thesis proposal to the Graduate Coordinator, a Petition to Advance to Candidacy {http://www.sjsu.edu/gape/forms/candidacy.pdf} must be submitted to the Graduate Coordinator and GAPE office. The application to candidacy should be submitted a year prior to the expected graduation date. The University requires that all graduate students complete the Graduation Writing Assessment Requirement (GWAR) as a condition for advancement to candidacy. Please refer to the SJSU catalog section titled "Graduation Writing Assessment Requirement" for details. For graduate courses that meet the GWAR, please refer to the Graduate Admissions and Program Evaluations website at www.sjsu.edu/gape. In addition, students must secure a commitment of three faculty members of the university, two of whom must be members of the permanent faculty, to serve as members of the student's Plan A (thesis) or Plan B (Project) committee, with one permanent faculty member agreeing to serve as chair. The committee must approve the student's thesis or project proposal for the master's degree no later than one month prior to the end of the semester preceding the one in which enrollment in the final project or thesis course(s) is planned.

Requirements for Graduation

University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

In consultation with the department graduate coordinator, the candidate will develop and pursue a program of study. The candidate must successfully complete all requirements of the selected plan including the course work specified in the Master's Degree Approval Program.

Culminating Experience

Students choose a Plan A (Thesis) or Plan B (Project) option as their program culminating experience. Each student must secure the commitment of three faculty members of the university, two of whom must be members of the permanent faculty, to serve as members of the student's Plan A (thesis) or Plan B (Project) committee, with one permanent faculty member agreeing to serve as chair. The committee must approve the student's thesis or project proposal for the master's degree no later than one month prior to the end of the semester preceding the one in which enrollment in the final project or thesis course(s) is planned.

Plan A (Thesis)

The thesis will include original research on a topic approved by the thesis committee, and must meet university requirements as stipulated in this catalog and in the SJSU Master's Thesis and Doctoral Dissertation Guidelines. It will undergo a thorough review and revision process under the guidance of the candidate's thesis committee chair with the assistance of the thesis committee. In addition, the candidate for the MS degree must successfully pass a final oral defense of the thesis.

Plan B (Project)

Under rare circumstances, a very strong project of appropriate scope and depth for master's level work might be approved in lieu of the thesis. This option requires the written consent of at least three graduate advisors, the graduate coordinator, and the department chair. In addition to the required coursework, Plan B students will take comprehensive examinations on three topics to be arranged by the student's project committee.

Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR). For information on the GWAR, please see http://info.sjsu.edu/gcw.html.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Requirements of the Masters	30
Seminars	**9**
ENVS 200. Seminar: Environmental Methods	3
ENVS 250. Seminar: Environmental Thought and Philosophy	3
ENVS 297. Research and Proposal Development GWAR	3
Application Science	**9**
9 units of 100- or 200-level field analysis, laboratory work, or other form of application science selected with advisor's approval.	
Electives	**6**
100- or 200-level courses in Environmental Studies or related fields selected with advisor's approval. The maximum number of upper-division undergraduate units that can be applied toward the master's degree is 15.	
Culminating Experience	**6**
COMPLETE ONE OPTION (PLAN A OR PLAN B):	
Plan A (Thesis)	**6**
ENVS 299. Master's Thesis or Project	1-6
Plan B (Project)	**6**
ENVS 298. Special Study	3
Additional 3 units of electives selected with advisor's approval	3
Total Units Required	**30**

Elective courses must be planned in consultation with the Graduate Advisor.

The maximum number of upper-division undergraduate units that can be applied toward the master's degree is 15.

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU Cumulative grade point averages of 3.0 in order to graduate.

Film and Theatre, Department of

College of Humanities and the Arts

HUGH GILLIS HALL 100
408-924-4530
www.sjsu.edu/filmandtheatre

Radio, Television and Film

Professors

Kimb Massey, Ph.D.
Alison McKee, Ph.D.
Babak Sarrafan
Scott Sublett

Associate Professors

Harold Mathias
Elisha Miranda-Ramirez, Chair

Theatre Arts

Professors

Buddy E. Butler
Amy Glazer

Assistant Professors

Andrea Bechert
Micheal Locher

Curricula

BA, Radio-Television-Film
BA, Theatre Arts
BA, Theatre Arts, Preparation for Teaching (Not Accepting Students)
Minor, Radio-Television-Film
Minor, Theatre Arts
Minor, Musical Theatre

Introduction

The Department of Film and Theatre prepares students for successful careers and leadership roles in performance and media. We develop media artists, directors, screenwriters, actors, designers, cinematographers, producers, technicians, educators, and scholars of the highest possible caliber. The entertainment industry is one of the largest contributors to the national economy, and media creators and performers are some of the strongest influencers in our society. To produce and distribute media that influence cultural dialogue, requires a rigorous liberal arts education. All aspects of Film and Theatre are under the guidance of award-winning filmmakers and theatre professionals, many of whom work in the industry. As a center for the training of future artists the Department of Film and Theatre is committed to introducing a diversity of fine arts and cultures to students. The Department provides students with the foundation to enter the entertainment industry, giving them excellent preparation to attend graduate school or enter the profession directly after graduating with their program degree.

The BA in Radio-Television-Film focuses on the development of creative voice and artistic expression in the context of a rigorous liberal arts education. This comprehensive program emphasizes a hands-on, project-based approach in which students will learn all the aspects of radio, television and film production through the use of our state-of-the-art facilities and best industry practices. Students will receive a solid foundation in the areas of Television/Film Production, Screenwriting, Radio-Television-Film Studies and Radio/Audio Production. Our Radio-Television-Film Studies program offers a comprehensive study of media from historical, cultural, and critical perspectives. While earning a BA in Radio-Television-Film students gain industry experience working with Spartan Studios (our in-house film studio), developing their directing skills for television and film, interning for local film festivals, or working on numerous media projects from the Bay Area to Los Angeles, across the country, and internationally.

The BA in Theatre gives students an opportunity to participate in a strong professional theatre curriculum with high quality productions that serve as a learning laboratory in which students collaborate with faculty and guest professionals; through studio workshops and advanced productions at San Jose State University's newly acquired Hammer Theatre. The Theatre Program offers three areas of study with the specific goals of serving each student: acting and directing for film, television and theatre; musical theatre; and design and technology. While earning their BA in theatre, students gain real-world experience from working onstage and backstage with professional organizations such as the California Shakespeare Theatre, Magic Theatre, San Francisco Playhouse, TheatreWorks and the Berkeley Repertory Theatre.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

BA - Radio-Television-Film

The Radio-Television-Film program is designed for students interested in working in and studying the world of media. Once students complete the required, well-rounded base of audio/film/video/writing/scholarship courses, students can then choose to focus more specifically with the program's degree completion options.

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

University Graduation Requirements 44

Core Lower Division General Education 30

Of the 39 units required by the university, 9 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

NOTE: STUDENTS WHO HAVE COMPLETED THE ADT TRANSFER DEGREE (UNDER SB 1440) FOR THIS MAJOR WILL HAVE COMPLETED ALL LOWER DIVISION GE REQUIREMENTS AND SHOULD FOLLOW THE 60 UNIT GUARANTEE ROADMAP. MEET WITH AN ADVISOR PRIOR TO REGISTERING FOR YOUR FIRST SEMESTER FOR THE 60 UNIT ROADMAP OR SPECIFIC QUESTIONS.

Upper Division General Education 6

Of the 9 units required by the university, 3 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 6

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

COMPLETE ONE SEQUENCE FROM:

African American Studies 6

AFAM 002A. African Americans and the Development of America's History and Government	D2	3
AFAM 002B. African Americans and the Development of America's History and Government	M7	3

Asian American Studies 6

AAS 033A. Asian Americans in U.S. History I	D2	3
AAS 033B. Asian Americans in U.S. History II	M7	3

U.S. History and Government 6

HIST 015. Essentials of U.S. History	M12	3
POLS 015. Essentials of U.S. & California Government	M11	3

Chicana and Chicano Studies 6

CCS 010A. Mexican Americans and the Development of U.S. History and Government	D2	3
CCS 010B. Mexican Americans and the Development of U.S. History and Government	M7	3

Physical Education 2

Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

Preparation for the Major		**9**
RTVF 010. The Art of Film	C1	3
RTVF 110. Media and Culture	S	3
TA 100W. Writing Workshop: Theatre Arts	Z	3
Requirements of the Major		**51**
Core Courses		**33**
RTVF 020. Introduction to Audio for Film & Television		3
RTVF 030. Introduction to Film & Television Production		3
RTVF 031. Film and Television Aesthetics		3
RTVF 080. Introduction to Media		3
RTVF 082. Introduction to Film History		3
RTVF 120. Intermediate Audio for Film & Television		3
RTVF 130. Intermediate Film & Television Production		3
RTVF 160. Introduction to Screenwriting		3
RTVF 183. Critical Studies & Research in RTVF		3
RTVF 185. Special Topics in RTVF		3
RTVF 198. RTVF Internships, Portfolio, Career Prep		3
Major Electives		**18**
COMPLETE 18 UNITS FROM:		
RTVF 021. KSJS On-Air Operations		3
RTVF 111. Alternative Cinema	V	3
RTVF 121. KSJS-FM Radio Activity		1-3
RTVF 122. KSJS Station Operation & Mgmt		3
RTVF 131A. Post Production: Color Correction		3
RTVF 131B. Post Production Editing & Delivery		3
RTVF 132A. Introduction to Cinematography		3
RTVF 132B. Advanced Cinematography		3
RTVF 133. Film & TV Production Management		3
RTVF 135. RTVF Production: Special Projects		3
RTVF 136. Advanced Film & Television Production		3
RTVF 161. Advanced Screenwriting		3
RTVF 180S. Individual Studies		1-3
RTVF 181. Modern Film History		3
University Electives		**16**
Total Units Required		**120**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

BA - Theatre Arts

The Theatre Major emphasizes a strong foundation in acting, directing, writing, design and entertainment technologies. Theatre Arts students study the history and practices of theatre with a particular emphasis on the interrelationship between theatre and contemporary performance culture. Once students complete the required, well-rounded base of core courses, students can then choose to focus more specifically with the program's elective specialization areas.

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

University Graduation Requirements 44

Core Lower Division General Education 30

Of the 39 units required by the university, 9 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

NOTE: STUDENTS WHO HAVE COMPLETED THE ADT TRANSFER DEGREE (UNDER SB 1440) FOR THIS MAJOR WILL HAVE COMPLETED ALL LOWER DIVISION GE REQUIREMENTS AND SHOULD FOLLOW THE 60 UNIT GUARANTEE ROADMAP. MEET WITH AN ADVISOR PRIOR TO REGISTERING FOR YOUR FIRST SEMESTER FOR THE 60 UNIT ROADMAP OR SPECIFIC QUESTIONS.

Upper Division General Education 6

Of the 9 units required by the university, 3 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 6

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

COMPLETE ONE SEQUENCE FROM:

African American Studies 6

AFAM 002A. African Americans and the Development of America's History and Government	D2	3
AFAM 002B. African Americans and the Development of America's History and Government	M7	3

Asian American Studies 6

AAS 033A. Asian Americans in U.S. History I	D2	3
AAS 033B. Asian Americans in U.S. History II	M7	3

U.S. History and Government 6

HIST 015. Essentials of U.S. History	M12	3
POLS 015. Essentials of U.S. & California Government	M11	3

Chicana and Chicano Studies 6

CCS 010A. Mexican Americans and the Development of U.S. History and Government	D2	3
CCS 010B. Mexican Americans and the Development of U.S. History and Government	M7	3

Physical Education 2

Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

Preparation for the Major		**9**
TA 005. Acting	C1	3
TA 100W. Writing Workshop: Theatre Arts	Z	3
TA 127. Contemporary Theatre	V	3
Requirements of the Major		**55**
Core Courses		**37**
TA 011. Script Analysis		3
TA 017. Intermediate Acting		3
TA 051A. Scenery and Props for the Performing Arts		1
TA 051B. Costume for the Performing Arts		1
TA 051C. Lighting & Sound for the Performing Arts		1
TA 055. Intro to Design for Theatre		3
TA 116. Directing		3
TA 120. Theatre History		3
TA 128. Scriptwriting		3
TA 153. Costume Design for Performing Arts		3
TA 154. Scenic Design for Performing Arts		3
TA 170A. Acting and Directing for the Camera		3
TA 198. Internship		3
COMPLETE A COMBINATION OF 4 UNITS FROM (AT LEAST 1 UNIT MUST BE TA 191):		
TA 117. Practice in Acting or Directing		3
TA 191. Activity Projects in Theatre Production		1-3
Major Electives		**18**
TA 010. Theatre Appreciation	C1	3
TA 013. Great Comedies for Theatre	C2	3
TA 048. Voice & Movement for the Actor	E	3
TA 064. Make-up for Performing Arts		3
TA 091. Scenic Painting & Props		3
TA 103. Musical Theatre		3
TA 110. Advanced Acting		3
TA 112. Rehearsal and Performance		3
TA 113. Acting and Professional Career Prep		3
TA 117. Practice in Acting or Directing		3
TA 121. Topics in Performance History		3
TA 129. Advanced Scriptwriting		3
TA 131. Storytelling		3
TA 151. Lighting Design for Performing Arts		3
TA 153. Costume Design for Performing Arts		3
TA 154. Scenic Design for Performing Arts		3
TA 158. Model Making & Drafting Film & Theatre		3
TA 161. Theatre Design Topics		3
TA 168. Stage Management		3
TA 170B. Advanced Acting and Directing for the Camera		3
TA 180. Individual Studies		1-3
TA 199H. Honors Program		2-3
University Electives		**12**
Total Units Required		**120**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

BA - Theatre Arts, Preparation for Teaching (Not Accepting Students)

This major is designed for students interested in teaching English or theatre arts in high school or middle school. The following course work satisfies San José State University's requirements for a BA in Theatre Arts. A Minimum grade point average (GPA) criteria may be required for verification of subject matter competency. Completion of the program will not guarantee admission to the credential program. Like all other applicants, students must meet credential program standards and undergo screening for admission. See "Teaching: How to Become a Teacher in California" (see Teaching) for information on application and admission to credential programs.

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

University Graduation Requirements 41

Core Lower Division General Education 27

Of the 39 units required by the university, 12 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

Upper Division General Education 6

Of the 9 units required by the university, 3 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 6

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

COMPLETE ONE SEQUENCE FROM:

African American Studies 6

AFAM 002A. African Americans and the Development of America's History and Government	D2	3
AFAM 002B. African Americans and the Development of America's History and Government	M7	3

Asian American Studies 6

AAS 033A. Asian Americans in U.S. History I	D2	3
AAS 033B. Asian Americans in U.S. History II	M7	3

U.S. History and Government 6

HIST 015. Essentials of U.S. History	M12	3
POLS 015. Essentials of U.S. & California Government	M11	3

Chicana and Chicano Studies 6

CCS 010A. Mexican Americans and the Development of U.S. History and Government	D2	3
CCS 010B. Mexican Americans and the Development of U.S. History and Government	M7	3

Physical Education 2

Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Preparation for the Major		27
ENGL 101. Introduction to Literary Criticism		4
ENGL 103. Modern English		4
ENGL 109. Writing and the Young Writer		4
ENGL 112B. Literature for Young Adults		4
ENGL 145. Shakespeare and Performance		4
TA 100W. Writing Workshop: Theatre Arts	Z	3
COMPLETE ONE COURSE FROM:		
ENGL 117A. American Literature, Film, & Culture	S	3
ENGL 117B. Global Film, Literature, and Cultures	V	3
RTVF 181. Modern Film History		3
COMPLETE ONE COURSE FROM:		
ENGL 122. Topics in Comparative World Literature		4
TA 127. Contemporary Theatre	V	3
COMPLETE ONE COURSE FROM:		
ENGL 125. European Literature: Homer through Dante		4
TA 120. Theatre History		3
Requirements of the Major		**39**
TA 005. Acting	C1	3
TA 011. Script Analysis		3
TA 048. Voice & Movement for the Actor	E	3
TA 051A. Scenery and Props for the Performing Arts		1
TA 051B. Costume for the Performing Arts		1
TA 051C. Lighting & Sound for the Performing Arts		1
TA 064. Make-up for Performing Arts		3
TA 116. Directing		3
TA 128. Scriptwriting		3
TA 151. Lighting Design for Performing Arts		3
TA 167. Theatre in Education		3
TA 198. Internship		3
COMPLETE ONE COURSE FROM:		
TA 153. Costume Design for Performing Arts		3
TA 154. Scenic Design for Performing Arts		3
COMPLETE TWO COURSES FROM:		
TA 017. Intermediate Acting		3
TA 117. Practice in Acting or Directing		3
TA 168. Stage Management		3
TA 170A. Acting and Directing for the Camera		3
TA 191. Activity Projects in Theatre Production		3
University Electives		**13**
Total Units Required		**120**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

Minor - Radio-Television-Film

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Requirements of the Minor	**18**
Core Courses	**12**
RTVF 020. Introduction to Audio for Film & Television	3
RTVF 030. Introduction to Film & Television Production	3
RTVF 080. Introduction to Media	3
RTVF 082. Introduction to Film History	3
Electives	**6**
with approval of minor advisor	
Total Units Required	**18**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

Minor - Musical Theatre

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Requirements of the Minor		**24**
Music		**4**
MUSC 009. Music Fundamentals		3
MUSC 026A. Voice Fundamentals		1
Dance		**2**
DANC 042A. Topics in Jazz Dance I	PE	2
Theatre Arts		**12**
TA 048. Voice & Movement for the Actor	EE	3
TA 017. Intermediate Acting		3
TA 103. Musical Theatre		3
TA 121. Topics in Performance History		3
Electives		**6**
Total Units Required		**24**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

Minor - Theatre Arts

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Requirements of the Minor		18
Core Courses		**7**
TA 011. Script Analysis		3
TA 191. Activity Projects in Theatre Production		1
COMPLETE ONE COURSE FROM:		
TA 005. Acting	C1	3
TA 010. Theatre Appreciation	C1	3
TA 055. Intro to Design for Theatre		3
Electives		**11**
CHOOSE A COMBINATION OF COURSES THAT ADD UP TO 11 UNITS, 6 OF WHICH MUST BE UPPER DIVISION.		
TA 005. Acting *if not taken above*	C1	3
TA 010. Theatre Appreciation *if not taken above*	C1	3
TA 013. Great Comedies for Theatre	C2	3
TA 017. Intermediate Acting		3
TA 048. Voice & Movement for the Actor	E	3
TA 055. Intro to Design for Theatre *if not taken above*		3
TA 064. Make-up for Performing Arts		3
TA 091. Scenic Painting & Props		3
TA 100W. Writing Workshop: Theatre Arts	Z	3
TA 103. Musical Theatre		3
TA 110. Advanced Acting		3
TA 112. Rehearsal and Performance		3
TA 113. Acting and Professional Career Prep		3
TA 116. Directing		3
TA 117. Practice in Acting or Directing		1
TA 120. Theatre History		3
TA 121. Topics in Performance History		3
TA 127. Contemporary Theatre	V	3
TA 128. Scriptwriting		3
TA 129. Advanced Scriptwriting		3
TA 131. Storytelling		3
TA 151. Lighting Design for Performing Arts		3
TA 153. Costume Design for Performing Arts		3
TA 154. Scenic Design for Performing Arts		3
TA 158. Model Making & Drafting Film & Theatre		3
TA 161. Theatre Design Topics		3
TA 168. Stage Management		3
TA 170A. Acting and Directing for the Camera		3
TA 170B. Advanced Acting and Directing for the Camera		3
TA 191. Activity Projects in Theatre Production *All three TA 51 courses must be taken to meet requirement.*		3
TA 051A. Scenery and Props for the Performing Arts		1
TA 051B. Costume for the Performing Arts		1
TA 051C. Lighting & Sound for the Performing Arts		1
Total Units Required		**18**

General Engineering

College of Engineering

ENGINEERING BUILDING 491
408-924-3968 (Voice)
408-924-3883 (Fax)

Professors

Patricia Ryaby Backer
Ping Hsu, Director
Belle Wei

Assistant Professors

Anne Christie Boylan-Ashraf
Farshid Marbouti

Curricula

BS, General Engineering
Minor, Applied Computing for Behavioral and Social Sciences
Minor, Green Engineering
MS, Engineering
MS, Engineering, Concentration in Electronic Materials and Devices

Introduction

In addition to the traditional disciplinary majors, the College of Engineering offers an MS Engineering (MSE) with special concentrations, and a BS General Engineering. Both the BS and MS programs encompass interdisciplinary study. The College also offers minors in Green Engineering Minor and Applied Computing for Behavioral and Social Sciences.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

BS - General Engineering

For selected high-performing students the General Engineering degree is an opportunity to develop a special interdisciplinary major. Students must meet with a General Engineering advisor early in their studies to determine if such a plan is right for them. Other students entering General Engineering are encouraged to explore the various traditional engineering fields and select a program which fits their interests by their second year of study at SJSU. All College of Engineering undergraduate majors are required to maintain a Major GPA of 2.0 or above. Major GPA includes all courses required for the major, including math, science and engineering.

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

Major Exceptions

This degree program meets certain University Requirements through approved major modifications. Please see the Major Exceptions area in the Policy and Procedures section of this catalog to identify the specific adjustments for this degree program or contact your major advisor for more details.

Major-Specific Graduation Requirements

The following courses in Preparation for the Major must be completed with a "C or better": ENGL 001B

University Graduation Requirements 24

Core Lower Division General Education 6

Of the 39 units required by the university, 33 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

Upper Division General Education 6

Of the 9 units required by the university, 3 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 12

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

AMS 001A. American Cultures to 1877	M4	6
AMS 001B. American Cultures 1877 to present	M5	6

Physical Education

Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Preparation for the Major 29

CHEM 001A. General Chemistry	B1+B3	5
ENGL 001B. Argument and Analysis	C2	3
or equivalent second semester composition course.		
MATH 030. Calculus I	B4	3
MATH 031. Calculus II	B4	4
MATH 032. Calculus III	B4	3
MATH 123. Differential Equations and Linear Algebra		3
PHYS 050. General Physics/Mechanics	B1+B3	4
PHYS 051. General Physics/Electricity and Magnetism	B1+B3	4

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

Requirements of the Major		67
Core Courses		**14**
ENGR 010. Introduction to Engineering	E	3
MATE 025. Introduction to Materials		3
EE 098. Introduction to Circuit Analysis		3
CE 099. Introductory Statics		2
CMPE 030. Programming Concepts and Methodology		3
Concentration Requirements		**38**
ENGR 100W. Engineering Reports	Z+R	3
Plus core courses as approved by advisor		35
Additional Requirements		**15**
Elective courses and senior design as approved by advisor.		
Total Units Required		**120**

Minor - Applied Computing for Behavioral and Social Sciences

An interdisciplinary technology pathway program for behavioral and social science students seeking to develop and apply computing knowledge and skills toward real-world problems. Students learn programming languages such as Python and R, develop a working knowledge of data structures and algorithms, and complete a culminating interdisciplinary project.

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Requirements of the Minor	12
ENGR 120. Programming Concepts for Behavioral and Social Science Applications	3
ENGR 121. Data Structures and Algorithms for Behavioral and Social Science Applications	3
ENGR 122. Data Technology for Behavioral and Social Science Applications	3
ENGR 195E. Interdisciplinary Computing Project	3
Total Units Required	**12**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

For Legend please see page 2

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CATALOG CONTENTS

Minor - Green Engineering

Students must complete a minimum of 12 units as listed under the course requirements. All of these units must be outside the requirements for the students major, i.e., the same courses cannot be listed both on the minor and the major forms. ENGR 102 or ME 172 (3 units) and ISE 103 (3 units) are required for all students taking this minor. Students also take one of the Environmental Studies or Business courses listed below. In consultation with the Green Engineering advisor, students must select one additional elective course. It is the student's responsibility to make sure that the prerequisites for each course are met. Students in majors other than engineering will probably need to take additional courses to meet prerequisites for the courses required for this minor. This sequence of courses is the recommended pattern for engineering majors.

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Requirements of the Minor	12
Core Courses	**6**
ISE 103. Life Cycle Engineering	3
COMPLETE ONE COURSE FROM:	
ENGR 102. Renewable Energy Engineering	3
ME 172. Alternative and Renewable Energy Resources	3
Additional Course	**3**
COMPLETE ONE COURSE FROM:	
ENVS 107. Introduction to Environmental Economics and Policy	3
ENVS 116. Solar Energy Analysis	3
ENVS 119. Energy and the Environment R	3
ENVS 132. Solar Home Design	3
ENVS 148. Sustainable Materials Management	4
ENVS 167. Managing Environmental Issues	3
Elective	**3**
One additional course to be selected with and approved by the Green Engineering minor advisor	
Total Units Required	**12**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

For Legend please see page 2

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CATALOG CONTENTS

MS - Engineering

The MS Engineering degree is an interdisciplinary program with the primary objectives of offering the practicing engineer the opportunity to develop a wide range of knowledge and skills needed to function in today's complex industrial environment. The program is designed to provide flexibility for students who need coursework that is truly interdisciplinary and not available through the other engineering programs in the college. The MS-Engineering programs typically include courses from at least three different programs in the College of Engineering and may also use courses in the College of Science or the College of Business. There are some specialized programs offered off-campus, such as the accelerated joint degree MBA/MS Engineering, which is offered in coordination with the College of Business. Additional off-campus specialized engineering graduate programs have been established at local industry sites. The MS Engineering programs include participation with local industry professionals as committee members and sponsors of master's projects and theses.

Requirements for Admission to Classified Standing

Students seeking admission to MS Engineering programs must meet the general university requirements for admission as outlined in this catalog. In addition, the applicant must possess a baccalaureate degree from an ABET-accredited engineering program with a grade point average of at least 3.0 in the last 60 semester hours of upper division work completed in all subjects and in technical subjects only. Students meeting these criteria may be admitted in classified standing; however, students may still be admitted conditionally if they need prerequisite courses for the selected specialization. An engineering technology degree does not satisfy the degree requirement for admission to this program.

Requirements for Admission to Conditionally Classified Standing

A graduate applicant whose undergraduate record indicates deficiencies in one or more technical areas and/or has a grade point average less than 3.0 in the last 60 semester hours of upper division work completed in all subjects and in technical subjects only may be admitted for graduate work on a conditionally classified basis. Such students will be expected to satisfactorily complete additional coursework before becoming classified. Students admitted in conditionally classified status may petition for classified status when coursework in deficient areas has been completed, when they have satisfied the Graduation Writing Assessment Requirement (GWAR), and when their records in classes at San José State University show sufficient promise of success in the master's degree program.

Requirements for Admission to Candidacy

Students seeking the MS Engineering degree must meet the general university requirements for candidacy as outlined in this catalog. The University requires that all graduate students complete the Graduation Writing Assessment Requirement (GWAR) as a condition for advancement to candidacy. Please refer to the SJSU catalog section titled "Graduation Writing Assessment Requirement - Graduate" for details. For graduate courses that satisfy the GWAR, please refer to the Graduate Admissions and Program Evaluations website at www.sjsu.edu/gape. In addition, the applicant must demonstrate aptitude for advanced professional work in engineering as measured by instructor appraisals, analysis of previous academic work or other appropriate means. Admission to candidacy and approval of programs will be handled by a faculty committee and the student's advisor.

Completing Requirements for the MS - Engineering

The normal course of study for the MS-Engineering degree consists of 30 semester hours of approved work in the following areas:

Graduation Writing Assessment Requirement	
At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR). For information on the GWAR, please see http://info.sjsu.edu/gcw.html.	
Requirements of the Masters	**30**
Core Courses	**6**
ENGR 201. Engineering Analysis	3
COMPLETE ONE COURSE FROM:	
ENGR 202. Systems Engineering	3
ENGR 203. Engineering Management	3
Specialized Core	**3-9**
Approved Specialization Electives	**9-15**

Culminating Experience	3-6
COMPLETE ONE SEQUENCE FROM:	
Master's Thesis Sequence (Plan A)	
ENGR 281. Master's Project/Thesis Preparation Seminar	1
ENGR 299. Master's Thesis	1-6
Master's Project Sequence 1 (Plan B)	
ENGR 281. Master's Project/Thesis Preparation Seminar	1
ENGR 298. Master's Project	2
Master's Project Sequence 2 (Plan B)	
ENGR 295A. Master Project I	3
ENGR 295B. Master Project II	3
Total Units Required	**30**

Students have the option to complete the requirements for the MS by completing a thesis (Plan A) or a project (Plan B). The student must first complete ENGR 281 - Master's Project/Thesis Preparation Seminar (1 unit) before beginning the thesis or project research.

The MBA/MS Engineering program and special off-campus programs are coordinated through the College of Engineering Graduate and Extended Studies (GES). Students interested in these programs should go to the Graduate and Extended Education section of the College of Engineering web site (www.ges.sjsu.edu).

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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MS - Engineering, concentration in Electronic Materials and Devices

The concentration in Electronic Materials and Devices provides students with an in-depth education in electronic materials processes and the design of semiconductor devices. This concentration includes elective emphases in the areas of Electronic Materials, Custom Analog VLSI and Custom Digital VLSI. Students may also choose to combine concentration electives to develop a custom emphasis, such as Mixed Signal VLSI.

Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR). For information on the GWAR, please see http://info.sjsu.edu/gcw.html.

Requirements of the Masters 30

Core Courses 6

ENGR 201. Engineering Analysis 3

COMPLETE ONE COURSE FROM:

ENGR 202. Systems Engineering 3

ENGR 202 for Plan B (Project) students only

ENGR 203. Engineering Management 3

Required Concentration Courses 9

EE 221. Semiconductor Devices I 3
MATE 129. Introduction to Integrated Circuits Processing and Design 3
MATE 153. Electronic, Optical and Magnetic Properties of Materials 3

Depth of Study Electives 9

Choose 9 units of Advisor approved clusters of electives

Culminating Experience 3-6

Plan A (Thesis)

ENGR 281. Master's Project/Thesis Preparation Seminar 1
ENGR 299. Master's Thesis 1-6

Plan B (Project)

ENGR 281. Master's Project/Thesis Preparation Seminar 1
ENGR 298. Master's Project 2

Total Units Required 30

Geography

Department of Urban and Regional Planning

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Lynne A. Trulio, Interim Chair

Associate Professors

Kathrine Richardson

Assistant Professors

Gary Pereira

Curricula

BA, Geography
Minor, Geography
Minor, Geographic Information Science
Certificate, Advanced Certificate in Geographic Information Science (GIS)
MA, Geography

Introduction

We are the only Geography Department in the booming Silicon Valley. Our location in downtown San Jose provides the department a wonderful urban geography laboratory. We offer courses in all the academic sub-disciplines of geography including GIS and spatial analysis. We have long-standing relationships with government agencies, other universities, and the City of San Jose. We are developing research and educational partnerships with Facebook, Apple, Netflix, and Google as these, and other powerful technology companies are nearing the cusp of a locational analytics explosion. Geography is a rapidly growing field and our students gain the critical thinking, analytic and problem-solving abilities to prepare them to participate fully in rewarding careers. Prospective students are encouraged to consult the geography website (www.sjsu.edu/depts/geography/) as well as the informational brochures available in the department office (WSQ 118.)

Departmental Geography Honors Program

Graduation with departmental honors in geography can be achieved by successful completion of any geography graduate seminar open to those seniors with a 3.5 GPA in geography, or completion of an Honors Thesis under supervision of a department faculty member. Students must have a 3.5 GPA in geography to qualify for Honors Thesis option.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

BA - Geography

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

University Graduation Requirements 44

Core Lower Division General Education 24

Of the 39 units required by the university, 15 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

NOTE: STUDENTS WHO HAVE COMPLETED THE ADT TRANSFER DEGREE (UNDER SB 1440) FOR THIS MAJOR WILL HAVE COMPLETED ALL LOWER DIVISION GE REQUIREMENTS AND SHOULD FOLLOW THE 60 UNIT GUARANTEE ROADMAP. MEET WITH AN ADVISOR PRIOR TO REGISTERING FOR YOUR FIRST SEMESTER FOR THE 60 UNIT ROADMAP OR SPECIFIC QUESTIONS.

Upper Division General Education 9

Of the 9 units required by the university, 0 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 6

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

COMPLETE ONE SEQUENCE FROM:

African American Studies 6

AFAM 002A. African Americans and the Development of America's History and Government	D2	3
AFAM 002B. African Americans and the Development of America's History and Government	M7	3

Asian American Studies 6

AAS 033A. Asian Americans in U.S. History I	D2	3
AAS 033B. Asian Americans in U.S. History II	M7	3

U.S. History and Government 6

HIST 015. Essentials of U.S. History	M12	3
POLS 015. Essentials of U.S. & California Government	M11	3

Chicana and Chicano Studies 6

CCS 010A. Mexican Americans and the Development of U.S. History and Government	D2	3
CCS 010B. Mexican Americans and the Development of U.S. History and Government	M7	3

Physical Education 2

Graduation Writing Assessment Requirement 3

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

GEOG 100W. Writing Workshop	Z	3

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

Preparation for the Major 3

STAT 095. Elementary Statistics B4 3

UNVS 015F and UNVS 015S may be used in lieu of the statistics course required by this major.

Requirements of the Major 73

Core Geography Courses 21

GEOG 001. Geography of Natural Environments B1 3
GEOG 010. Cultural Geography D1 3
GEOG 012. Global Geography D2 3
GEOG 105. Urban Geography 3
GEOG 135. Qualitative Methods in Geographical Research 3
GEOG 170. Introduction to Mapping and Geographic Information Systems 3

COMPLETE ONE COURSE FROM:

GEOG 186. Field Study in Physical Geography 3
GEOG 187. Field Study in Human and Historical Geography 3

FLP Study Abroad can be substituted for the Field Study Requirement.

Upper Division Breadth Requirements 36

Human Geography 9

COMPLETE THREE UNIQUE COURSES FROM:

GEOG 110. Urbanization in the Global South 3
GEOG 112. Nations, Cultures, and Territorial Disputes ..... V 3
GEOG 113. Global Cities 3
GEOG 115. Global Development 3
GEOG 117. Advanced Economic Geography 3
GEOG 125. Selected Topics in Human Geography 3
GEOG 161. City Life 3

Physical Geography 9

COMPLETE THREE UNIQUE COURSES FROM:

GEOG 120. Food Supply and Agricultural Systems 3
GEOG 121. Population and Global Change 3
GEOG 124. Topics in Physical Geography 3
GEOG 130. Natural Resources 3
GEOG 165. National Parks 3

Geospatial Techniques and GIS 6

COMPLETE TWO UNIQUE COURSES FROM:

GEOG 107. Mapping the World 3
GEOG 171. Advanced Geographic Information Systems 3
GEOG 172. Cartography: Compilation and Presentation 3
GEOG 173. Cartography: Dynamic and Interactive Mapping 3
GEOG 175. Geographic Information Systems: Project Development 3
GEOG 181. Remote Sensing: Basic Theory and Image Interpretation 3
GEOG 182. Remote Sensing: Digital Analysis 3
GEOG 195. Spatial Analysis 3

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Regional Synthesis	**9**
COMPLETE THREE UNIQUE COURSES FROM:	
GEOG 110. Urbanization in the Global South	3
GEOG 113. Global Cities	3
GEOG 115. Global Development	3
GEOG 117. Advanced Economic Geography	3
GEOG 145. California	3
GEOG 150. Central and South America and the Caribbean	3
GEOG 155. Europe	3
GEOG 160. East and South Asia	3
GEOG 165. National Parks	3
GEOG 168. Sub-Saharan Africa	3
Capstone Course	**3**
GEOG 199. Senior Seminar	3
Major Electives	**16**
Total Units Required	**120**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

For Legend please see page 2

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CATALOG CONTENTS

Minor - Geography

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Requirements of the Minor		15
Required Courses		**9**
GEOG 001. Geography of Natural Environments	B1	3
GEOG 170. Introduction to Mapping and Geographic Information Systems		3
COMPLETE ONE COURSE FROM:		
GEOG 010. Cultural Geography	D1	3
GEOG 012. Global Geography	D2	3
Elective Courses		**6**
Students must select six units from one of the Geography upper division breadth areas.		
Total Units Required		**15**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

For Legend please see page 2

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CATALOG CONTENTS

Minor - Geographic Information Science

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Requirements of the Minor	15
GEOG 170. Introduction to Mapping and Geographic Information Systems	3
GEOG 171. Advanced Geographic Information Systems	3
COMPLETE THREE COURSES FROM:	
Cartography Sequence	
GEOG 172. Cartography: Compilation and Presentation	3
GEOG 173. Cartography: Dynamic and Interactive Mapping	3
GEOG 175. Geographic Information Systems: Project Development	3
GEOG 178. Geographic Information Systems Project	3
GEOG 181. Remote Sensing: Basic Theory and Image Interpretation	3
GEOG 182. Remote Sensing: Digital Analysis	3
GEOG 195. Spatial Analysis	3
Total Units Required	**15**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

For Legend please see page 2

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Certificate - Advanced Certificate in Geographic Information Systems (GIS)

Prerequisite to Certificate			3
GEOG 170. Introduction to Mapping and Geographic Information Systems			3

Requirements of the Certificate			15
GEOG 171. Advanced Geographic Information Systems			3
GEOG 290. Seminar in Research Design for Geographic Information Science			3
Advisor-approved 100- or 200-level elective			3
COMPLETE ONE COURSE FROM:			
GEOG 239. Geographic Information Technology	GWAR		3
GEOG 279. Geographic Information Science Applications	GWAR		3
COMPLETE ONE COURSE FROM:			
GEOG 282. Advanced Geographic Techniques	GWAR		3
GEOG 286. Geographic Information Systems: Project Management			3
URBP 279. Advanced GIS for Urban Planning			4
Total Units Required			**15**

MA - Geography

Admission to the graduate program is flexible, and potential students are evaluated on a case-by-case basis. A strong record based on either undergraduate performance or employment experience is expected. Graduate students without a geography degree can expect added course work in geographic literature and theory. More information can be found on our web site: http://www.sjsu.edu/geography/

Admissions Requirements

All graduate applicants must submit a complete graduate application by applying through the CSU Cal State Apply system at calstate.edu/apply. Additional information regarding university graduate admissions requirements in this catalog. Applicants from countries in which the native language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirement webpage at GAPE.

Admissions to Classified Standing

Basic requirements for admission to the Graduate Division are outlined in the Admissions section of this catalog. In addition, the department requires the following for admission to classified standing:

1. An undergraduate degree in geography or a reasonably related field from an accredited institution.
2. A 3.0 ("B") overall grade point average for the last 60 semester units of academic study.
3. The capability, in the opinion of the Department Graduate Committee, of successfully completing the degree requirements.
4. The removal of deficiencies if preparation differs markedly from the BA - Geography at San José State University.

Admissions to Conditionally Classified Standing

If not accepted into classified standing, the applicant may qualify for conditionally classified status for which the following will be required:

1. The ability, in the opinion of the Department Graduate Committee, to remove deficiencies which do not exceed the equivalent of one full-time semester of course work.
2. The qualifications to be accepted to classified standing within a reasonable length of time, and the background to conduct studies at the graduate level.

Requirements for Advancement to Candidacy

The student may be admitted to candidacy for the MA - Geography by complying with requirements of the university as outlined in the Academic Regulations section of this catalog. The University requires that all graduate students complete the Graduation Writing Assessment Requirement (GWAR) as a condition for advancement to candidacy. Please refer to the SJSU catalog section titled "Graduation Writing Assessment Requirement" for details. For graduate courses that meet the GWAR, please refer to the Graduate Admissions and Program Evaluations website at www.sjsu.edu/gape. In addition, students must obtain their thesis advisor's approval for their thesis proposal.

Students will complete a course of study designed to prepare them for professional work in their chosen subfield. Accordingly, they will need to take specific courses to support research and project work in that field.

Requirements for Graduation

University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

Culminating Experience

In consultation with the department advisor, the candidate will develop and pursue a program of study outlined in Plan A or Plan B. The candidate must successfully complete all requirements of the selected plan including the course work specified in the Master's Degree Approved Program.

Plan A (with Thesis)

1. A minimum of eighteen units in geography.
2. The thesis, based on independent research, is to be conducted under the direction of a thesis advisor and must be acceptable to and approved by the Thesis Committee. The Committee consists of the thesis advisor (committee chair), an additional member from the university faculty, and an additional member who may be from outside the university. The thesis topic shall be developed within the departmental foci in consultation with the thesis advisor. The thesis must conform to the university standards of style and form.
3. Final Examination: The thesis must be successfully defended orally before the thesis committee.

Plan B (without Thesis)

1. A minimum of twenty-one units in geography, with at least 50% of the units in graduate level courses.
2. Project: The student shall present the results of a project in one of the areas of departmental focus. Appropriate projects include research completed for a geography graduate seminar or an independent study conducted under supervision of a faculty advisor. The results will be reported in a written paper and other materials submitted to the department, and will be presented formally to a geography faculty and student colloquium for acceptance.

Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR). For information on the GWAR, please see http://info.sjsu.edu/gcw.html.

Requirements of the Masters 30

Plan A (with Thesis) 30

Core Seminar **3**

GEOG 290. Seminar in Research Design for Geographic Information Science 3

Geography Seminars **6**

COMPLETE TWO COURSES FROM:

Courses can be repeated twice if topic changes.

GEOG 239. Geographic Information Technology ..... GWAR 3
GEOG 240. Qualitative Research Methods ..... GWAR 3
GEOG 279. Geographic Information Science Applications ..... GWAR 3
GEOG 282. Advanced Geographic Techniques ..... GWAR 3

Culminating Experience **6**

GEOG 299. Master's Thesis or Project 1-6

Electives **15**

100 or 200-level courses in geography or related fields selected with advisor's approval. Students should take the following courses, depending on their area of focus: GEOG 282, GEOG 195, and at least three units selected from GEOG 173, GEOG 175, or GEOG 183.

Plan B (without Thesis) 30

Core Seminar **3**

GEOG 290. Seminar in Research Design for Geographic Information Science 3

Geography Seminars **9**

COMPLETE THREE COURSES FROM:

GEOG 239. Geographic Information Technology ..... GWAR 3
GEOG 240. Qualitative Research Methods ..... GWAR 3
GEOG 279. Geographic Information Science Applications ..... GWAR 3
GEOG 282. Advanced Geographic Techniques ..... GWAR 3

Electives **18**

At least 3 units must be 200-level.

100 or 200-level courses in geography or related fields selected with advisor's approval. Students should take the following courses, depending on their area of focus: GEOG 282, GEOG 195, and at least three units selected from GEOG 173, GEOG 175, or GEOG 182.

Total Units Required 30

Elective courses must be planned in consultation with the Graduate Advisor. The maximum number of upper-division undergraduate units that can be applied toward the master's degree is 15. Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU Cumulative grade point averages of 3.0 in order to graduate.

Geology Department

College of Science

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Paula Messina
Ellen P. Metzger
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Donald L. Reed

Assistant Professors

Kimberly Blisniuk, Undergraduate Advisor
Carlie Pietsch
Ryan Portner

Curricula

BA, Earth Science
BS, Geology
Minor, Geology
MS, Geology

Introduction

Rocks, soil, minerals, fossils, oceans, earthquakes, volcanoes, climate change-the Department of Geology specializes in increasing students' understanding of the Earth and its geological features. We offer general education courses, K-12 teacher training and professional development, a rigorous, integrated undergraduate curriculum and graduate courses and research. Our bachelor's degree program in geology prepares students for graduate study in the geosciences as well as for entry-level positions in geological and environmental consulting firms, regulatory agencies and other employment settings. Our bachelor's program in earth science is designed to help students master the content needed for successful completion of the California Commission on Teaching Credentialing's California Subject Examinations for Teachers, and provides a career path for students interested in becoming secondary school teachers. Our master's degree program particularly emphasizes the study of applied geology, surface processes, and tectonics, enabling graduates to advance to Ph.D programs and to secure jobs as geologists, engineering geologists, hydrogeologists, geophysicists and environmental managers.

Geology and Earth Science Honors Program

Departmental honors in the BS Geology and Earth Science degree programs are awarded to those majors who have achieved a 3.5 grade point average in their required departmental courses and have completed an undergraduate research project. A proposal for undergraduate research, including an identified Geology faculty supervisor, must be approved by the Geology honors committee for acceptance into the honors program. Completion of two units of Geology 180 and both written and oral presentation of research results are required for completion of the program.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

BA - Earth Science

This major provides broad background in the earth sciences. Students interested in teaching science in high school or middle school should take the specified elective courses (consult with the advisor as needed).

Completion of the program will not guarantee admission to the credential program. Like all other applicants, students must meet credential program standards and undergo screening for admission. See "Teaching: How to Become a Teacher in California" (see Teaching) for information on application and admission to credential programs.

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

Major Exceptions

This degree program meets certain University Requirements through approved major modifications. Please see the Major Exceptions area in the Policy and Procedures section of this catalog to identify the specific adjustments for this degree program or contact your major advisor for more details.

University Graduation Requirements 38

Core Lower Division General Education 24

Of the 39 units required by the university, 15 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

NOTE: STUDENTS WHO HAVE COMPLETED THE ADT TRANSFER DEGREE (UNDER SB 1440) FOR THIS MAJOR WILL HAVE COMPLETED ALL LOWER DIVISION GE REQUIREMENTS AND SHOULD FOLLOW THE 60 UNIT GUARANTEE ROADMAP. MEET WITH AN ADVISOR PRIOR TO REGISTERING FOR YOUR FIRST SEMESTER FOR THE 60 UNIT ROADMAP OR SPECIFIC QUESTIONS.

Upper Division General Education 6

Of the 9 units required by the university, 3 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 6

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

COMPLETE ONE SEQUENCE FROM:

African American Studies 6

AFAM 002A. African Americans and the Development of America's History and Government	D2	3
AFAM 002B. African Americans and the Development of America's History and Government	M7	3

Asian American Studies 6

AAS 033A. Asian Americans in U.S. History I	D2	3
AAS 033B. Asian Americans in U.S. History II	M7	3

U.S. History and Government 6

HIST 015. Essentials of U.S. History	M12	3
POLS 015. Essentials of U.S. & California Government	M11	3

Chicana and Chicano Studies 6

CCS 010A. Mexican Americans and the Development of U.S. History and Government	D2	3
CCS 010B. Mexican Americans and the Development of U.S. History and Government	M7	3

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Physical Education		**2**

Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Preparation for the Major		**29**
ASTR 101. Modern Astronomy	R	3
CHEM 001A. General Chemistry	B1+B3	5
CHEM 001B. General Chemistry	B1+B3	5
MATH 019. Precalculus	B4	5
COMPLETE ONE COURSE FROM:		
METR 113. Atmospheric Pollution	R	3
METR 112. Global Climate Changes	R	3
COMPLETE ONE COURSE SEQUENCE FROM:		
Fundamental Sequence		
PHYS 002A. Fundamentals of Physics	B1+B3	4
PHYS 002B. Fundamentals of Physics	B1+B3	4
A and B must be taken to meet requirement		
General Physic Sequence		
PHYS 050. General Physics/Mechanics	B1+B3	4
PHYS 051. General Physics/Electricity and Magnetism	B1+B3	4
PHYS 050 and 051 must be taken to meet requirement		
Requirements of the Major		**25-27**
Core Courses		
GEOL 001. General Geology	B1B3	4
GEOL 007. Earth, Time and Life	B1+B3	4
GEOL 028. Geology Outdoors		1
GEOL 100W. Writing Workshop	Z	3
GEOL 105. General Oceanography	R	3
GEOL 145. Earth System Science		4
COMPLETE TWO COURSES FROM:		
GEOL 120. Fundamentals of Mineralogy		3
GEOL 122. Petrology		4
GEOL 124. Sedimentology and Stratigraphy	R	3
GEOL 125. Structural Geology		4
GEOL 134. Geomorphology		4
GEOL 137. Introduction to GPS/GIS for Geologic Applications		4
University Electives		**26-28**
At least 11 units of University Electives must be in Upper Division.		
Teacher Candidates should take:		
CHEM 120S. Chemical Safety Seminar		1
BIOL 020. Ecological Biology	B2+B3	3
BIOL 021. Human Biology	B2+B3	3
Total Units Required		**120**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

BS - Geology

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

Major Exceptions

This degree program meets certain University Requirements through approved major modifications. Please see the Major Exceptions area in the Policy and Procedures section of this catalog to identify the specific adjustments for this degree program or contact your major advisor for more details.

University Graduation Requirements 35

Core Lower Division General Education 21

Of the 39 units required by the university, 18 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

Upper Division General Education 6

Of the 9 units required by the university, 3 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 6

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

COMPLETE ONE SEQUENCE FROM:

African American Studies 6

AFAM 002A. African Americans and the Development of America's History and Government	D2	3
AFAM 002B. African Americans and the Development of America's History and Government	M7	3

Asian American Studies 6

AAS 033A. Asian Americans in U.S. History I	D2	3
AAS 033B. Asian Americans in U.S. History II	M7	3

U.S. History and Government 6

HIST 015. Essentials of U.S. History	M12	3
POLS 015. Essentials of U.S. & California Government	M11	3

Chicana and Chicano Studies 6

CCS 010A. Mexican Americans and the Development of U.S. History and Government	D2	3
CCS 010B. Mexican Americans and the Development of U.S. History and Government	M7	3

Physical Education 2

Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Preparation for the Major — 21

CHEM 001A. General Chemistry	B1+B3	5
CHEM 001B. General Chemistry	B1+B3	5
MATH 030. Calculus I	B4	3

COMPLETE ONE SEQUENCE FROM:

Fundamentals Sequence

PHYS 002A. Fundamentals of Physics	B1+B3	4
PHYS 002B. Fundamentals of Physics	B1+B3	4

General Physics Sequence

PHYS 050. General Physics/Mechanics	B1+B3	4
PHYS 051. General Physics/Electricity and Magnetism	B1+B3	4

Requirements of the Major — 50-54

Core Courses — 30-32

GEOL 001. General Geology	B1+B3	4
GEOL 007. Earth, Time and Life	B1+B3	4
GEOL 028. Geology Outdoors		1
GEOL 100W. Writing Workshop	Z	3
GEOL 120. Fundamentals of Mineralogy		3
GEOL 122. Petrology		4
GEOL 124. Sedimentology and Stratigraphy	R	3
GEOL 125. Structural Geology		4
GEOL 129A. Introductory Field Geology		2

COMPLETE ONE COURSE FROM:

GEOL 129B. Advanced Field Geology		4
GEOL 129C. Intermediate Field Geology		2

Geology Electives — 20-24

COMPLETE 20-24 UNITS FROM:

GEOL 127. Tectonics		3
GEOL 130. Marine Geology		4
GEOL 134. Geomorphology		4
GEOL 135. Geochemistry		4
GEOL 137. Introduction to GPS/GIS for Geologic Applications		4
GEOL 138. Hydrogeology		4
GEOL 140. Principles of Engineering Geology		4
GEOL 142. Paleontology		4
GEOL 143. Active Tectonics		4
GEOL 147. Introduction to Applied Geophysics		4
GEOL 174. Hazardous Materials		3
GEOL 180. Individual Studies		1-2
MS 141. Geological Oceanography		4

University Electives — 12-14

MATH 031 recommended for graduate school or technical careers

Total Units Required — 120

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Minor - Geology

The Department of Geology offers a baccalaureate minor to supplement a major in some fields. The geology minor consists of at least 15 units, at least six of which must be upper division courses, selected in consultation with the geology advisor.

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Requirements of the Minor		15
Core Courses		**9**
GEOL 001. General Geology	B1+B3	4
GEOL 007. Earth, Time and Life	B1+B3	4
GEOL 028. Geology Outdoors		1
Electives		**6**
COMPLETE SIX UNITS FROM:		
GEOL 105. General Oceanography	R	3
GEOL 107. Prehistoric Life	R	3
GEOL 111. Geology and the Environment	R	3
GEOL 112. Hazards, Risks of Earthquakes and Volcanoes	R	3
GEOL 120. Fundamentals of Mineralogy		3
GEOL 122. Petrology		4
GEOL 124. Sedimentology and Stratigraphy	R	3
GEOL 125. Structural Geology		4
GEOL 134. Geomorphology		4
GEOL 135. Geochemistry		4
GEOL 137. Introduction to GPS/GIS for Geologic Applications		4
GEOL 138. Hydrogeology		4
GEOL 142. Paleontology		4
or other geology courses selected with advisor approval (at least one upper division course must include a lab)		
Total Units Required		**15**

MS - Geology

The MS program provides graduates with advanced training in Geology, culminating in the completion of an independent research thesis project. The academic curriculum and extensive faculty expertise provide the opportunity for study in many areas of Geology, with a particular emphasis on applied geology and tectonics. Graduates are employed as geologists, engineering geologists, hydrogeologists, hydrologists, geophysicists, environmental managers in engineering, geological, geophysical, and environmental consulting firms, and as geologists in the mining and petroleum industries.

The Geology Department welcomes students with undergraduate degrees in other disciplines.

For more information visit www.sjsu.edu/geology/.

Admission Requirements

Candidates must meet all university admissions requirements. Students can be admitted in either classified or conditionally classified standing. If an applicant's preparation for advanced graduate work is considered inadequate to meet the course prerequisites or other departmental requirements (typically because the student does not have a BS in Geology or related field), the conditions will include taking the core Geology BS courses to meet their requirements.

The GRE is not required.

Applicants from countries in which the native language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirements webpage at GAPE.

Requirements for Admission to Graduate Candidacy

University Candidacy Requirements

A student is eligible for admission to candidacy for the MS degree in Geology after the student has fulfilled the general all-university requirements for advancement to candidacy as outlined in the Academic Regulations section of this catalog and the department requirements. Candidacy includes successful completion of the Graduation Writing Assessment Requirement (GWAR). For graduate courses that meet the GWAR, refer to the GWAR Course List on the College of Graduate Studies website. In addition, the student's admission must be approved by the departmental graduate advisor.

Department Candidacy Requirements

The student will prepare a written thesis proposal in consultation with her/his thesis adviser. The student will defend her/his proposal in an oral examination with her/his thesis advisor and a minimum of two other thesis committee members

Requirements for Graduation

University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

Geology Department Requirements

An approved program for each candidate may be designed in consultation with the advisor on the basis of each individual's objectives. The program shall include at least 30 semester units earned beyond the bachelor's degree in 200-level and 100-level courses approved for graduate credit. This total includes 4 semester units of thesis research. At least 12 units must consist of 200-level courses. All students are required to take a 2-unit seminar (GEOL 285). All candidates are required to submit a master's thesis.

An oral presentation of thesis research is to be made before an open meeting of the Geology Department. The thesis must be approved by the student's thesis committee and submitted in final form, as defined in the SJSU Master's Thesis and Doctoral Dissertation Guidelines, to the Graduate Division of the university in accordance with published deadlines.

Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR). For information on the GWAR, please see http://info.sjsu.edu/gcw.html.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Requirements of the Masters		30
Core		**14**
GEOL 285. Seminar		2
COMPLETE TWELVE UNITS FROM:		
GEOL 213. Advanced Igneous and Metamorphic Petrology	GWAR	4
GEOL 214. Sedimentary Petrology and Petrography		4
GEOL 222. Advanced Sedimentary Geology		4
GEOL 231. Advanced Structural Geology	GWAR	4
GEOL 234. Advanced Geomorphology	GWAR	4
GEOL 237. Advanced GIS/GPS Mapping		4
GEOL 238. Advanced Hydrogeology	GWAR	4
GEOL 242. Advanced Paleontology		4
GEOL 255. Advanced Geology		4
Electives		**12**
Other 100-level or 200-level courses, selected with advisor approval. GEOL 285 may be taken a second time.		
Culminating Experience		**4**
Plan A (Thesis)		
GEOL 299. Master's Thesis		1-4
1 unit of GEOL 299 in each of four semesters is recommended		
Thesis Defense (oral presentation)		
Total Units Required		**30**

Elective courses must be planned in consultation with the Geology Department Graduate Advisor.

The maximum number of upper-division undergraduate units that can be applied toward the master's degree is 15.

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU cumulative grade point averages of 3.0 in order to graduate.

Global Studies

Department of Environmental Studies

WASHINGTON SQUARE HALL 118
408-924-5475 (Voice)
408-924-5477 (Fax)
globalstudies@sjsu.edu
http://gs.sjsu.edu/

Professors

Katherine Cushing
Kathryn Davis

Curricula

BA, Global Studies
Minor, Global Studies
Certificate, Global Citizenship

Introduction

Global Studies at SJSU is an interdisciplinary program that encourages students to look at the world holistically. The tremendous international migrations of people, movements of goods, technology transfers, and mixing of cultures makes it important to study the world as a human community in ways we haven't considered in the past. The program is designed to train future leaders to grapple with some of the most pressing issues of our time, from a global perspective. The focus of our program on studying global issues from multiple perspectives provides students the intellectual foundation and the analytical and communication skills to prepare for careers in government, education, NGOs, international development agencies, international philanthropic organizations, law, consulting, global health organizations, writing, and graduate study. We are the only Global Studies program in the San Francisco Bay Area and one of the few in the CSU system that offers an interdisciplinary program that includes a suite of core courses in Global Studies. Global Studies is a relatively new field and our program is at the leading edge of shaping this field for the future.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

BA - Global Studies

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

University Graduation Requirements 41

Core Lower Division General Education 30

Of the 39 units required by the university, 9 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

Upper Division General Education

Of the 9 units required by the university, 9 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 6

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

COMPLETE ONE SEQUENCE FROM:

African American Studies **6**

AFAM 002A. African Americans and the Development of America's History and Government	D2	3
AFAM 002B. African Americans and the Development of America's History and Government	M7	3

Asian American Studies **6**

AAS 033A. Asian Americans in U.S. History I	D2	3
AAS 033B. Asian Americans in U.S. History II	M7	3

U.S. History and Government **6**

HIST 015. Essentials of U.S. History	M12	3
POLS 015. Essentials of U.S. & California Government	M11	3

Chicana and Chicano Studies **6**

CCS 010A. Mexican Americans and the Development of U.S. History and Government	D2	3
CCS 010B. Mexican Americans and the Development of U.S. History and Government	M7	3

Physical Education 2

Graduation Writing Assessment Requirement 3

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

GLST 100W. Writing Workshop	Z	3

Preparation for the Major 6

GLST 001A. Introduction to Global Studies		3
GLST 001B. Introduction to Global Studies	B2	3

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Core Courses 12

GLST 162. Contemporary Global Issues 3
GLST 164. Advanced Seminar in Global Citizenship 3
GLST 179. Capstone Seminar in Global Studies 3

COMPLETE ONE COURSE FROM:

GLST 188. Special Topics in International Experiences ..... V 3
GLST 189. Global Experience 1-3

Major Breadth Courses 36

Complete Global Studies course and two additional courses in different departments in these four areas. GLST 187 may be substituted for one course with approval of advisor.

Area 1: Global Sustainability 9-10

GLST 167. Changing Ecologies of Globalization ..... R 3

COMPLETE TWO COURSES FROM:

ANTH 129. Environmental Anthropology 3
BIOL 110. Biodiversity and Biopolitics ..... R 3
COMM 146F. Communication and the Environment 4
ENVS 150. Introduction to Environmental Thought ..... S 3
ENVS 152. Globalization and the Environment ..... R 3
ENVS 159. Nature and World Cultures ..... V 3
GEOG 121. Population and Global Change 3
GEOL 111. Geology and the Environment ..... R 3
GEOL 112. Hazards, Risks of Earthquakes and Volcanoes ..... R 3
HS 172. Contemporary Environmental Health Issues ..... R 3
METR 112. Global Climate Changes ..... R 3
NUFS 139. Hunger and Environmental Nutrition ..... R 3
PHIL 126. Environmental Ethics and Philosophy 3

Area 2: Global Development, Population, Human Rights 9-11

GLST 143. Gender, Power, Intnl Dev ..... V 3

COMPLETE TWO COURSES FROM:

ANTH 151. Modernity and Disease 3
ANTH 132. Creating Built Worlds 3
BUS5 187. Global Dimensions of Business 3
ECON 113B. Economic History of Europe 4
ECON 190. History of Economic Thought 4
GEOG 115. Global Development 3
HIST 155. 20th Century World ..... V 3
JS 171. Human Rights and Justice ..... V 3
JS 172. Human Trafficking and Modern Day Slavery 3
JS 173. Borders and Conflict 3
POLS 147. Globalization 4
POLS 155. The Wealth of Nations 4
SOCI 118. Sociology of Human Rights and Social Justice 3
SOCI 160. Immigration and Identity 3
SOCI 169. Political Sociology 3
WOMS 102. The Global Study of Women ..... V 3

WOMS 112. Women in the Global Economy 3

Area 3: Global Security and Technology 9-11

GLST 156. Technology of the Modern World 3

COMPLETE TWO COURSES FROM:

ANTH 136. Thought Control in Contemporary Society		3
ANTH 146. Culture and Conflict	V	3
BUS5 165A. Global Leadership		3
COMM 115P. Communication and Conflict		4
COMM 179. Global Media and Resistance	V	3
GEOG 107. Mapping the World		3
GEOG 112. Nations, Cultures, and Territorial Disputes	V	3
GEOG 170. Introduction to Mapping and Geographic Information Systems		3
GEOG 181. Remote Sensing: Basic Theory and Image Interpretation		3
JS 123. Terrorism, Intelligence, and Security		3
JS 161. Introduction to Cybercrime		3
MCOM 180. Independent Study		1-6
POLS 148. Nationalism and Comparative Political Cultures		4
POLS 150. War and Peace	V	3
POLS 152A. International Organizations and NGOs		4
TECH 198. Technology and Civilization	V	3

Area 4: Global Cultures and Society **9-11**

SOCI 116. Global Society		3

COMPLETE TWO COURSES FROM:

ANTH 107. Eating Culture: The Anthropology of Food		3
ANTH 115. The Emerging Global Culture	V	3
ANTH 148. Religion and Anthropology		3
ARTH 193A. Worlds of Art and Culture	V	3
ARTH 193B. East Meets West in Art	V	3
CA 173. Thinking About Contemporary World Arts	V	3
COMM 152I. Communication in World Cultures		4
COMM 173F. Intercultural Communication and Global Understanding		4
COLT 121. Introduction to Comparative Literature		4
COLT 122. Topics in Comparative World Literature		4
COLT 124. Literature and Religious Experience		3
ENGL 117B. Global Film, Literature, and Cultures	V	3
ENGL 123A. Literature for Global Understanding-The Americas	V	3
ENGL 123B. Literature for Global Understanding-Africa	V	3
ENGL 123C. Literature for Global Understanding-Oceania	V	3
ENGL 123D. Literature for Global Understanding-Asia	V	3
ENGL 126. Holocaust Literature	V	3
HIST 132. Advanced Topics in World History		4
May be taken twice if topic changes and with advisor approval.		
HUM 128. Perspectives on the Twentieth Century: The West in a Global Context	V	3
LING 122. English as a World Language	V	3
MCOM 106. Global Mass Communication		3
PHIL 120. Comparative Philosophy Theory & Practice		3
TECH 198. Technology and Civilization	V	3
WOMS 189. Islamic Perspectives on Gender		3

Minor Requirement **15-18**

Global Studies majors are required to select a minor field in consultation with the Global Studies advisor.

Major Upper Division Electives **0-9**

See a Global Studies Advisor for approved Upper Division Electives.

University Electives **1**

Total Units Required **120**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

Minor - Global Studies

Students may complete a minor in Global Studies by completing 15 units of lower and upper division core coursework in Global Studies.

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Requirements of the Minor		15
COMPLETE ONE COURSE FROM:		
GLST 001A. Introduction to Global Studies		3
GLST 001B. Introduction to Global Studies	B2	3
COMPLETE ONE COURSE FROM:		
GLST 188. Special Topics in International Experiences	V	3
GLST 189. Global Experience		1-3
COMPLETE THREE COURSES FROM:		
GLST 143. Gender, Power, Intnl Dev	V	3
GLST 156. Technology of the Modern World		3
GLST 162. Contemporary Global Issues		3
GLST 164. Advanced Seminar in Global Citizenship		3
GLST 167. Changing Ecologies of Globalization	R	3
GLST 187. Special Topics		3
Total Units Required		**15**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

For Legend please see page 2

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Certificate - Global Citizenship

Global Citizenship is an interdisciplinary certificate program intended to assist students and members of the non-student community in understanding the interconnectedness of peoples, genders, cultures, and societies and celebrating the richness of human diversity in a global context. The program complements SJSU's goals of globalizing the campus and graduating students who are globally responsible citizens. Students will examine questions of meaning and value associated with citizenship in today's increasingly connected world. Students will also develop their own understanding of personal, social, and corporate responsibility to the global community. In a rapidly changing world, it is necessary for college students to acquire the knowledge, skills, values, and attitudes to adapt and thrive in the enlarged and evolving global context.

Requirements of the Certificate — 15

Lower Division Electives — 6

COMPLETE TWO COURSES FROM:

ANTH 011. Cultural Anthropology	D1	3
ARTH 070B. Art History, Renaissance to Modern	C1	3
ARTH 070C. Arts of Asia	C1	3
COMM 074. Fundamentals of Intercultural Communication	E	3
ENGL 040. Contemporary World Fiction	C2	3
GEOG 010. Cultural Geography	D1	3
GEOG 012. Global Geography	D2	3
GLST 001A. Introduction to Global Studies		3
HIST 001A. World History to 1500		3
HIST 001B. World History from 1500		3
MUSC 019. Music in World Cultures	C1	3
POLS 002. Introduction to Comparative Politics	D2	3
POLS 004. Introduction to International Relations	D3	3
RELS 070. Gods, Guns, Gurus, Grails-World Religion	C2	3

Upper Division Electives — 6

Note: Students who have not satisfied the prerequisites for SJSU Studies will select the 3 courses that are not SJSU Studies Courses. Alternatively those students may wait to satisfy this requirement until completion of SJSU Studies prerequisites.

COMPLETE TWO COURSES FROM:

GLST 143. Gender, Power, Intnl Dev	V	3
GLST 156. Technology of the Modern World		3
GLST 162. Contemporary Global Issues		3
GLST 164. Advanced Seminar in Global Citizenship		3
GLST 167. Changing Ecologies of Globalization	R	3
HIST 155. 20th Century World	V	3

Additional Requirements — 3

COMPLETE ONE COURSE FROM:

GLST 188. Special Topics in International Experiences	V	3
GLST 189. Global Experience		3

Note: Students may take GLST 189 either for a volunteer or internship abroad or for working with a local community with approval of the Global Studies advisor. A semester abroad or FLP summer class may also be substituted for this requirement.

Total Units Required — 15

Health Science and Recreation Department

College of Health and Human Sciences

SPARTAN COMPLEX, 201
408-924-2971
http://www.sjsu.edu/hsr

Professors

Yoshitaka Iwasaki, Chair
Edward M. Mamary
Kathleen M. Roe

Associate Professors

Anne Demers
Miranda Worthen

Assistant Professors

Monica Allen
Josh Baur
Marcelle Dougan
Vicky Gomez
Jennifer Hartle
Michael Harvey
Susan Ross
Jennie Zhang

Curricula

BS, Public Health
BS, Public Health, Concentration in Health Services Administration
BS, Recreation
BS, Recreation, Concentration in Recreation Management
BS, Recreation, Concentration in Recreation Therapy
Minor, Complementary and Alternative Health Practices
Minor, Health Professions
Minor, Public Health
Minor, Recreation
MPH, Public Health
MS, Recreation
MS, Recreation, Concentration in International Tourism (Not Accepting Students)

Introduction

The Department of Health Science and Recreation prepares leaders and practitioners who promote health and improve the environments in which we live, work, learn, and play. We strive to embrace a Teacher-Scholar-Practitioner Model through student, alumni, faculty, and community engagement to advance practices in public health and recreation fields. Our undergraduate curriculum in public health examines the multiple dimensions/determinants of health (e.g., physical, emotional, social, environmental, and spiritual) and the scientific and practical basis for understanding and promoting health at the population level (including epidemiology, policies, and community health) to create the optimal, meaningful conditions for health and wellness for all. Founded in 1970, the Master of Public Health program (MPH) has been accredited by the Council on Education for Public Health (CEPH) since 1974 and is offered in two formats. Our campus format is regular session and offers the flexibility to complete the program full or part-time. Our synchronous online format is offered through the College of Professional and Global Education. Our MPH students engage in an integrated program of learning, scholarship, and internships in partnership with a diverse network of community agencies. Our recreation degree program, founded in 1947 (the oldest undergraduate recreation degree program in the State of California), has a core curriculum continuously accredited by the Council on Accreditation of Park, Recreation, and Tourism Related Professions (COAPRT) since 1987. We offer concentrations in Recreation Management and Recreation Therapy, as well as a minor in recreation and a minor in recreation and nature. We also plan to offer an innovative Master's Program in Recreation through Northern California CSU four-campus coalition.

All of our programs at both undergraduate and graduate levels incorporate student-centered curriculums with our commitment to community development, social justice orientations, interdisciplinary and intercultural/globalized approaches with its emphasis on rigor and innovation, high-impact experiential learning, and career-focused applied orientations. Developed by our recent strategic planning process, our new vision statement of the department is as follows - "We aspire to be innovators and leaders in learning and teaching, scholarship, and professional practice by integrating public health and recreation to ignite social change and work towards a more vibrant, prosperous, and just world where the optimal health and wellbeing of individuals and communities are achieved and sustained.".

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

For Legend please see page 2

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BS - Public Health

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

Major-Specific Graduation Requirements

All courses in Required for the Major Core must be completed with a grade of "C" or better to graduate. All other approved electives require a "C-" or better to graduate.

Health Science and Recreation International Experience Requirement

To satisfy the Health Science and Recreation Department international requirement, students must study abroad for at least nine days in an approved program (exemption from the study abroad portion of the requirement must be approved by the dean of the College of Health and Human Sciences based on compelling individual life experiences or physical limitations. A relevant cross-cultural experience in the U.S. will be substituted). Specific details can be found on the college website at http://www.sjsu.edu/chhs/international-experience/.

University Graduation Requirements 41

Core Lower Division General Education 24

Of the 39 units required by the university, 15 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

NOTE: STUDENTS WHO HAVE COMPLETED THE ADT TRANSFER DEGREE (UNDER SB 1440) FOR THIS MAJOR WILL HAVE COMPLETED ALL LOWER DIVISION GE REQUIREMENTS AND SHOULD FOLLOW THE 60 UNIT GUARANTEE ROADMAP. MEET WITH AN ADVISOR PRIOR TO REGISTERING FOR YOUR FIRST SEMESTER FOR THE 60 UNIT ROADMAP OR SPECIFIC QUESTIONS.

Upper Division General Education 6

Of the 9 units required by the university, 3 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 6

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

COMPLETE ONE SEQUENCE FROM:

African American Studies 6

AFAM 002A. African Americans and the Development of America's History and Government	D2	3
AFAM 002B. African Americans and the Development of America's History and Government	M7	3

Asian American Studies 6

AAS 033A. Asian Americans in U.S. History I	D2	3
AAS 033B. Asian Americans in U.S. History II	M7	3

U.S. History and Government 6

HIST 015. Essentials of U.S. History	M12	3
POLS 015. Essentials of U.S. & California Government	M11	3

Chicana and Chicano Studies 6

CCS 010A. Mexican Americans and the Development of U.S. History and Government	D2	3
CCS 010B. Mexican Americans and the Development of U.S. History and Government	M7	3

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

For Legend please see page 2

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Physical Education 2

Graduation Writing Assessment Requirement 3

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Preparation for the Major 15

Students in this major must earn a grade of "C" or better in each of the courses required in the Preparation for the Major.

HS 001. Understanding Your Health ..... E 3
HS 015. Human Life Span D1 3
HS 025. Health Team Building 3
HS 067. Introductory Health Statistics B4 3

Any course that is currently articulated to STAT095 may be used to fulfill the HS067 preparation course for this major. UNVS 015F and UNVS 015S may be used in lieu of the statistics course required by this major.

HS 074. Healthy Communities 3

Requirements of the Major 51

Students must complete the following CORE courses with a grade of "C" or better to graduate. All other upper division electives require a "C-" or better to graduate.

Core Courses 30

HS 103. Introduction to Health Policy 3
HS 104. Community Health Promotion 3
HS 114. Applications in Community Health Promotion 3
HS 135. Health Issues in a Multicultural Society ..... S 3
HS 158. Health Communications 3
HS 159. Health Program Planning 3
HS 161. Epidemiology 3
HS 162. Health Care Organization and Admin 3
HS 165. The Health Professional 3
HS 167. Biostatistics 3

Additional Courses 18-21

Students must complete a Minor or take 21 units of upper division electives 18-21

College International Experience 0-3

In consultation with advisor, select an International Experience course that is followed by -ITL 0-3

University Electives 13

Additional courses selected in consultation with major advisor

Total Units Required 120

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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BS - Public Health, Concentration in Health Services Administration

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

Major-Specific Graduation Requirements

All courses in Required for the Major Core must be completed with a grade of "C" or better to graduate. All concentration courses require a "C-" or better to graduate.

Health Science and Recreation International Experience Requirement

To satisfy the Health Science and Recreation Department international requirement, students must study abroad for at least nine days in an approved program (exemption from the study abroad portion of the requirement must be approved by the dean of the College of Health and Human Sciences based on compelling individual life experiences or physical limitations. A relevant cross-cultural experience in the U.S. will be substituted). Specific details can be found on the college website at http://www.sjsu.edu/chhs/international-experience/.

University Graduation Requirements 41

Core Lower Division General Education 24

Of the 39 units required by the university, 15 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

Upper Division General Education 6

Of the 9 units required by the university, 3 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 6

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

COMPLETE ONE SEQUENCE FROM:

African American Studies 6

AFAM 002A. African Americans and the Development of America's History and Government	D2	3
AFAM 002B. African Americans and the Development of America's History and Government	M7	3

Asian American Studies 6

AAS 033A. Asian Americans in U.S. History I	D2	3
AAS 033B. Asian Americans in U.S. History II	M7	3

U.S. History and Government 6

HIST 015. Essentials of U.S. History	M12	3
POLS 015. Essentials of U.S. & California Government	M11	3

Chicana and Chicano Studies 6

CCS 010A. Mexican Americans and the Development of U.S. History and Government	D2	3
CCS 010B. Mexican Americans and the Development of U.S. History and Government	M7	3

Physical Education 2

Graduation Writing Assessment Requirement 3

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Preparation for the Major 18

Students selecting this concentration must earn a grade of "C" or better in the courses required in the Preparation for the Major.

HS 001. Understanding Your Health ..... E 3
HS 015. Human Life Span D1 3
HS 025. Health Team Building 3
HS 067. Introductory Health Statistics B4 3

Any course that is currently articulated to STAT095 may be used to fulfill the HS067 preparation course for this major. UNVS 015F and UNVS 015S may be used in lieu of the statistics course required by this major.

HS 074. Healthy Communities 3

COMPLETE ONE COURSE FROM:

BUS1 020. Financial Accounting 3
BUS1 020N. Survey of Accounting 3

Any course that is currently articulated for BUS1 020 or BUS1 020N may be used to fulfill this preparation requirement for this major.

Requirements of the Major 51-54

Students must complete the following CORE courses with a grade of "C" or better to graduate. All concentration courses require a "C-" or better to graduate.

Core Courses 30

HS 103. Introduction to Health Policy 3
HS 104. Community Health Promotion 3
HS 114. Applications in Community Health Promotion 3
HS 135. Health Issues in a Multicultural Society ..... S 3
HS 158. Health Communications 3
HS 159. Health Program Planning 3
HS 161. Epidemiology 3
HS 162. Health Care Organization and Admin 3
HS 165. The Health Professional 3
HS 167. Biostatistics 3

Concentration Courses 21

HS 166A. Field Experience Seminar 3
HS 166B. Fieldwork Experience 3

COMPLETE 15 UNITS FROM:

HS 117. Social Policy and Services in Aging 3
HS 170. Health Care Economics 3
HS 171. Managed Health Care 3
HS 173. Comparative Healthcare Systems 3
HS 174. Fundamentals of Health Information Tech 3
HS 175. Legal/Ethical Aspects, Healthcare Admin 3

College International Experience 0-3

In consultation with advisor, select an International Experience course that is followed by -ITL 0-3

University Electives 7-10

Additional courses selected in consultation with major advisor

Total Units Required 120

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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BS - Recreation

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

Recreation International Experience Requirement

To satisfy the Health Science and Recreation Department international requirement, students must study abroad for at least nine days in an approved program (exemption from the study abroad portion of the requirement must be approved by the dean of the College of Applied Sciences and Arts based on compelling individual life experiences or physical limitations. A relevant cross-cultural experience in the U.S. will be substituted). Specific details can be found on the college website at http://www.sjsu.edu/chahs/international-experience/.

University Graduation Requirements 50

Core Lower Division General Education 33

Of the 39 units required by the university, 6 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

Upper Division General Education 9

Of the 9 units required by the university, 0 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 6

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

COMPLETE ONE SEQUENCE FROM:

African American Studies **6**

AFAM 002A. African Americans and the Development of America's History and Government	D2	3
AFAM 002B. African Americans and the Development of America's History and Government	M7	3

Asian American Studies **6**

AAS 033A. Asian Americans in U.S. History I	D2	3
AAS 033B. Asian Americans in U.S. History II	M7	3

U.S. History and Government **6**

HIST 015. Essentials of U.S. History	M12	3
POLS 015. Essentials of U.S. & California Government	M11	3

Chicana and Chicano Studies **6**

CCS 010A. Mexican Americans and the Development of U.S. History and Government	D2	3
CCS 010B. Mexican Americans and the Development of U.S. History and Government	M7	3

Physical Education 2

Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Preparation for the Major	**6**
HS 074. Healthy Communities	3
RECL 100W. Writing Workshop Z	3
Requirements of the Major	**64**
Core Courses	**32**
RECL 090. Foundations of Recreation Parks & Tourism	3
RECL 110. Leisure, Life and Contemporary Society	3
RECL 112. Foundations of Recreation Therapy	3
RECL 132. Recreation Program Planning	3
RECL 135. Planning and Managing Rec Areas & Facil	3
RECL 136. Principles of Recreation and Park Admin	3
RECL 160. Evaluation and Research in Recreation	3
RECL 170A. Pre-Intern Workshop	1
RECL 170B. Internship in Recreation	10
College International Experience	**0-3**
In consultation with advisor, select an International Experience course that is followed by -ITL	0-3
Major Electives	**29-32**
Electives in consultation with Academic Advisor	29-32
up to 9 can be taken outside of Recreation - all must be approved by advisor	
Total Units Required	**120**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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BS - Recreation, Concentration in Recreation Management

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

Health Science and Recreation International Experience Requirement

To satisfy the Health Science and Recreation Department international requirement, students must study abroad for at least nine days in an approved program (exemption from the study abroad portion of the requirement must be approved by the dean of the College of Applied Sciences and Arts based on compelling individual life experiences or physical limitations. A relevant cross-cultural experience in the U.S. will be substituted). Specific details can be found on the college website at http://www.sjsu.edu/chahs/international-experience/.

University Graduation Requirements 50

Core Lower Division General Education 33

Of the 39 units required by the university, 6 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

Upper Division General Education 9

Of the 9 units required by the university, 0 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 6

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

COMPLETE ONE SEQUENCE FROM:

African American Studies **6**

AFAM 002A. African Americans and the Development of America's History and Government	D2	3
AFAM 002B. African Americans and the Development of America's History and Government	M7	3

Asian American Studies **6**

AAS 033A. Asian Americans in U.S. History I	D2	3
AAS 033B. Asian Americans in U.S. History II	M7	3

U.S. History and Government **6**

HIST 015. Essentials of U.S. History	M12	3
POLS 015. Essentials of U.S. & California Government	M11	3

Chicana and Chicano Studies **6**

CCS 010A. Mexican Americans and the Development of U.S. History and Government	D2	3
CCS 010B. Mexican Americans and the Development of U.S. History and Government	M7	3

Physical Education 2

Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

Preparation for the Major	**6**
HS 074. Healthy Communities	3
RECL 100W. Writing Workshop Z	3
Requirements of the Major	**64**
Core Courses	**32**
RECL 090. Foundations of Recreation Parks & Tourism	3
RECL 110. Leisure, Life and Contemporary Society	3
RECL 112. Foundations of Recreation Therapy	3
RECL 132. Recreation Program Planning	3
RECL 135. Planning and Managing Rec Areas & Facil	3
RECL 136. Principles of Recreation and Park Admin	3
RECL 160. Evaluation and Research in Recreation	3
RECL 170A. Pre-Intern Workshop	1
RECL 170B. Internship in Recreation	10
Recreation Management Concentration	**15**
RECL 097. Event Planning	3
RECL 150. For-Profit Enterprises in Recreation	3
RECL 152. Non-Profit Leadership & Management	3
RECL 155. Outdoor Recreation Systems	3
RECL 156. Principles of Sustainable Travel and Tourism	3
College International Experience	**0-3**
In consultation with advisor, select an International Experience course that is followed by -ITL	0-3
Major Electives	**14-17**
14-17 units of electives in consultation with academic advisor	
up to 5 can be taken outside of Recreation - all must be approved by advisor	
Total Units Required	**120**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

BS - Recreation, Concentration in Recreation Therapy

Recreation therapy is a systematic process of treatment services that utilize recreation and other activity-based interventions to address the assessed needs of individuals with illnesses and/or disabling conditions, as a means to improve psychological and physical health, recovery, and well-being. Graduates of recreation therapy work in a wide range of health services settings (i.e. veterans administration, mental health, addictions, physical medicine, rehabilitation, prison/corrections, pediatrics, municipal park and recreation, hospice, skilled nursing, adventure/therapeutic camps, and private practice).

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

University Graduation Requirements 44

Core Lower Division General Education 27

Of the 39 units required by the university, 12 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

Upper Division General Education 9

Of the 9 units required by the university, 0 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 6

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

COMPLETE ONE SEQUENCE FROM:

African American Studies 6

AFAM 002A. African Americans and the Development of America's History and Government	D2	3
AFAM 002B. African Americans and the Development of America's History and Government	M7	3

Asian American Studies 6

AAS 033A. Asian Americans in U.S. History I	D2	3
AAS 033B. Asian Americans in U.S. History II	M7	3

U.S. History and Government 6

HIST 015. Essentials of U.S. History	M12	3
POLS 015. Essentials of U.S. & California Government	M11	3

Chicana and Chicano Studies 6

CCS 010A. Mexican Americans and the Development of U.S. History and Government	D2	3
CCS 010B. Mexican Americans and the Development of U.S. History and Government	M7	3

Physical Education 2

Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Preparation for the Major		16
RECL 100W. Writing Workshop	Z	3
HS 015. Human Life Span	D1	3
PSYC 001. Introduction to Psychology	D1	3
PSYC 110. Adult Psychopathology		3
COMPLETE ONE COURSE FROM:		
BIOL 065. Human Anatomy	B2B3	4
BIOL 065O. Human Anatomy	B2B3	4

Requirements of the Major		54
Core Courses		**32**
RECL 090. Foundations of Recreation Parks & Tourism		3
RECL 110. Leisure, Life and Contemporary Society		3
RECL 112. Foundations of Recreation Therapy		3
RECL 132. Recreation Program Planning		3
RECL 135. Planning and Managing Rec Areas & Facil		3
RECL 136. Principles of Recreation and Park Admin		3
RECL 160. Evaluation and Research in Recreation		3
RECL 170A. Pre-Intern Workshop		1
RECL 170C. Internship in Recreation Therapy		10
Recreation Therapy Concentration		**22**
RECL 140A. Spec Interventions in RT:Aquatic Therapy		1
RECL 140B. Spec Inter in RT: Behavior Interventions		1
RECL 140C. Spec Inter in RT: Adventure Tx		1
RECL 148. Biofeedback Principles and Practices		3
RECL 169. Practicum in Recreation Therapy		1
RECL 187. Leisure Education in Recreation Therapy		3
RECL 193. RT Interventions for People with Physical Conditions		3
RECL 197. Recreation Therapy in Mental Health		3
RECL 198. Rec Therapy Assessment and Documentation		3
RECL 199. Advanced Practices in Recreation Therapy		3

University Electives	6
Additional courses selected in consultation with major advisor	

Total Units Required	120

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Minor - Complementary and Alternative Health Practices

The Complementary and Alternative Health Practices Minor program is designed to provide a strong academic understanding of the theory, practice, and effectiveness of complementary and alternative medical (CAM) therapies. Emphasis is on critical thinking skills and using a scientific evidence-based eye while keeping an open mind. Classes will form the basis for evaluating CAM therapies commonly practiced by U.S. residents.

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Requirements of the Minor		13-15
Required Courses		**9**
HPRF 134. Complementary and Alternative Health Practices		3
HS 135. Health Issues in a Multicultural Society	S	3
COMPLETE ONE COURSE FROM:		
BIOL 054. Human Understanding	E	3
PHIL 111. Medical Ethics		3
ANTH 108. Medical Anthropology		3
Electives		**4-6**
Choose courses from two different areas. HPRF 180 Individual Studies, may be used for any area depending upon topic studied.		
Alternative Medical Systems		
ANTH 108. Medical Anthropology		3
PHIL 111. Medical Ethics		3
Mind/Body Interventions		
KIN 069. Stress Management: A Multidisciplinary Perspective	E	3
RELS 122. Magic, Science and Religion	V	3
RECL 197. Recreation Therapy in Mental Health		3
Biological-Based Therapies		
BIOL 054. Human Understanding	E	3
NUFS 104A. Cultural Aspects of Food		3
NUFS 105. Current Issues in Nutrition		3
Manipulative and Body-Based Methods		
KIN 050. Tai Chi (Non-Combative)	PE	1
KIN 061A. Beginning Hatha Yoga	PE	1
Total Units Required		**13-15**

Note: HPRF 180 may be used for any area depending on topic studied.

Minor - Health Professions

A minor in Health Professions provides all students with the opportunity to gain a breadth of knowledge and understanding of the challenging health issues facing a multicultural society. Courses must be unique to the minor.

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Requirements of the Minor		12-15
Required Courses		**3**
HS 135. Health Issues in a Multicultural Society	S	3
Electives		**9-13**
Choose courses from four of the following five areas.		
Gerontology		
GERO 108. Health in Later Life		3
GERO 111. Medical Ethics		3
GERO 117. Social Policy and Services in Aging		3
GERO 127. Aging and Mental Health		3
GERO 137. Families, Aging, and Diversity		3
Health Science		
HS 025. Health Team Building		3
HS 161. Epidemiology		3
HS 162. Health Care Organization and Admin		3
Nursing		
NURS 180. Individual Studies		1-4
Or other courses with Director of Health Professions Approval		
Nutrition, Food Science and Packaging		
NUFS 008. Nutrition for the Health Professions		3
NUFS 009. Introduction to Human Nutrition	E	3
NUFS 106A. Human Nutrition in the Life Span		3
NUFS 116. Aging and Nutrition		3
Or other courses with Director of Health Professions Approval		
Other Health-Related Areas		
HPRF 134. Complementary and Alternative Health Practices		3
KIN 069. Stress Management: A Multidisciplinary Perspective	E	3
KIN 155. Exercise Physiology		3
KIN 156. Introduction to Adapted Physical Activity		3
KIN 169. Diversity, Stress and Health	S	3
KIN 188. Prevention and Care of Athletic Injuries		2
RECL 110. Leisure, Life and Contemporary Society		3
RECL 112. Foundations of Recreation Therapy		3
RECL 185. Leisure, Recreation and Aging		3
RECL 198. Rec Therapy Assessment and Documentation		3
Or other courses with Director of Health Professions Approval		
Total Units Required		**12-15**

Or other courses with Director of Health Science Approval.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Minor - Public Health

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Requirements of the Minor		**15**
Required Core		**12**
HS 001. Understanding Your Health	E	3
HS 074. Healthy Communities		3
HS 161. Epidemiology		3
HS 162. Health Care Organization and Admin		3
Upper Division Health Science Elective		**3**
Select one additional three (3) unit Health Science course in consultation with a department advisor		3
Total Units Required		**15**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Minor - Recreation

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Requirements of the Minor	**15**
Required Core	**6**
RECL 090. Foundations of Recreation Parks & Tourism	3
RECL 097. Event Planning	3
Upper Division Requirements	**9**
Complete nine (9) upper division units in consultation with department advisor	
Total Units Required	**15**

Master of Public Health Program

San José State University offers an MPH degree with a specialization in community health education in two formats; On Campus (regular session) and also online (through the College of Professional and Global Education). Both on campus and online students engage in the same rigorous course of study. The MPH degree on campus offers students the flexibility to complete their degree in two years or more, depending on personal circumstances. The MPH online option is offered through Special Session and is a fast-paced, 24-month program of study.

Our MPH Program was founded in 1970 to prepare community health education practitioners and has been continuously accredited by the Council on Education for Public Health (CEPH) since 1974. CEPH is the independent agency officially recognized to accredit graduate programs in public health. As stated in its mission statement, CEPH assures quality in public health education and training to achieve excellence in practice, research and service, through collaboration with organizational and community partners. The SJSU MPH Program is well-known for its practice-oriented, community-based training. The program's essential mission is:

To provide professional education that prepares both students and graduates with knowledge, conceptual frameworks, health education and public health competencies, in order to develop programs, build community capacity, and advocate policy for health equity.

The MPH program's mission is achieved through an integrated program of instruction, scholarship, and internships in partnership with a diverse network of community programs and practitioners. Our ultimate goal is public health and social justice through planned, organized, and empowering community efforts.

Additional information is available on the Master of Public Health website at www.sjsu.edu/hsr/academicprograms/mph/

Graduate Admission

University Admission

Candidates must apply through the CSU admissions portal, Cal State Apply, and meet all university graduate admissions requirements.

Applicants from countries in which the native language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirements webpage at GAPE.

Program Admission

New students are admitted once a year, and begin course work during the fall semester in both online and campus formats. A detailed Admissions Information Packet is available at http://www.sjsu.edu/hsr/academicprograms/mph/oncampusprogram/applyingtotheprogram.

Applications for the Campus and Special Session Online formats are accepted between October 1 and May 1 for fall admission. Applications received by February 1 are eligible for early review and admission. Applications received between May 1 and June 1 will be considered on a space available basis. Applications received after June 1 will not be eligible for review and will require resubmission for consideration for the next application cycle. Applying to the MPH program, both campus and online, requires two parallel, but separate, application processes. All MPH applicants must:

A. Submit a complete university application through Cal State Apply. Successful applicants must be admitted to the university by the SJSU Graduate Admissions and Program Evaluations.

B. Submit a complete application to the MPH program, which includes:

1. At least two letters of recommendation on official letterhead, signed, and include contact information for author
2. Resume/CV
3. Statement of Purpose (1-2 pages)

Additional information and the Application Packet are available on the department website: http://www.sjsu.edu/hsr/academicprograms/mph/admissions/index.html

Program Requirements for Admission to Classified Standing

Students can be admitted in either classified or conditionally classified standing. To be admitted to the Master of Public Health Program in Classified status, an applicant must possess a baccalaureate degree with overall minimum GPA of 3.0 in last 60 semester or quarter units, demonstrated multicultural experience, and a clear commitment to public health as evidenced through work or volunteer experiences.

Program Requirements for Admission to Conditionally Classified Standing

Admission with Conditionally Classified standing is available to Campus format applicants only. If an applicant's preparation for advanced graduate work is considered inadequate to meet the course prerequisites or other departmental requirements, the applicant may be admitted with conditions that will include taking longer than two years to complete the program and taking writing and/or computation preparation courses. The program admissions letter will explain terms and requirements.

Requirements for Advancement to Candidacy

Matriculated graduate students must submit a Petition for Advancement to Graduate Candidacy a minimum of one semester prior to graduating. General university requirements for advancement to candidacy for the MPH degree are detailed in the Graduate Policies and Procedures section of this catalog.

The University requires that all graduate students complete the Graduation Writing Assessment Requirement (GWAR) as a condition for advancement to candidacy. Please refer to the SJSU catalog section "Graduate Degree - Graduation Writing Assessment Requirement (GWAR)" for details.

Requirements for Graduation

University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

Course Requirements

To meet the requirements for the MPH, a student must complete 42 units (and satisfy the program GWAR requirement) with a cumulative GPA of 3.0 or better.

In consultation with the department graduate coordinator, the candidate will develop and pursue a plan of study. The candidate must successfully complete all requirements of the selected plan including the course work specified in the Master's Degree Approval Program. The MPH program requires grades of B- or better to pass courses.

Culminating Experience

The student must complete one of three culminating experience options: Plan A (Thesis), Plan B (Project), or the courses-only Plan B (Comprehensive Examination). Master's theses and graduate projects may only be undertaken by regular session MPH Campus students upon departmental approval and will require additional units. The Plan A (Thesis) option requires additional 6 units of coursework and College of Graduate Studies approval of the completed thesis. The Plan B (Project) option requires a minimum of 3 additional units of coursework.

Plan A (Thesis)

Campus students opting to complete a master's thesis will take the HS 299, Master's Thesis twice for an additional 6 units over program requirements. The student is responsible for securing the commitment of a full-time tenured or tenure-track MPH faculty member who agrees to serve as thesis committee chair. The student must also secure the commitments of two additional university faculty members, one of whom must be a full-time tenure or tenure-track faculty member, to serve as the student's thesis committee. The student must write a thesis proposal and have it approved by the thesis committee, and pass the HS 205 and 215 courses before enrolling in the HS 299. The thesis must meet university requirements as stipulated in this catalog and in the SJSU Master's Thesis and Doctoral Dissertation Guidelines. It will be written under the guidance of the candidate's thesis committee chair with the assistance of the thesis committee.

Plan B (Project)

Campus students opting to complete a master's project will take the HS 298, Graduate Project for an additional 3-6 units over program requirements.

Plan B (Comprehensive Exam)

All Online students and Campus students opting for the courses-only option must pass the Comprehensive Exam (given once a semester) to earn the MPH degree. The Comprehensive Exam is the student's opportunity to demonstrate mastery and integration of the knowledge and skills of the MPH curriculum. The comprehensive exam is a written exam that that is administered on campus in a computer lab.

Special Session Program Information

Academic Programs offered through Special Session are operated by the College of Professional and Global Education (CPGE). Registration and enrollment in a Special Session course or program must use the special session application form and will follow special session fee and course schedules. Note that regular session students seeking to enroll simultaneously in a special session course or program will trigger a separate and additional set of fees. This may require an additional enrollment appointment from the Registrar and it may have implications for financial aid status or requirements. Please visit the IES website for more information.

Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR). For information on the GWAR, please see http://info.sjsu.edu/gcw.html.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Requirements of the Masters	42
Required Courses	**25**
HS 200. Contemporary Practice in Public Health	2
HS 201. Groups and Training: Theory and Practice	2
HS 215. Qualitative Methods for Public Health Practice	3
HS 262. Health Policy and Organization	3
HS 265. Environmental Health	3
HS 271. Theoretical Foundations of Public Health	3
HS 272. Health Promotion Planning and Evaluation GWAR	3
HS 276. Community Organization and Health Promotion	3
HS 277. Multicultural Communication for Health Professionals	3
Leadership	**3**
Three units of leadership and administration selected in consultation with graduate advisor.	
Quantitative Methods	**6**
HS 205A. Quantitative Methods for Public Health Practice I	3
Additional three units of quantitative methods selected in consultation with graduate advisor.	
Evaluation Methods	**3**
Three units of program evaluation methods selected in consultation with graduate advisor.	
Required Practicum	**5**
HS 291A. Fieldwork Seminar	1
HS 291B. Fieldwork Practicum	1-2
Students take 2 units of HS 291B	
HS 291P. Professional Development	1
One unit of professional skills development in consultation with graduate advisor.	
Culminating Experience	
Students in the MPH program complete a Plan B (Comprehensive Exam). Campus MPH students have the option of choosing either a Plan A (Thesis) or Plan B (Project) instead. The thesis and project options require additional coursework.	
Plan A (Thesis)	
HS 299. Master's Thesis	3
The Plan A (Thesis) option requires two consecutive semesters of the HS 299 for an additional 6 units of coursework.	
Plan B (Project)	
HS 298. Graduate Project	3
The Plan B (Project) option requires an additional 3-6 units of coursework.	
Plan B (Comprehensive Exam)	
Total Units Required	**42**

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU Cumulative grade point averages of 3.0 in order to graduate.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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MS - Recreation

General Requirements for Admission

Applicants to the graduate program must complete all sections of the CSU online application including the personal statement which must address the applicant's potential to develop expert knowledge and the advanced skills needed to succeed in the field and/or to continue study in a doctoral program. Criteria for admission include an overall grade point average of 2.5 and an upper division grade point average of 3.0. Additionally, applicants are requested to send a copy of their personal statement and their resume to the department graduate coordinator.

Requirements for Admission to Candidacy for the MS - Recreation

In addition to university requirements for admission to candidacy for the Master of Science degree in Recreation, students must have completed the following requirements: all deficiencies must be completed with a grade point average of at least 3.0; the admission to candidacy form must be completed and approved by the graduate program advisor and the Associate Dean for College of Graduate Studies; and the Graduation Writing Assessment Requirement (GWAR) must be demonstrated at least one semester prior to submission of the admission to candidacy form. For graduate courses that meet the GWAR, please refer to the Graduate Admissions and Program Evaluations website at www.sjsu.edu/gape.

Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR). For information on the GWAR, please see http://info.sjsu.edu/gcw.html.

Requirements of the Masters	30
Core Courses	**6**
RECL 200. Foundations of Recreation and Tourism	3
RECL 202. Evaluation and Assessment in Recreation and Tourism	3
Electives	**18**
Selected in consultation with graduate advisor.	
Culminating Experience	**6**
RECL 204. Research Methods in Recreation and Tourism	3
RECL 298. Special Studies	1-3
RECL 299. Master's Thesis	1-6
Total Units Required	**30**

History Department

College of Social Sciences

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Professors

Ruma Chopra
Glen Gendzel, Chair
Libra Hilde
Patricia Evridge Hill
Mary Pickering
Jonathan P. Roth
George Vasquez

Associate Professors

Xiaojia Hou
Wendy Rouse, Coordinator; Social Science Teacher Preparation

Assistant Professors

Alberto Garcia
Katharine Olson

Curricula

BA, History
BA, History and Social Science Teacher Preparation Double BA
BA, Social Science, Preparation for Teaching (Single Subject)
BA, Social Science, Preparation for Teaching (Multiple Subject-Not Accepting Students)
Minor, Ancient and Medieval History
Minor, Asian History
Minor, European History
Minor, General History
Minor, Jewish Studies
Minor, Latin American History
Minor, Military History
Minor, United States History
MA, History
MA, History, Concentration in History Education

Introduction

To understand the present and prepare for the future, we must understand the past. The Department of History offers both undergraduate and graduate programs that enable students to comprehend the forces that have shaped the United States and the world. Our graduates are teachers and historians, and history is a particularly appropriate major for students bound for law or medical school. Also, history majors appear in every business field. Outstanding student research papers are published in the journal Passports, and Phi Alpha Theta, the history honor society, sponsors academic and social activities for students. At the graduate level, our primary fields of study are American history, European history, and world history. Our faculty and students conduct research that draws on the special resources of the MLK Library as well as outstanding area research facilities, including the San José Historical Museum, the California History Center at DeAnza College and the Hoover Institution at Stanford University.

Honors Program in History

A student may qualify for admission to the History Department honors program provided he or she is a history major or minor or a Social Science major who has completed 15 upper division units in history. To apply to History Honors the student must have an overall GPA of 3.0, a GPA of 3.5 for all history upper division courses, or the permission of the chair. If accepted, qualified seniors must complete one of the following: HIST 221, 230, 240, 241, 272, 274, 276, 280, 283, or 288, with a grade of "A" or "B" or the equivalents.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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BA - History

Courses offered under this program are planned for those who wish a general liberal education, for those who want a broad foundation for any one of the social sciences, for those who desire advanced degrees in the field of history, and for those who wish to secure the teaching credential.

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

University Graduation Requirements 38

Core Lower Division General Education 33

Of the 39 units required by the university, 6 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

NOTE: STUDENTS WHO HAVE COMPLETED THE ADT TRANSFER DEGREE (UNDER SB 1440) FOR THIS MAJOR WILL HAVE COMPLETED ALL LOWER DIVISION GE REQUIREMENTS AND SHOULD FOLLOW THE 60 UNIT GUARANTEE ROADMAP. MEET WITH AN ADVISOR PRIOR TO REGISTERING FOR YOUR FIRST SEMESTER FOR THE 60 UNIT ROADMAP OR SPECIFIC QUESTIONS.

Upper Division General Education 3

Of the 9 units required by the university, 6 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

CONSULT MAJOR ADVISOR FOR DEPARTMENT RECOMMENDED COURSEWORK TO MEET GE REQUIREMENT.

Physical Education 2

Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Requirements of the Major 50

Lower Division Major Requirements 15

HIST 099. History Fundamentals 3

COMPLETE ONE SEQUENCE FROM:

World History Sequence

HIST 001A. World History to 1500 3
HIST 001B. World History from 1500 3

Western Civilization Sequence

HIST 010A. Western Civilization D2 3
HIST 010B. Western Civilization D2 3

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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COMPLETE ONE SEQUENCE FROM:

US History Sequence

HIST 015. Essentials of U.S. History	M12	3
POLS 015. Essentials of U.S. & California Government	M11	3

6 units of the GE requirement can be fulfilled by choosing the HIST 015 and POLS 015 courses among the major requirement.

American People Sequence

HIST 020A. History of the American People	US1	3
HIST 020B. History of the American People	US1	3

Upper Division Major Requirements **35**

Students who fulfill SJSU Studies Area S with HIST 188 and/or SJSU Studies Area V with HIST 153 or HIST 155 will complete the major with 33 or 34 upper-division units and thus will need additional upper-division courses to meet the minimum University graduation requirement of 40 upper-division units. Such students should take an additional upper-division History course.

HIST 100W. History Writers' Workshop	Z	3
HIST 102. Historiography		4
Field of Study Courses		28

Upper-division History courses are divided into 4 fields of study: Ancient & Medieval, Modern Europe, United States, and World. 28 units of upper-division courses must include 2 from one field, 2 courses from a second field, 1 course from a third field, and 2 from any field for a total of 7 courses. Among those 7 courses, students must select at least 2 Advanced Topics and at least 2 pre-1750 courses. Consult History advisor for details

University Electives and/or Minor **32**

Minor recommended, but not required; consult history advisor

Total Units Required **120**

A checklist of requirements is available in department office.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Double BA - History & Social Science Teacher Preparation (SSTP)

The double major in History and in Social Science Teacher Preparation (SSTP) is ideal for students considering a teaching career. Middle and high school social science teachers typically teach survey courses in both United States and World History. Future social science teachers would therefore benefit from acquiring the in-depth historical content knowledge and historical thinking skills of a History BA. But social science teachers at the secondary level must often teach economics, government, geography, or ethnic studies as well. Students who double major in History and SSTP will therefore benefit from the breadth of courses in the SSTP program and its emphasis on the practical elements of teaching, including how to engage students in the classroom and how to create and maintain effective learning environments. Both majors can be completed in four years and will provide subject matter preparation for a single subject teaching credential program.

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

University Graduation Requirements 38

Core Lower Division General Education 33

Of the 39 units required by the university, 6 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

NOTE: STUDENTS WHO HAVE COMPLETED THE ADT TRANSFER DEGREE (UNDER SB 1440) FOR THIS MAJOR WILL HAVE COMPLETED ALL LOWER DIVISION GE REQUIREMENTS AND SHOULD FOLLOW THE 60 UNIT GUARANTEE ROADMAP. MEET WITH AN ADVISOR PRIOR TO REGISTERING FOR YOUR FIRST SEMESTER FOR THE 60 UNIT ROADMAP OR SPECIFIC QUESTIONS.

Upper Division General Education 3

Of the 9 units required by the university, 6 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

CONSULT MAJOR ADVISOR FOR DEPARTMENT RECOMMENDED COURSEWORK TO MEET GE REQUIREMENT.

Physical Education 2

Graduation Writing Assessment Requirement 3

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Requirements of the Majors 76

Lower Division Major Requirements 15

HIST 001A. World History to 1500 3
HIST 001B. World History from 1500 3
HIST 099. History Fundamentals 3

COMPLETE ONE SEQUENCE FROM:

African American Studies Sequence

AFAM 002A. African Americans and the Development of America's History and Government D2 3
AFAM 002B. African Americans and the Development of America's History and Government M7 3

Asian American Studies Sequence

AAS 033A. Asian Americans in U.S. History I D2 3
AAS 033B. Asian Americans in U.S. History II M7 3

US History Sequence

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

For Legend please see page 2

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CATALOG CONTENTS

HIST 015. Essentials of U.S. History	M12	3
POLS 015. Essentials of U.S. & California Government	M11	3
American People Sequence		
HIST 020A. History of the American People	US1	3
HIST 020B. History of the American People	US1	3
Chicana and Chicano Studies Sequence		
CCS 010A. Mexican Americans and the Development of U.S. History and Government	M12	3
CCS 010B. Mexican Americans and the Development of U.S. History and Government	M12	3
Upper Division Requirements- History		**34**
**Students who fulfill SJSU Studies Area S with HIST 188 and/or SJSU Studies Area V with HIST 153 or HIST 155 will complete the History major with 32 or 33 upper-division units.*		
HIST 100W. History Writers' Workshop	Z	3
SOCS 195. Social Science Teacher Preparation		3
Field of Study Courses		**28**
HIST 189A. California History to 1900	US3	4
HIST 189B. California History Since 1900	US3	4
Upper-division History courses are divided into 4 fields of study: Ancient & Medieval, Modern Europe, United States, and World. 28 units of upper-division courses must include 2 from one field, 2 courses from a second field, 1 course from a third field, and 2 from any field for a total of 7 courses. Among those 7 courses, double-major students must select HIST 189A, HIST 189B, at least 2 Advanced Topics, and at least 2 pre-1750 courses. Consult History advisor for details.		
Upper Division Requirements- SSTP		**27**
***These 9 courses are separate and distinct from the History BA requirements.*		
ECON 109. Analysis of Economic Issues for Teachers		3
CCS 185. Teaching in a Diverse Society		3
POLS 101. American Government for Teachers		3
RELS 191. Religion in America	S	3
SOCS 137. California History for Teachers		3
SOCS 138. US History for Teachers	S	3
SOCS 139. World History for Teachers	V	3
SOCS 177. Sociology of Education		3
WOMS 187. Feminist Perspectives on Gender and Education in the U.S		3
University Electives		6
Total Units Required		**120**

BA - Social Science, Preparation for Teaching (Single Subject)

This major is designed for students interested in teaching history, political science (government), economics, or social science in high school or middle school. The following course work satisfies San José State University's requirements for a BA in Social Science. The BA Social Science Preparation for Teaching is approved as subject matter preparation for a single subject credential by the California Commission on Teacher Credentialing (CCTC). Individuals who do not complete an approved degree program, or individuals seeking a single subject credential in subject areas not listed must pass all portions of the appropriate Commission-approved subject matter examination(s).

Minimum grade point average (GPA) of at least 2.87 and completion of the program will not guarantee admission to the credential program. Like all other applicants, students must meet credential program standards and undergo screening for admission. See "Teaching: How to Become a Teacher in California" (see Teaching) for information on application and admission to credential programs.

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

University Graduation Requirements 41

Core Lower Division General Education 33

Of the 39 units required by the university, 6 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

NOTE: STUDENTS WHO HAVE COMPLETED THE ADT TRANSFER DEGREE (UNDER SB 1440) FOR THIS MAJOR WILL HAVE COMPLETED ALL LOWER DIVISION GE REQUIREMENTS AND SHOULD FOLLOW THE 60 UNIT GUARANTEE ROADMAP. MEET WITH AN ADVISOR PRIOR TO REGISTERING FOR YOUR FIRST SEMESTER FOR THE 60 UNIT ROADMAP OR SPECIFIC QUESTIONS.

Upper Division General Education 3

Of the 9 units required by the university, 6 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

CONSULT MAJOR ADVISOR FOR DEPARTMENT RECOMMENDED COURSEWORK TO MEET GE REQUIREMENT.

Physical Education 2

Graduation Writing Assessment Requirement 3

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Requirements of the Major 59-61

Lower Division Core 15

HIST 001A. World History to 1500 3
HIST 001B. World History from 1500 3
HIST 099. History Fundamentals 3

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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COMPLETE ONE SEQUENCE OF U.S. HISTORY AND GOVERNMENT COURSES FROM:

U.S. History and Government Sequence

HIST 015. Essentials of U.S. History	M12	3
POLS 015. Essentials of U.S. & California Government	M11	3

African-American US History & Government Sequence

AFAM 002A. African Americans and the Development of America's History and Government	D2	3
AFAM 002B. African Americans and the Development of America's History and Government	M7	3

Chicana and Chicano US History and Government Sequence

CCS 010A. Mexican Americans and the Development of U.S. History and Government	D2	3
CCS 010B. Mexican Americans and the Development of U.S. History and Government	M7	3

Asian American US History and Government Sequence

AAS 033A. Asian Americans in U.S. History I	D2	3
AAS 033B. Asian Americans in U.S. History II	M7	3

Upper Division Core		**44-46**
ECON 109. Analysis of Economic Issues for Teachers		3
HIST 189A. California History to 1900	US3	4
HIST 189B. California History Since 1900	US3	4
POLS 101. American Government for Teachers		3
RELS 191. Religion in America	S	3
SOCS 137. California History for Teachers		3
SOCS 138. US History for Teachers	S	3
SOCS 139. World History for Teachers	V	3
SOCS 177. Sociology of Education		3
SOCS 185. Teaching in a Diverse Society		3
SOCS 195. Social Science Teacher Preparation		3
WOMS 187. Feminist Perspectives on Gender and Education in the U.S		3
Two Upper Division U.S. History Courses (approved by Social Science Teacher Preparation Advisor)		6-8

University Electives	18-20
Total Units Required	**120**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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BA - Social Science, Preparation for Teaching (Multiple Subject- Not Accepting Students)

This major is designed for students interested in teaching in elementary school or middle school. The following course work satisfies San José State University's requirements for a BA in Social Science. The Commission on Teacher Credentialing in the state of California (CCTC) recognizes the Social Science Teacher Preparation Multiple Subject degree as verification of subject matter competence. Individuals who do not complete an approved degree program, or individuals seeking a single subject credential in subject areas not listed must pass all portions of the appropriate Commission-approved subject matter examination(s).

Maintaining a minimum grade of average (GPA) of at least 2.87 and completion of the program will not guarantee admission to the credential program. Like all other applicants, students must meet credential program standards and undergo screening for admission. See "Teaching: How to Become a Teacher in California" (see Teaching) for information on application and admission to credential programs.

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

University Graduation Requirements 14

Core Lower Division General Education 12

Of the 39 units required by the university, 27 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

NOTE: STUDENTS WHO HAVE COMPLETED THE ADT TRANSFER DEGREE (UNDER SB 1440) FOR THIS MAJOR WILL HAVE COMPLETED ALL LOWER DIVISION GE REQUIREMENTS AND SHOULD FOLLOW THE 60 UNIT GUARANTEE ROADMAP. MEET WITH AN ADVISOR PRIOR TO REGISTERING FOR YOUR FIRST SEMESTER FOR THE 60 UNIT ROADMAP OR SPECIFIC QUESTIONS.

Upper Division General Education

Of the 9 units required by the university, 9 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

CONSULT MAJOR ADVISOR FOR DEPARTMENT RECOMMENDED COURSEWORK TO MEET GE REQUIREMENT.

Physical Education 2

Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Preparation for the Major 3

SOCI 100W. Writing Workshop ..... Z 3

Requirements of the Major 36

Lower Division 6

COMPLETE ONE SEQUENCE FROM:

African American Studies Sequence

AFAM 002A. African Americans and the Development of America's History and Government D2 3
AFAM 002B. African Americans and the Development of America's History and Government M7 3

Asian American History Sequence

AAS 033A. Asian Americans in U.S. History I D2 3
AAS 033B. Asian Americans in U.S. History II M7 3

U.S. History and Government Sequence

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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HIST 015. Essentials of U.S. History	M12	3	
POLS 015. Essentials of U.S. & California Government	M11	3	
Chicana and Chicano Studies Sequence			
CCS 010A. Mexican Americans and the Development of U.S. History and Government	D2	3	
CCS 010B. Mexican Americans and the Development of U.S. History and Government	M7	3	
Upper Division			**30**
ANTH 115. The Emerging Global Culture	V	3	
ECON 109. Analysis of Economic Issues for Teachers		3	
GEOG 112. Nations, Cultures, and Territorial Disputes	V	3	
POLS 101. American Government for Teachers		3	
SOCI 162. Race and Ethnic Relations	S	3	
SOCS 137. California History for Teachers		3	
SOCS 177. Sociology of Education		3	
SOCS 138. US History for Teachers	S	3	
SOCS 139. World History for Teachers	V	3	
SOCS 195. Social Science Teacher Preparation		3	
Requirements for Multiple Subjects Preparation Core Curriculum			**54-61**
Language and Literature			**18**
ENGL 001A. First Year Writing	A2	3	
ENGL 002. Critical Thinking and Writing	A3	3	
ENGL 001B also accepted for Transfer Students.			
ENGL 112A. Children's Literature		3	
COMPLETE ONE COURSE FROM:			
LING 107. Patterns of English		3	
ENGL 103. Modern English		4	
COMPLETE ONE SEQUENCE FROM:			
Linguistics Sequence			
LING 108. Introduction to Second Language Development, Teaching, and Assessment		3	
EDEL 108E. Teaching Reading in Linguistically and Culturally Diverse Classrooms		3	
Development Sequence			
CHAD 150. Development of Communicative Competence		3	
CHAD 151. Developing Literacy in a Diverse Society		3	
Mathematics			**9**
MATH 012. Number Systems	B4	3	
MATH 105. Concepts in Mathematics, Probability, Statistics		3	
MATH 106. Intuitive Geometry		3	
Science			**12**
CHEM 030A. Introductory Chemistry	B1+B3	3	
BIOL 021. Human Biology	B2+B3	3	
GEOL 103. Earth Systems and the Environment	R	3	
SCI 110. Global Themes of Science		3	

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Visual and Performing Arts		**9**
CA 177. Interdisciplinary Arts for Teaching		3
COMPLETE SIX UNITS FROM:		
ART 039. Multicultural Arts for Children		3
ART 138. Elementary Art Methods		3
DANC 148. Children's Dance		3
MUSC 010B. Introduction to Music	C1	3
MUSC 185A. Music for Children		3
TA 131. Storytelling		3
Physical Education and Health		**3-6**
COMPLETE ONE SEQUENCE FROM:		
Health Education Sequence		
KIN 177. Movement Experiences for Children		3
EDTE 190. Health Education for the Classroom Teacher		3
Child Health Sequence		
CHAD 149. Child Health and Physical Activity		3
Human Development		**3-6**
COMPLETE ONE SEQUENCE FROM:		
Development Sequence One		
PSYC 082. Foundations of Developmental Psychology		3
CHAD 070. Lifespan Development in the 21st Century	E	3
Development Sequence Two		
CHAD 060. Child Development	E	3
University Electives		**6-13**

Foreign language and technology requirements for teaching credential strongly recommended (see Credential Information Services).

Total Units Required	**120**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

Minor - Ancient and Medieval History

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Requirements of the Minor			18
HIST 010A. Western Civilization	D2	3	
HIST 010B. Western Civilization	D2	3	
Courses in upper division Ancient and Medieval History		12	
Total Units Required			**18**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

Minor - Asian History

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Requirements of the Minor	18
HIST 001A. World History to 1500	3
HIST 001B. World History from 1500	3
Courses in upper division Asian History	12
Total Units Required	**18**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

Minor - European History

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Requirements of the Minor			18
HIST 010A. Western Civilization	D2	3	
HIST 010B. Western Civilization	D2	3	
Courses in upper division European History		12	
Total Units Required			**18**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

Minor - Latin American History

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Requirements of the Minor	18
HIST 001A. World History to 1500	3
HIST 001B. World History from 1500	3
Courses in upper division Latin American History	12
Total Units Required	**18**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

Minor - Military History

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Requirements of the Minor	**16**
Courses in upper division Military History	16
Total Units Required	**16**

Minor - United States History

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Requirements of the Minor	**16**
Courses in upper division U.S. History	16
Total Units Required	**16**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

Minor - Jewish Studies

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Requirements of the Minor	**16**
Required Courses	**10**
HIST 104. Advanced Topics in Ancient History	4
JWSS 010A. Elementary Hebrew	3
JWSS 010B. Elementary Hebrew	3
Elective Courses	**6**
Complete 6 units from JWSS courses or other courses in consultation with the Jewish Studies Advisor.	
Total Units Required	**16**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

Minor - General History

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Requirements of the Minor		18
Upper division electives from two areas exclusive of lower division (breakdown of requirements available in department office)		12
COMPLETE ONE SEQUENCE FROM:		
World History Sequence		
HIST 001A. World History to 1500		3
HIST 001B. World History from 1500		3
Western Civilization Sequence		
HIST 010A. Western Civilization	D2	3
HIST 010B. Western Civilization	D2	3
Total Units Required		**18**

MA - History

While designed to strengthen students' depth and breadth of historical knowledge, the MA in History requires those who study the past at an advanced level to move beyond the acquisition of content knowledge and develop the more complex skills and habits of mind associated with historiography-including synthesis, analysis, and evaluation. This course of study serves those preparing to teach history at community colleges, those seeking preparation for the doctorate, museum curators, historical archivists, historians working in governmental agencies, and secondary teachers choosing a traditional Master's degree.

Requirements for Admission to Classified Standing

Prospective students must apply separately to the university to obtain approval for graduate-level admission and to the department to obtain admission into the MA in History program. Applicants must meet all the university admission requirements as outlined in this catalog and stated in subsequent policy changes (this refers both to admission and graduation procedures). Students can be admitted in either classified or conditionally classified standing. Admission to classified standing for the MA - History requires that the undergraduate preparation of the applicant be comparable to that of the BA degree at San José State University. This preparation must include one upper-division or graduate course in historical method and a course in historiography. The applicant who does not have this preparation must remove all deficiencies. Students who have a baccalaureate degree in a field other than history will be required to complete up to 16 units in upper-division or graduate history courses. Units thus taken will not be counted toward the minimum 30 units required for the MA - History. Requirements and policies change; please refer to the Department of History website for the most current information.

Requirements for Admission to Conditionally Classified Standing

A student who does not meet all requirements for admission in classified standing for the MA - History may be admitted in conditionally classified status. The graduate advisor will list on the admissions notification all deficiencies and courses that must be taken. Upon completing these requirements, the student must file a petition for a change of status to classified standing.

University Requirements

The University requires that all graduate students complete the Graduation Writing Assessment Requirement (GWAR) as a condition for advancement to candidacy. Please refer to the SJSU catalog section titled "Graduation Writing Assessment Requirement" for details. For graduate courses that meet the GWAR, please refer to the Graduate Admissions and Program Evaluations website at www.sjsu.edu/gape.

Applicants from countries in which the native language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirement webpage at GAPE.

Requirements for Advancement to Candidacy

At least one semester before a candidate expects to graduate, the student must complete the Advancement to Candidacy Application delineating the entire degree program, that is, the courses that the student has completed or expects to complete toward the Master's. The candidate must submit the form to the Graduate Advisor and then to GAPE for final approval. Through this procedure, the student's entire program will be examined to determine whether it complies with all departmental and university requirements for the degree, including the university requirement for demonstrated competency in written English.

Requirements for Graduation

University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

Department Graduation Requirements

Following admission to the university and the department, the student should consult the history department website and speak with the graduate advisor regarding degree requirements and a proposed degree program. Candidates must complete 20 units of course work in one of the following fields of study: United States History, European History or World History. Eight units may be taken in any field of history. Two units will focus on professional development. Specialists in European History and United States History may apply one World History colloquium (HIST 220) to their primary field, and World History specialists may apply one U.S. History colloquium (HIST 210) or one European History colloquium (HIST 209 or HIST 211) to their primary field. Five courses and the 2 units of professional development --a total of 22 units-- must be completed at the graduate level. All students must maintain a 3.0 GPA average to remain in the program and either pass the comprehensive examination or complete a thesis to receive the degree.

Culminating Experience

Plan B (Comprehensive Examination)

In addition to the course of study outlined above, graduate students must take and pass a comprehensive examination (Plan B). On the exam the student is expected to demonstrate considerable breadth and depth of knowledge, a familiarity with historiographical issues, and adherence to acceptable rules of grammar, spelling and literary style in presentation. The examination will be scheduled toward the end of the fall and spring semesters, and students must pass the examination within three attempts or no degree will be awarded.

Plan A (Thesis)

In some exceptional cases, students may substitute a thesis (Plan A) for the comprehensive examination. The thesis must meet university requirements as stipulated in this catalog and in the SJSU Master's Thesis and Doctoral Dissertation Guidelines. It will be written under the guidance of the candidate's thesis committee chair with the assistance of the thesis committee. A thesis option will be considered only upon the nomination of a professor, who agrees to serve as the first reader. The student must demonstrate to the nominating professor, in a written proposal, that he or she is capable of completing a thesis, both in terms of research skills and writing ability, and that he or she has sufficient time to undertake a major research and writing project. In addition, the proposed project must have intrinsic historical value. Demonstrating these points does not obligate a professor to nominate or to serve as a first reader, and no reason need be given to a student for declining to supervise a thesis. Permission to write a thesis is also contingent on finding two other professors willing to serve as second and third readers; they also serve entirely at their own discretion. Finally, the department's graduate studies committee must approve all thesis proposals. After all three readers have signed the thesis, the candidate must submit it to the University for final approval.

A thesis committee has the option of terminating the thesis option if the candidate does not submit an acceptable thesis within five semesters. In that situation, the student will be required to take the Plan B comprehensive examination as the program culminating experience.

Language Requirement

All candidates for general MA in History must demonstrate competency in one foreign language. The sole exception are students whose primary field is U.S. History, who may, if they do not wish to meet the language requirement, take two history graduate level courses in substitution.

The language competency requirement may be met in four ways:

1. Through examination by a history faculty member with expertise in your language. The exam will be a translation of approximately 500 words to be completed in two hours with a dictionary allowed.
2. By taking two years of a foreign language at a university or community college. An average grade of "C" or better must have been attained, and the coursework completed within five years of admission to the university.
3. If your primary concentration is European History, you may also fulfill this requirement by taking one year of Greek and one year of Latin.
4. By taking and passing the Educational Testing Service Graduate Foreign Language Exam.

Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR). For information on the GWAR, please see http://info.sjsu.edu/gcw.html.

Requirements of the Masters 30

Professional Development 2

HIST 298. Special Study 1-6

Should be completed during student's first semester

Colloquia 8-12

European History Primary Field 8

HIST 209. Colloquium in Ancient and Medieval Europe ..... GWAR 4
HIST 211. Advanced Colloquium in Modern Europe ..... GWAR 4

HIST 209 and 211 may be repeated for credit

United States History Primary Field 12

HIST 210A. Advanced Colloquium United States History 4
HIST 210B. Advanced Colloquium United States History ..... GWAR 4
HIST 210C. Advanced Colloquium United States History 4

World History Primary Field 8

HIST 220. Advanced Colloquium in World History 4

HIST 220 may be repeated for credit

Seminars 8

Graduate or Upper Division courses selected in consultation with the Graduate Advisor.

Additional Graduate or Upper Division Courses 8-12

Total Units Required 30

Elective courses must be planned in consultation with the Graduate Advisor.

The maximum number of upper-division undergraduate units that can be applied toward the master's degree is 15.

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU Cumulative grade point averages of 3.0 in order to graduate.

MA - History, Concentration in History Education

The Master of Arts in History, Concentration in History Education is designed for middle and secondary school social science teachers. The curriculum broadens the candidate's knowledge of U.S. and World History. In addition, the program increases the candidate's academic proficiency in history subjects and his or her professional competence in special areas of interest within the field of history and social science education. This is a terminal degree. Candidates who plan to pursue more advanced graduate training in history should apply to the regular Master's degree program outlined above. Please refer to the Department of History website for the most current information.

Requirements for Admission to Classified Standing

Prospective students must apply separately to the university to obtain approval for graduate-level admission and to the department to obtain admission into the MA in History, Concentration in History Education program. Applicants must meet all the university admission requirements. Students can be admitted in either classified or conditionally classified standing.

Admission to classified standing for the MA in History, Concentration in History Education requires that the student has completed a Single Subject Social Science Teaching Credential, has completed a BA in History or passed the Social Science CSET Examination.

Applicants from countries in which the native language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirement webpage at GAPE.

Requirements for Advancement to Candidacy

At least one semester before a candidate expects to graduate, the student must complete the Advancement to Candidacy Application delineating the entire degree program, that is, the courses that the student has completed or expects to complete toward the MA. The candidate must submit the form to the Graduate Advisor and then to Graduate Studies for final approval. Through this procedure, the student's entire program will be examined to determine whether it complies with all departmental and university requirements for the degree, including the university requirement for demonstrated competency in written English.

The University requires that all graduate students complete the Graduation Writing Assessment Requirement (GWAR) as a condition for advancement to candidacy. Please refer to the SJSU catalog section titled "Graduation Writing Assessment Requirement" for details. For graduate courses that meet the GWAR, please refer to the Graduate Admissions and Program Evaluations website at www.sjsu.edu/gape.

Procedures for approval for the MA in History, Concentration in History Education are the same as for the general Masters degree except the Concentration does not require a foreign language.

Requirements for Graduation

University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

Department Graduation Requirements

Following admission to the university and to the department, the student should consult the history department website and speak with an advisor regarding degree requirements and a proposed degree program. Candidates must complete 20 units of course work in one of the following fields of study: United States History, Modern European History, or World History. Eight units may be taken in any field of history. Two units will focus on professional development. U.S. History specialists may apply one World History colloquium (HIST 220) to their primary field, and World History specialists may apply one U.S. History colloquium (HIST 210) to their primary field. Five courses and the 2 units of professional development --a total of 22 units-- must be completed at the graduate level. All students must maintain a 3.0 average to remain in the program and pass the comprehensive examination (Plan B) to receive the degree. Procedures for approval for the MA in History, Concentration in History Education are the same as for the general Masters degree except the Concentration does not require a foreign language.

Culminating Experience

Plan B (Comprehensive Examination)

In addition to the course of study outlined above, graduate students must take and pass a comprehensive examination (Plan B). On the exam the student is expected to demonstrate considerable breadth and depth of knowledge, a familiarity with historiographical issues, and adherence to acceptable rules of grammar, spelling and literary style in presentation. The examination will be scheduled toward the end of the fall and spring semesters, and students must pass the examination within three attempts or no degree will be awarded.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR). For information on the GWAR, please see http://info.sjsu.edu/gcw.html.

Requirements of the Masters 30

Professional Development 2

HIST 298. Special Study 1-6

Should be completed during student's first semester

Colloquia 8-12

European History Primary Field 8

HIST 209. Colloquium in Ancient and Medieval Europe GWAR 4

HIST 211. Advanced Colloquium in Modern Europe GWAR 4

United States History Primary Field 12

HIST 210A. Advanced Colloquium United States History 4

HIST 210B. Advanced Colloquium United States History GWAR 4

HIST 210C. Advanced Colloquium United States History 4

World History Primary Field 8

HIST 220. Advanced Colloquium in World History 4

Seminars 8

Electives 8-12

Graduate or Upper Division courses selected in consultation with the Graduate Advisor

Total Units Required 30

Elective courses must be planned in consultation with the Graduate Advisor.

The maximum number of upper-division undergraduate units that can be applied toward the master's degree is 15.

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU Cumulative grade point averages of 3.0 in order to graduate.

Hospitality, Tourism, and Event Management

College of Health and Human Sciences

MACQUARRIE HALL 407
408-924-3000 (Voice)
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www.sjsu.edu/hspm/

Professors

Tsu-Hong Yen, Chair

Associate Professors

Jooyeon Ha

Assistant Professors

Yinghua Huang
Faranak Memarzadeh

Curricula

BS, Hospitality, Tourism and Event Management
Minor, Event Management
Minor, Hotel and Restaurant Management

Introduction

Where better to study hospitality management than in the heart of Silicon Valley, San Jose, California and the Bay Area? Thanks to our world renowned high tech companies, and vibrant metropolitan location, we attract millions of national and international visitors each year. According to a recent CSU impact report, hospitality ranks as one of the state's top growth industries, ensuring that the demand for hospitality professionals will only increase. Our innovative, technology-driven curriculum and faculty provide the theoretical, practical, and professional training students need to pursue successful and meaningful careers. Our Bachelor of Science degree in hospitality, tourism and event management pairs academic study with hands-on experience and internships. Our graduates find employment as hotel/resort general managers, restaurant managers, private club managers, controllers, sales and marketing managers, human resources managers, concierge, catering and corporate event coordinators/producers, and convention and tradeshow managers. Come join our team!

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

BS - Hospitality, Tourism and Event Management

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

Hospitality, Tourism, and Event Management International Experience Requirement

To satisfy the Department of Hospitality, Tourism, and Event Management international requirement, students must study abroad for at least nine days in an approved program (exemption from the study abroad portion of the requirement must be approved by the dean of the College of Applied Sciences and Arts based on compelling individual life experiences or physical limitations. A relevant cross-cultural experience in the U.S. will be substituted). Specific details can be found on the college website at http://www.sjsu.edu/chahs/international-experience/.

University Graduation Requirements 47

Core Lower Division General Education 30

Of the 39 units required by the university, 9 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

Upper Division General Education 9

Of the 9 units required by the university, 0 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 6

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

COMPLETE ONE SEQUENCE FROM:

African American Studies **6**

AFAM 002A. African Americans and the Development of America's History and Government	D2	3
AFAM 002B. African Americans and the Development of America's History and Government	M7	3

Asian American Studies **6**

AAS 033A. Asian Americans in U.S. History I	D2	3
AAS 033B. Asian Americans in U.S. History II	M7	3

U.S. History and Government **6**

HIST 015. Essentials of U.S. History	M12	3
POLS 015. Essentials of U.S. & California Government	M11	3

Chicana and Chicano Studies **6**

CCS 010A. Mexican Americans and the Development of U.S. History and Government	D2	3
CCS 010B. Mexican Americans and the Development of U.S. History and Government	M7	3

Physical Education 2

Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Preparation for the Major 9

HSPM 100W. Writing Workshop	Z	3
BUS1 020. Financial Accounting		3

COMPLETE ONE COURSE FROM:

BUS2 090. Business Statistics		3
STAT 095. Elementary Statistics	B4	3

UNVS 015F and UNVS 015S may be used in lieu of the statistics course required by this major.

Requirements of the Major 60-63

College International Experience 0-3

In consultation with advisor, select an International Experience course that is followed by -ITL.

Core Courses 42

HSPM 001. Introduction to Hospitality Management	3
HSPM 011. Restaurant Management	3
HSPM 012. Cost Control in Hospitality	3
HSPM 065. Professional Seminar in Hospitality Mgmt	1
HSPM 102. Hotel & Lodging Operations	3
HSPM 104. Hospitality Marketing	3
HSPM 105. Finance in Hospitality	3
HSPM 107. Legal Aspects of Hospitality Management	3
HSPM 108. Hospitality Information Systems	3
HSPM 121. Hospitality Leadership and Management	3
HSPM 130. Hospitality Event Production	3
HSPM 134. Human Resource Management	3
HSPM 177. Hospitality Service Management	3
HSPM 191A. Internship Level 1	2
HSPM 191B. Internship Level 2	3

Major Electives 18

Up to 6 lower division semester units of approved hospitality transfer course work may apply toward the 18 units of approved major electives.

HSPM 023. Culinary Concepts	3
HSPM 086. Special Events Management in Hospitality	3
HSPM 101. Multicultural & Intl Issues Hospitality	3
HSPM 111. Customs and Courtesies in Hospitality	3
HSPM 140. Meeting, Convention and Event Industry	3
HSPM 141. Resort and Club Management	3
HSPM 142. Tradeshow Event & Meeting Mgnt	3
HSPM 143. Tourism Destination Marketing and Management	3
HSPM 148. Wine Appreciation	3
HSPM 149. Beer Appreciation	3
HSPM 152. Hotel Catering and Banquet Management	3
HSPM 154. Revenue Management	3
HSPM 161. Cruise Operations and Management	3
HSPM 175. Entrepreneurship in Hospitality	3
HSPM 186. Strategic Management	3

University Electives 1-4

Total Units Required 120

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

Minor - Event Management

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Requirements of the Minor	16
Core Courses	**7**
HSPM 001. Introduction to Hospitality Management	3
HSPM 065. Professional Seminar in Hospitality Mgmt	1
HSPM 130. Hospitality Event Production	3
Electives	**9**
COMPLETE NINE UNITS FROM:	
HSPM 011. Restaurant Management	3
HSPM 086. Special Events Management in Hospitality	3
HSPM 102. Hotel & Lodging Operations	3
HSPM 140. Meeting, Convention and Event Industry	3
HSPM 142. Tradeshow Event & Meeting Mgnt	3
HSPM 152. Hotel Catering and Banquet Management	3
HSPM 154. Revenue Management	3
HSPM 175. Entrepreneurship in Hospitality	3
Total Units Required	**16**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

Minor - Hotel and Restaurant Management

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Requirements of the Minor	**15**
Preparation for the Minor	**3**
HSPM 001. Introduction to Hospitality Management	3
Core Courses	**3**
COMPLETE ONE COURSE FROM:	
HSPM 011. Restaurant Management	3
HSPM 102. Hotel & Lodging Operations	3
Electives	**9**
Complete 9 units from Advisor Approved Elective List	
Total Units Required	**15**

Humanities Department

College of Humanities and the Arts

CLARK HALL 419
408-924-4463

Professors

Christian Jochim
Shannon Rose Riley, Chair
Jennifer Rycenga
Susan Verducci-Sandford

Associate Professors

J. Todd Ormsbee
Cynthia Rostankowski

Assistant Professors

Tova Cooper
Funie Hsu
Chanh Cong Phan
Daniel Lanza Rivers

Curricula

BA, Humanities, Concentration in American Studies
BA, Humanities, Concentration in Liberal Arts
BA, Humanities, Concentration in Religious Studies
BA, Creative Arts
BA, Liberal Studies, Concentration in Cross-Cultural Studies in Mexican and American Education (Not Accepting Students)
BA, Liberal Studies, Integrated Teacher Education Program
BA, Liberal Studies, Integrated Teacher Education Program Spanish Bilingual
BA, Liberal Studies, Preparation for Teaching
Minor, American Studies
Minor, Area Studies
Minor, Asian Studies
Minor, Creative Arts
Minor, Humanities
Minor, Middle East Studies
Minor, Religious Studies

Introduction

Welcome to the Humanities Department: The home of Creative and Transdisciplinary Studies!

In the twenty-first century, we find ourselves awash in accessible information - but most of us have never learned how to swim in this sea of ideas, histories, and creative works. The Humanities Department is the place where the skills of integration are taught within creative and transdisciplinary paradigms. Whether studying multiple art forms and creativity in the Creative Arts BA, combining subject matter in the Liberal Studies Teacher Prep BA in order to prepare to become a teacher, or integrating perspectives from various academic disciplines in one of the three concentrations in the Humanities BA (American Studies, Religious Studies, or Liberal Arts), our students find in the Humanities Department the place where they can think broadly and imaginatively. With a BA from Humanities, our students acquire the ability to dive deeply into the welter of wonders and ideas in the contemporary world, through comparative, historical, and innovative approaches.

Courses in the Humanities Department typically integrate history, literature, education, philosophy, religion, politics, and the arts. Most importantly, Humanities students develop analytical and expressive skills as well as an ability to read, write, and think clearly, especially about their roles in shaping various societies. Our students win writing awards and our graduates pursue careers in a variety of fields, including arts administration, education, law, journalism, library science, public service, art therapy, occupational therapy, social work, community development, and public relations. We are home to the renowned GE programs in Humanities Honors and American Civilization as well as to the popular Liberal Studies Teacher Prep BA, one of the largest teacher preparation majors on campus.

Students pursuing the Liberal Studies Teacher Prep BA are interested in teaching in elementary or middle school. The program is approved by the California Commission on Teacher Credentialing (CCTC) for subject matter preparation.

Students pursuing the Humanities BA explore a wide array of human experience in diverse locations, in various media, art, and literature, and in significant cultural forms such as religion and other cultural traditions. The BA has three concentrations to select from: American Studies, Comparative Religious Studies, and Liberal Arts.

Students pursuing the interdisciplinary Creative Arts BA explore creativity across the human lifespan and in different cultural contexts and conduct a sustained inquiry into their own creative process. Students take classes in more than one arts area and investigate different purposes of the arts and creativity in different cultural contexts. The Creative Arts Program, established in 1956, is the only interdisciplinary arts and creativity studies BA program in the CSU!

The Humanities Department also offers several minor programs, including American Studies, Area Studies, Asian Studies, Creative Arts, Comparative Religious Studies, Middle East Studies, and Humanities.

Advisors: Christian Jochim, Amy Li, J. Todd Ormsbee, Cynthia Rostankowski, Shannon Rose Riley, Jennifer Rycenga, Susan Verducci

American Cultures GE Curriculum

The American Cultures curriculum is a two-semester, twelve-unit sequence which satisfies over one-fourth of all lower division general education requirements. Together, AMS001A and AMS001B provide six units of general education credit in arts and letters (Area C), six units in comparative systems and social issues (Area D), and satisfy the California Education Code American Institutions requirements in U.S. History, U.S. Constitution and California Government (Areas US1, US2, US3). The courses provide the opportunity to study America's development and current conditions through themes such as the American dream, environmental issues, and ethnic and women's studies.

Humanities Honors GE Curriculum

The Humanities Honors Program offers a four-semester survey course in World Cultures and Societies, Honors (HUM001A/001B) and Modern World Cultures, Honors (HUM002A/002B), which provides students with 24 units of core General Education in a format that emphasizes the interrelationship of art, literature, philosophy and social institutions. Core General Education requirements satisfied are: Oral Communication (3 units), Written Communication 1A (3 units), Critical Thinking and Writing (3 units), Arts & Letters (9 units), Comparative Systems (3 units), Social Issues (3 units), and American Institutions (AI) all areas US 1, 2, and 3. The course is interdisciplinary, globally-focused, and team-taught, and is organized chronologically from the Ancient World through the Middle Ages, the Renaissance, the Early Modern and Contemporary periods. Entering students with a high school GPA of 3.0 and a verbal SAT score of 550 or above are automatically eligible.

The Department also offers an upper division GE sequence in Advanced Honors in Integrated Science, Social Science, and Humanities (HUM177A/B), which covers SJSU Studies areas R, S. and V.

BA - Creative Arts

This degree is listed with the Creative Arts Program.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

For Legend please see page 2

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Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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BA - Humanities, Concentration in American Studies

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

Major-Specific Graduation Requirements

Students in this major should consult their advisor regarding American Institutions requirement. Depending on sequence(s) a student chooses, 0-30 units of GE/AI can be met in the major.

University Graduation Requirements 44

Core Lower Division General Education 30

Of the 39 units required by the university, 9 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

NOTE: STUDENTS WHO HAVE COMPLETED THE ADT TRANSFER DEGREE (UNDER SB 1440) FOR THIS MAJOR WILL HAVE COMPLETED ALL LOWER DIVISION GE REQUIREMENTS AND SHOULD FOLLOW THE 60 UNIT GUARANTEE ROADMAP. MEET WITH AN ADVISOR PRIOR TO REGISTERING FOR YOUR FIRST SEMESTER FOR THE 60 UNIT ROADMAP OR SPECIFIC QUESTIONS.

Upper Division General Education 3

Of the 9 units required by the university, 6 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 6

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

CONSULT MAJOR ADVISOR FOR DEPARTMENT RECOMMENDED COURSEWORK TO MEET GE REQUIREMENT.

Physical Education 2

Graduation Writing Assessment Requirement 3

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

HUM 100W. Writing in the Humanities ..... Z 3

Preparation for the Major (Recommended) 0-24

Recommended that native students complete one of the sequences below, in consultation with Advisor. Any student who completes the American Institutions requirement will have met this area.

COMPLETE ONE SEQUENCE FROM:

American Civilization Sequence

AMS 001A. American Cultures to 1877 ..... M4 6
AMS 001B. American Cultures 1877 to present M5 6

World History Sequence

HIST 001A. World History to 1500 3
HIST 001B. World History from 1500 3

Western Civilization Sequence

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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HIST 010A. Western Civilization	D2	3
HIST 010B. Western Civilization	D2	3
Humanities Sequence (must take all 4 courses)		
HUM 001A. World Cultures and Societies- Honors	M8	6
HUM 001B. World Cultures and Societies- Honors	M15	6
HUM 002A. Honors - Modern World Cultures	M14	6
HUM 002B. Honors - Modern World Cultures	M13	6

Requirements of the Major 45

Core Courses 12

HUM 080. Reading the World	A3	3
HUM 101. Human Life: Let's Think About It		3
HUM 160. Special Topics in Humanities		3
HUM 190. Senior Seminar in Humanities		3

Comparative Courses 12

COMPLETE FOUR COURSES FROM:

AMS 129. How the World sees the United States		3
AMS 159. Nature and World Cultures	V	3
CA 173. Thinking About Contemporary World Arts	V	3
HUM 119. Myths, Heroes, and Global Cultures		3
HUM 128. Perspectives on the Twentieth Century: The West in a Global Context	V	3
RELS 120. Censors and Icons: Arts and Religion		3
RELS 131. Gender, Sexuality, and Religion		3

Additional Courses in the Major 9

CHOOSE THREE IN ADDITION TO ANY AMERICAN STUDIES COURSE CHOSEN ABOVE.

AMS 129. How the World sees the United States		3
AMS 160. Special Topics in Humanities		3
AMS 169. The American Dream	S	3
AMS 179. American Popular Culture		3
CA 172. The Arts in U.S. Society	S	3
RELS 162. Religion and Political Controversy in the US	S	3

Major Electives 12-16

CHOOSE FOUR COURSES FROM THE FOLLOWING LISTS IN ONE OF THREE WAYS: TOPICAL, TIME PERIOD, OR COURSES CHOSEN EVENLY ACROSS MULTIPLE DISCIPLINES. CONSULT AMERICAN STUDIES ADVISOR FOR MORE INFORMATION AND OPTIONS.

Values and Ideas:

AAS 185. Multicultural Perspectives within American Society		3
JS 132. Race, Gender, Inequality and the Law	S	3
HIST 173. New World Encounters, 1400-1750		4
PHIL 112. American Philosophy		3
POLS 121C. Constitutional Law: Civil Rights		4
POLS 163. American Political Thought		3
RELS 162. Religion and Political Controversy in the US	S	3
RELS 191. Religion in America	S	3

Arts & Popular Culture:

AFAM 102. African-American Music		3
AFAM 161. Black Representations in Media and New Technology		3
ARTH 182A. Art of the Americas		3
ARTH 182B. American Art		3

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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COMM 169I. The Media: Response and Criticism		4
ENGL 162. Studies-American Literature Before 1865		4
ENGL 163. American Literature: 1865-1945		4
ENGL 168. The American Novel		4
MUSC 120. Worlds of Jazz	S	3
TA 103. Musical Theatre		3
Economics, History, Politics and Society:		
AFAM 159. Economic Issues in the Black Community		3
ENVS 135. U.S. Environmental Policy		3
GEOG 140. The United States		3
HIST 173. New World Encounters, 1400-1750		4
HIST 174. Colonial & Revolutionary America		4
HIST 175. Inventing America, 1800-1860		4
HIST 176. The Civil War and Reconstruction		4
HIST 177. Industrial America, 1877-1920		4
HIST 178. Crash, Depression and War, 1920-1950		4
HIST 179. Cold War America, 1950-Present		4
HIST 181. Advanced Topics in American History		4
POLS 154. U.S. Foreign Policy: Formulation and Administration		4
Gender, Family and Sexuality:		
AFAM 125. The Black Family:Historical/Contemporary Realities		3
AFAM 152. Black Women in the U.S.		3
HIST 188. History of Women in the United States	S	3
LING 129. Culture, Language and Ethnicity in the U.S.	S	3
CCS 160. Gender and Sexuality in the Chicana/o Community	S	3
SOCI 172. Lesbian, Gay, Bi, Transgender Studies		3
WOMS 160. Queering Gender, Race, and Class		3
Race, Ethnicity and Immigration:		
AAS 125. Filipino Experience in the United States		3
AAS 175. Asian American Communities	S	3
AFAM 112. African Immigrant Communities in the U.S.		3
ANTH 164. North America before 1492		3
COMM 172F. Multicultural Communication in the United States		4
ENGL 165. Topics in Ethnic American Literature		4
ENGL 169. Ethnicity in American Literature	S	3
CCS 130. Chicanas and Chicanos in American Society	S	3
CCS 175. Human Migrations: Global Reach		3
SOCI 160. Immigration and Identity		3
SOCI 162. Race and Ethnic Relations	S	3
University Electives		**3-31**

The Department highly recommends majors complete the following:

One year of college level foreign language or equivalent related to chosen area	0-10
Total Units Required	**120**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

For Legend please see page 2

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BA - Humanities, Concentration in Liberal Arts

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

University Graduation Requirements 41

Core Lower Division General Education 27

Of the 39 units required by the university, 12 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

NOTE: STUDENTS WHO HAVE COMPLETED THE ADT TRANSFER DEGREE (UNDER SB 1440) FOR THIS MAJOR WILL HAVE COMPLETED ALL LOWER DIVISION GE REQUIREMENTS AND SHOULD FOLLOW THE 60 UNIT GUARANTEE ROADMAP. MEET WITH AN ADVISOR PRIOR TO REGISTERING FOR YOUR FIRST SEMESTER FOR THE 60 UNIT ROADMAP OR SPECIFIC QUESTIONS.

Upper Division General Education 3

Of the 9 units required by the university, 6 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 6

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

Consult Major Advisor for department recommended coursework to meet GE requirement.

African American Studies 6

AFAM 002A. African Americans and the Development of America's History and Government	D2	3
AFAM 002B. African Americans and the Development of America's History and Government	M7	3

COMPLETE ONE SEQUENCE FROM:

Asian American Studies 6

AAS 033A. Asian Americans in U.S. History I	D2	3
AAS 033B. Asian Americans in U.S. History II	M7	3

U.S. History and Government 6

HIST 015. Essentials of U.S. History	M12	3
POLS 015. Essentials of U.S. & California Government	M11	3

Chicana and Chicano Studies 6

CCS 010A. Mexican Americans and the Development of U.S. History and Government	D2	3
CCS 010B. Mexican Americans and the Development of U.S. History and Government	M7	3

Physical Education 2

Graduation Writing Assessment Requirement 3

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

HUM 100W. Writing in the Humanities	Z	3

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Requirements of the Major 48

Core Courses 24

HUM 080. Reading the World	A3	3
HUM 101. Human Life: Let's Think About It		3
HUM 160. Special Topics in Humanities		3
HUM 190. Senior Seminar in Humanities		3

Comparative Courses 12

COMPLETE FOUR COURSES FROM:

AMS 129. How the World sees the United States		3
AMS 159. Nature and World Cultures	V	3
CA 173. Thinking About Contemporary World Arts	V	3
HUM 128. Perspectives on the Twentieth Century: The West in a Global Context	V	3
RELS 131. Gender, Sexuality, and Religion		3

Major Electives 24

CHOOSE EIGHT COURSES FROM THE FOLLOWING, AT LEAST TWO FROM EACH AREA:

Area 1: Global Humanities

HUM 114. Legacy of Asia	V	3
HUM 119. Myths, Heroes, and Global Cultures		3
HUM 120. Renaissance, Reason and Romanticism		3
HUM 128. Perspectives on the Twentieth Century: The West in a Global Context	V	3
RELS 144. Chinese Traditions		3
RELS 145. Middle Eastern Traditions	V	3

Area 2: American Studies

AMS 129. How the World sees the United States		3
AMS 159. Nature and World Cultures	V	3
AMS 169. The American Dream	S	3
AMS 179. American Popular Culture		3

Area 3: Creative Arts

CA 095. Introduction to Queer Arts	C1	3
CA 172. The Arts in U.S. Society	S	3
CA 173. Thinking About Contemporary World Arts	V	3
CA 176. Creativity and Creative Leadership		3
RELS 120. Censors and Icons: Arts and Religion		3

Area 4: Religious Studies

RELS 122. Magic, Science and Religion	V	3
RELS 131. Gender, Sexuality, and Religion		3
RELS 142. Contemporary Buddhism and its Roots		3
RELS 155. Pagan Traditions		3
RELS 161. Varieties of Spiritual Experience		3
RELS 162. Religion and Political Controversy in the US	S	3
RELS 191. Religion in America	S	3

University Electives 31

The Department highly recommends majors complete the following:

One year of college level foreign language or equivalent related to chosen area 0-10

Total Units Required 120

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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BA - Humanities, Concentration in Religious Studies

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

University Graduation Requirements 35

Core Lower Division General Education 21

Of the 39 units required by the university, 18 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

NOTE: STUDENTS WHO HAVE COMPLETED THE ADT TRANSFER DEGREE (UNDER SB 1440) FOR THIS MAJOR WILL HAVE COMPLETED ALL LOWER DIVISION GE REQUIREMENTS AND SHOULD FOLLOW THE 60 UNIT GUARANTEE ROADMAP. MEET WITH AN ADVISOR PRIOR TO REGISTERING FOR YOUR FIRST SEMESTER FOR THE 60 UNIT ROADMAP OR SPECIFIC QUESTIONS.

Upper Division General Education 3

Of the 9 units required by the university, 6 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 6

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

COMPLETE ONE SEQUENCE FROM:

African American Studies 6

AFAM 002A. African Americans and the Development of America's History and Government	D2	3
AFAM 002B. African Americans and the Development of America's History and Government	M7	3

Asian American Studies 6

AAS 033A. Asian Americans in U.S. History I	D2	3
AAS 033B. Asian Americans in U.S. History II	M7	3

U.S. History and Government 6

HIST 015. Essentials of U.S. History	M12	3
POLS 015. Essentials of U.S. & California Government	M11	3

Chicana and Chicano Studies 6

CCS 010A. Mexican Americans and the Development of U.S. History and Government	D2	3
CCS 010B. Mexican Americans and the Development of U.S. History and Government	M7	3

Physical Education 2

Graduation Writing Assessment Requirement 3

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

HUM 100W. Writing in the Humanities	Z	3

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Preparation for the Major — 3

RELS 070. Gods, Guns, Gurus, Grails-World Religion	C2	3

Requirements of the Major — 42-47

Core Courses — 12

HUM 080. Reading the World	A3	3
HUM 101. Human Life: Let's Think About It		3
HUM 160. Special Topics in Humanities		3
HUM 190. Senior Seminar in Humanities		3

Comparative Courses — 12

COMPLETE FOUR COURSES FROM:

AMS 129. How the World sees the United States		3
AMS 159. Nature and World Cultures	V	3
CA 173. Thinking About Contemporary World Arts	V	3
HUM 119. Myths, Heroes, and Global Cultures		3
HUM 128. Perspectives on the Twentieth Century: The West in a Global Context	V	3
RELS 131. Gender, Sexuality, and Religion		3

Major Electives — 18-23

SIX COURSES FROM THE FOLLOWING, AT LEAST TWO FROM EACH AREA:

Traditions

RELS 142. Contemporary Buddhism and its Roots		3
RELS 144. Chinese Traditions		3
RELS 145. Middle Eastern Traditions	V	3
RELS 155. Pagan Traditions		3
RELS 156. Islam, Politics and the West		3

Religions and Cultures

ENGL 116. Myth in Literature		4
RELS 090. Bible History and Literature	C2	3
RELS 104. Asian Philosophy	V	3
RELS 109. Philosophy of Religion		3
RELS 134. Religion Film & Media		3
RELS 161. Varieties of Spiritual Experience		3

Thoughts, Texts, and Images

AFAM 134. The Black Civil Rights Movements		3
HIST 121A. Medieval Worlds, 400-1000		4
HIST 121B. Medieval Worlds, 1000-1500		4
HIST 122. The Renaissance and Reformation		4
HIST 126. Advanced Topics in Medieval History		4
RELS 099. Death, Dying and Religions	E	3
RELS 111. Special Topics in Jewish Studies		3
RELS 114. Legacy of Asia	V	3
RELS 120. Censors and Icons: Arts and Religion		3
RELS 122. Magic, Science and Religion	V	3
RELS 137. Religion in the Black Community		3
RELS 162. Religion and Political Controversy in the US	S	3
RELS 191. Religion in America	S	3

University Electives — 35-40

THE DEPARTMENT RECOMMENDS MAJORS COMPLETE THE FOLLOWING:

One year of college level foreign language or equivalent related to chosen area	0-10

Total Units Required — 120

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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BA - Liberal Studies, Concentration in Cross-Cultural Studies in Mexican and American Education (Not Accepting Students)

Cross-Cultural Studies in Mexican and American Education (CCSE) is an interdisciplinary major. This concentration provides future education professionals and scholars with a multi-disciplinary and cross-cultural program of study in education and society. The concentration is designed to facilitate students' understanding of the impact of cultural, ethnic, linguistic, and economic backgrounds on schooling, both in Mexican and American contexts. It is designed to help students experience and understand a foreign culture, and to acquire the self-confidence, independence, and leadership qualities that result from studying abroad through the LA META Program in Querétaro, Mexico. Students majoring in CCSE may wish to work with youth in a variety of ways, including as a bilingual teacher.

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

University Graduation Requirements 17

Core Lower Division General Education 12

Of the 39 units required by the university, 27 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

Upper Division General Education 3

Of the 9 units required by the university, 6 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

COMPLETE ONE SEQUENCE FROM:

Chicana and Chicano Studies... 6

CCS 010A. Mexican Americans and the Development of U.S. History and Government	D2	3
CCS 010B. Mexican Americans and the Development of U.S. History and Government	M7	3

Physical Education 2

Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Preparation for the Major 18

SPAN 001A. Elementary Spanish	C2	4
SPAN 001B. Elementary Spanish	C2	4
SPAN 025A. Intermediate Spanish	C2	4
SPAN 025B. Intermediate Spanish	C2	4

Or SPAN 020A, SPAN 020B for Spanish speakers; or required results on the Spanish Proficiency Test at the Foreign Language Department.

Requirements of the Major 73

Humanities 13

HUM 100W. Writing in the Humanities	Z	3
LSTP 185. Field Experience in Humanities		3
HUM 190. Senior Seminar in Humanities		3
AMS 169. The American Dream	S	3

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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COMPLETE ONE COURSE FROM:

LSTP 085A. Fieldwork in Humanities A		1
LSTP 085B. Fieldwork in Humanities B		1
LSTP 085C. Fieldwork in Humanities C		1

Social Science **9**

SOCI 001. Introduction to Sociology	D1	3
CCS 010A. Mexican Americans and the Development of U.S. History and Government	D2	3
CCS 010B. Mexican Americans and the Development of U.S. History and Government	M7	3

Science and Mathematics **12**

BIOL 021. Human Biology	B2+B3	3
CHEM 030A. Introductory Chemistry	B1+B3	3
GEOL 103. Earth Systems and the Environment	R	3
MATH 012. Number Systems	B4	3

Human Development and Foreign Language **6**

SPAN 102B. Hispanic American Culture	V	3

COMPLETE ONE COURSE FROM:

CHAD 060. Child Development	E	3
CHAD 070. Lifespan Development in the 21st Century	E	3

Depth of Study **6**

COMPLETE SIX UNITS FROM:

CCS 185. Teaching in a Diverse Society		3
SOCS 177. Sociology of Education		3
LING 108. Introduction to Second Language Development, Teaching, and Assessment		3
LING 129. Culture, Language and Ethnicity in the U.S.	S	3

Study Abroad- La META **27**

Complete 27 units of Study Abroad Courses in consultation with the Liberal Studies Advisor, including 2 semesters of Spanish

Prerequisites for a year abroad include a cumulative GPA of 2.75 for all higher education work and upper division standing by the end of the spring term prior to departure.

University Electives **12**

Total Units Required **120**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

For Legend please see page 2

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BA - Liberal Studies, Integrated Teacher Education Program

The Liberal Studies Teacher Preparation - Integrated Teacher Education Program (LSTP-ITEP) combines the study of academic subjects aligned to California standards for the K-8 curriculum with professional preparation courses and field experiences leading to a preliminary Multiple Subject Credential (MSC). Successful completion of this ITEP leads to both a Bachelor of Arts degree in Liberal Studies and a Multiple Subject Teaching Credential.

The Liberal Studies, Integrated Teacher Education Program is approved by the California Commission on Teacher Credentialing (CCTC) for waiver of the subject matter examination (CSET for Multiple Subjects) required to earn a teaching credential.

University Graduation Requirements 8

Core Lower Division General Education 6

Of the 39 units required by the university, 33 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

NOTE: STUDENTS WHO HAVE COMPLETED THE ADT TRANSFER DEGREE (UNDER SB 1440) FOR THIS MAJOR WILL HAVE COMPLETED ALL LOWER DIVISION GE REQUIREMENTS AND SHOULD FOLLOW THE 60 UNIT GUARANTEE ROADMAP. MEET WITH AN ADVISOR PRIOR TO REGISTERING FOR YOUR FIRST SEMESTER FOR THE 60 UNIT ROADMAP OR SPECIFIC QUESTIONS.

Upper Division General Education

Of the 9 units required by the university, 9 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

CONSULT MAJOR ADVISOR FOR DEPARTMENT RECOMMENDED COURSEWORK TO MEET GE REQUIREMENT.

Physical Education 2

Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Requirements of the Major 90

Reading, Language and Literature 18

EDEL 108A. Curriculum: Reading/Language Arts		3
EDTE 162. Meeting the Needs of Second Language Learners		3
ENGL 001A. First Year Writing	A2	3
ENGL 002. Critical Thinking and Writing	A3	3

ENGL 001B also accepted for Transfer Students.

ENGL 112A. Children's Literature		3
LING 107. Patterns of English		3

History and Social Science 24

AMS 001A. American Cultures to 1877	M4	6
AMS 001B. American Cultures 1877 to present	M5	6
LSTP 010. Chronicles of Education	C2	3
LSTP 139. Education and (In)Equality	S	3
SOCS 139. World History for Teachers	V	3

COMPLETE ONE COURSE FROM:

SOCS 137. California History for Teachers		3
SOCS 138. US History for Teachers	S	3

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Mathematics		**9**
MATH 012. Number Systems	B4	3
MATH 105. Concepts in Mathematics, Probability, Statistics		3
MATH 106. Intuitive Geometry		3
Science		**15**
BIOL 021. Human Biology	B2+B3	3
CHEM 030A. Introductory Chemistry	B1+B3	3
ENVS 158. Environmental Education		3
GEOL 103. Earth Systems and the Environment	R	3
PHYS 001. Elementary Physics	B1	3
Visual and Performing Arts		**9**
CA 070. Visual & Media Arts for K-8 Teachers		3
CA 075. Performing Arts for K-8 Teachers		3
CA 177. Interdisciplinary Arts for Teaching		3
Physical Education and Health		**3**
CHAD 149. Child Health and Physical Activity		3
Human Development		**3**
COMPLETE ONE COURSE FROM:		
CHAD 060. Child Development	E	3
CHAD 070. Lifespan Development in the 21st Century	E	3
Advanced Writing		**3**
HUM 100W. Writing in the Humanities	Z	3
Field Study		**6**
LSTP 085A. Fieldwork in Humanities A		1
LSTP 085B. Fieldwork in Humanities B		1
LSTP 085C. Fieldwork in Humanities C		1
LSTP 185. Field Experience in Humanities		3
Credential Courses		**32**
Credential Core Courses		**9**
EDEL 102. Psychological Foundations of Education		3
EDEL 294. Research and Practices in Health and Special Education		3
EDTE 260. Critical Perspectives on Schooling for a Pluralist Democracy		3
Methods		**9**
EDEL 108B. Curriculum: Science		3
EDEL 108C. Curriculum: Social Studies		3
EDEL 108D. Curriculum: Mathematics		3
Student Teaching		**14**
EDEL 143A. Beginning Student-Teaching (Phase I)		4
EDEL 143B. Advanced Student-Teaching (Phase II)		10
Total Units Required		**130**

- All freshmen and transfer students enter as Liberal Studies Teacher Preparation majors. Students apply for the ITEP in the first semester of their junior year. Applicants must meet credential program standards and undergo screening for admission.
- All courses required for the credential must be completed with a grade of C or higher, unless otherwise noted. The cumulative GPA for all credential courses must be 3.0 or higher.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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BA - Liberal Studies, Integrated Teacher Education Program Spanish Bilingual

The Liberal Studies Teacher Preparation - Integrated Teacher Education Program Bilingual (LSTP-ITEPB) combines the study of academic subjects aligned to California standards for the K-8 curriculum with professional preparation courses and field experiences leading to a preliminary Multiple Subject Credential (MSC) plus a Bilingual Authorization in Spanish. Successful completion of this ITEP leads to a Bachelor of Arts degree in Liberal Studies, a Multiple Subject Teaching Credential, and a Bilingual Authorization in Spanish.

The Liberal Studies, Integrated Teacher Education Program Spanish Bilingual is approved by the California Commission on Teacher Credentialing (CCTC) for waiver of the subject matter examination (CSET for Multiple Subjects) required to earn a teaching credential.

University Graduation Requirements 14

Core Lower Division General Education 12

Of the 39 units required by the university, 27 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

Upper Division General Education

Of the 9 units required by the university, 9 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

CONSULT MAJOR ADVISOR FOR DEPARTMENT RECOMMENDED COURSEWORK TO MEET GE REQUIREMENT.

Physical Education 2

Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Requirements of the Major 88

Reading, Language and Literature 18

EDEL 108A. Curriculum: Reading/Language Arts		3
EDTE 162. Meeting the Needs of Second Language Learners		3
ENGL 001A. First Year Writing	A2	3
ENGL 002. Critical Thinking and Writing	A3	3

ENGL 001B also accepted for Transfer Students.

ENGL 112A. Children's Literature		3
LING 107. Patterns of English		3

History and Social Science 18

CCS 010A. Mexican Americans and the Development of U.S. History and Government	D2	3
CCS 010B. Mexican Americans and the Development of U.S. History and Government	M7	3
LSTP 010. Chronicles of Education	C2	3
LSTP 139. Education and (In)Equality	S	3
SOCS 139. World History for Teachers	V	3

COMPLETE ONE COURSE FROM:

SOCS 137. California History for Teachers		3
SOCS 138. US History for Teachers	S	3

Mathematics 9

MATH 012. Number Systems	B4	3
MATH 105. Concepts in Mathematics, Probability, Statistics		3
MATH 106. Intuitive Geometry		3

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

Science		**15**
BIOL 021. Human Biology	B2+B3	3
CHEM 030A. Introductory Chemistry	B1+B3	3
ENVS 158. Environmental Education		3
GEOL 103. Earth Systems and the Environment	R	3
PHYS 001. Elementary Physics	B1	3
Visual and Performing Arts		**9**
CA 070. Visual & Media Arts for K-8 Teachers		3
CA 075. Performing Arts for K-8 Teachers		3
CA 177. Interdisciplinary Arts for Teaching		3
Physical Education and Health		**3**
CHAD 149. Child Health and Physical Activity		3
Human Development		**3**
COMPLETE ONE COURSE FROM:		
CHAD 060. Child Development	E	3
CHAD 070. Lifespan Development in the 21st Century	E	3
Spanish Language		**4**
SPAN 101A. Advanced Spanish		4
Advanced Writing		**3**
HUM 100W. Writing in the Humanities	Z	3
Field Study		**6**
LSTP 085A. Fieldwork in Humanities A		1
LSTP 085B. Fieldwork in Humanities B		1
LSTP 085C. Fieldwork in Humanities C		1
LSTP 185. Field Experience in Humanities		3
Credential Courses		**32**
Credential Core Courses		**9**
EDEL 102. Psychological Foundations of Education		3
EDEL 294. Research and Practices in Health and Special Education		3
EDTE 260. Critical Perspectives on Schooling for a Pluralist Democracy		3
Methods		**9**
EDEL 108B. Curriculum: Science		3
EDEL 108C. Curriculum: Social Studies		3
EDEL 108D. Curriculum: Mathematics		3
Student Teaching		**14**
EDEL 143A. Beginning Student-Teaching (Phase I)		4
EDEL 143B. Advanced Student-Teaching (Phase II)		10
Total Units Required		**134**

- Freshmen and transfer students enter as Liberal Studies Teacher Preparation majors. Students apply for the ITEPB in the first semester of their junior year. Applicants must meet credential program standards and undergo screening for admission.
- All ITEPB students must take a Spanish Placement Test in their first semester to determine which Spanish language course(s) are needed to meet the prerequisite for Spanish 101A (four semesters of college Spanish or equivalent).
- All ITEPB students must take LSTP 139, EDTE 162, and EDEL 108A in Spanish.
- All ITEPB students must do student teaching (EDEL 143A and EDEL 143B) in Spanish bilingual classrooms.
- All courses required for the credential must be completed with a grade of C or higher, unless otherwise noted. The cumulative GPA for all credential courses must be 3.0 or higher.

BA - Liberal Studies, Preparation for Teaching

This major is designed for students interested in teaching in elementary school or middle school. The following course work satisfies San José State University's requirements for a BA in Liberal Studies and is a program approved by the California Commission on Teacher Credentialing (CCTC) for waiver of the subject matter examination (CSET for Multiple Subjects) required to earn a teaching credential.

Maintaining a minimum grade point average (GPA) of at least 2.87 and completion of the program will not guarantee admission to the credential program. Like all other applicants, students must meet credential program standards and undergo screening for admission. See "Teaching: How to Become a Teacher in California" (see Teaching) for information on application and admission to credential programs.

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

University Graduation Requirements 8

Core Lower Division General Education 6

Of the 39 units required by the university, 33 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

NOTE: STUDENTS WHO HAVE COMPLETED THE ADT TRANSFER DEGREE (UNDER SB 1440) FOR THIS MAJOR WILL HAVE COMPLETED ALL LOWER DIVISION GE REQUIREMENTS AND SHOULD FOLLOW THE 60 UNIT GUARANTEE ROADMAP. MEET WITH AN ADVISOR PRIOR TO REGISTERING FOR YOUR FIRST SEMESTER FOR THE 60 UNIT ROADMAP OR SPECIFIC QUESTIONS.

Upper Division General Education

Of the 9 units required by the university, 9 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

CONSULT MAJOR ADVISOR FOR DEPARTMENT RECOMMENDED COURSEWORK TO MEET GE REQUIREMENT.

Physical Education 2

Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Requirements of the Major 99-109

Reading, Language and Literature 18-19

ENGL 001A. First Year Writing A2 3
ENGL 002. Critical Thinking and Writing A3 3
ENGL 001B also accepted for Transfer Students.

ENGL 112A. Children's Literature 3

COMPLETE ONE COURSE FROM:

ENGL 103. Modern English 4
LING 107. Patterns of English 3

COMPLETE ONE SEQUENCE FROM:

Linguistics Sequence

EDEL 108E. Teaching Reading in Linguistically and Culturally Diverse Classrooms 3
LING 108. Introduction to Second Language Development, Teaching, and Assessment 3

Development Sequence

CHAD 150. Development of Communicative Competence 3
CHAD 151. Developing Literacy in a Diverse Society 3

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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History and Social Science		15-21
SOCS 137. California History for Teachers		3
SOCS 138. US History for Teachers	S	3
SOCS 139. World History for Teachers	V	3
COMPLETE ONE SEQUENCE FROM:		
American History Sequence		
AMS 001A. American Cultures to 1877	M4	6
AMS 001B. American Cultures 1877 to present	M5	6
Asian American History Sequence		
AAS 033A. Asian Americans in U.S. History I	D2	3
AAS 033B. Asian Americans in U.S. History II	M7	3
US History Sequence		
HIST 015. Essentials of U.S. History	M12	3
POLS 015. Essentials of U.S. & California Government	M11	3
Chicana and Chicano History Sequence		
CCS 010A. Mexican Americans and the Development of U.S. History and Government	D2	3
CCS 010B. Mexican Americans and the Development of U.S. History and Government	M7	3

Mathematics		9
MATH 012. Number Systems	B4	3
MATH 105. Concepts in Mathematics, Probability, Statistics		3
MATH 106. Intuitive Geometry		3

Science		15
CHEM 030A. Introductory Chemistry	B1+B3	3
GEOL 103. Earth Systems and the Environment	R	3
PHYS 001. Elementary Physics	B1	3
COMPLETE ONE COURSE FROM		
BIOL 021. Human Biology	B2+B3	3
ENVS 010. Life on a Changing Planet	B2	3
COMPLETE ONE COURSE FROM:		
ENVS 158. Environmental Education		3
SCI 110. Global Themes of Science		3

Visual and Performing Arts		9
CA 177. Interdisciplinary Arts for Teaching		3
COMPLETE SIX UNITS IN TWO DIFFERENT ARTS DISCIPLINES:		
ART 039. Multicultural Arts for Children		3
ART 138. Elementary Art Methods		3
CA 070. Visual & Media Arts for K-8 Teachers		3
CA 075. Performing Arts for K-8 Teachers		3
DANC 148. Children's Dance		3
MUSC 010B. Introduction to Music	C1	3
MUSC 185A. Music for Children		3
TA 131. Storytelling		3
TA 167. Theatre in Education		3

Physical Education and Health		3-6
COMPLETE ONE SEQUENCE FROM:		
Health Education Sequence		
KIN 177. Movement Experiences for Children		3
EDTE 190. Health Education for the Classroom Teacher		3
Child Health Sequence		
CHAD 149. Child Health and Physical Activity		3

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

Human Development		**3**
COMPLETE ONE COURSE FROM:		
CHAD 060. Child Development	E	3
CHAD 070. Lifespan Development in the 21st Century	E	3
Introduction to Liberal Studies		**3**
LSTP 010. Chronicles of Education	C2	3
Area of Specialization		**12**
COMPLETE 12 UNITS FROM BELOW DISTINCT FROM CORE COURSEWORK.		
Six units may be lower division.		
AMS 001A. American Cultures to 1877	M4	6
AMS 001B. American Cultures 1877 to present	M5	6
AMS 129. How the World sees the United States		3
AMS 169. The American Dream	S	3
AMS 179. American Popular Culture		3
CA 060. Creativity Matters	E	3
CA 095. Introduction to Queer Arts	C1	3
CA 172. The Arts in U.S. Society	S	3
CA 173. Thinking About Contemporary World Arts	V	3
CA 175. Seminar in Creative Process		3
CA 176. Creativity and Creative Leadership		3
HUM 114. Legacy of Asia	V	3
HUM 119. Myths, Heroes, and Global Cultures		3
HUM 120. Renaissance, Reason and Romanticism		3
HUM 159. Nature and World Cultures	V	3
HUM 177A. Advanced Honors in Integrated Science, Social Science, and Humanities		6
HUM 177B. Advanced Honors in Integrated Science, Social Science, and Humanities	RSV	3
LSTP 139. Education and (In)Equality	S	3
RELS 070. Gods, Guns, Gurus, Grails-World Religion	C2	3
RELS 090. Bible History and Literature	C2	3
RELS 099. Death, Dying and Religions	E	3
RELS 120. Censors and Icons: Arts and Religion		3
RELS 122. Magic, Science and Religion	V	3
RELS 131. Gender, Sexuality, and Religion		3
RELS 142. Contemporary Buddhism and its Roots		3
RELS 145. Middle Eastern Traditions	V	3
RELS 162. Religion and Political Controversy in the US	S	3
RELS 191. Religion in America	S	3
Any relevant HUM 160 course with advisor approval		
Advanced Writing		**3**
HUM 100W. Writing in the Humanities	Z	3
Field Study		**6**
LSTP 085A. Fieldwork in Humanities A		1
LSTP 085B. Fieldwork in Humanities B		1
LSTP 085C. Fieldwork in Humanities C		1
LSTP 185. Field Experience in Humanities		3
Capstone Course		**3**
HUM 190. Senior Seminar in Humanities		3
University Electives		3-13
Total Units Required		**120**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

Minor - American Studies

This interdisciplinary program offers students the opportunity to study American culture and society. In addition to the focus on a better understanding of American culture, there is emphasis upon analytic skills, close reasoning, and effective communication, providing useful preparation for graduate study, for elementary or secondary teaching, or for careers in law, public service or government.

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Plan A		21
AMS 001A. American Cultures to 1877	M4	6
AMS 001B. American Cultures 1877 to present	M5	6
AMS 169. The American Dream	S	3
AMS 179. American Popular Culture		3
AMS 190. Senior Seminar in Humanities		3

Plan B		18
AMS 159. Nature and World Cultures	V	3
AMS 160. Special Topics in Humanities		3
AMS 169. The American Dream	S	3
AMS 179. American Popular Culture		3
AMS 190. Senior Seminar in Humanities		3
HUM 101. Human Life: Let's Think About It		3

Total Units Required	18-21

Minor - Area Studies

The minor in Area Studies provides an opportunity for concentrated study in the history, politics, economics, geography, or culture of one of four designated regions of the world.

With the consent of the advisor for the Area Studies minor, a student may select courses concerning aspects of one of the following regions - East and Southeast Asia, Africa and the Middle East, Latin America, or Europe (inclusive of Russia) - and global courses from a general list.

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Requirements of the Minor	12
Three courses from one of the designated regions	9
One general courses	3
Total Units Required	**12**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

Minor - Asian Studies

The Asian Studies minor will acquaint students with the histories, traditional cultures and contemporary conditions of Asian countries and societies. Courses may be selected from anthropology, art, business, foreign languages, geography, history, music philosophy, political science, and religious studies.

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Group A — 6-9

COMPLETE SIX TO NINE UNITS FROM:

ARTH 070C. Arts of Asia	C1	3
ARTH 193B. East Meets West in Art	V	3
ARTH 194A. Art of China		3
ARTH 195. Art of Japan		3
CHIN 102. Chinese Culture		4
CHIN 140. Chinese Culture and Politics Through Literature	V	3
HUM 114. Legacy of Asia	V	3
JPN 102. Japanese Culture		3
LING 122. English as a World Language	V	3
MUSC 019. Music in World Cultures	C1	3
MUSC 148B. Improvisational Traditions of the World - Asia		2
PHIL 104. Asian Philosophy	V	3
RELS 070. Gods, Guns, Gurus, Grails-World Religion	C2	3
RELS 142. Contemporary Buddhism and its Roots		3
RELS 144. Chinese Traditions		3

Group B — 6-9

COMPLETE SIX TO NINE UNITS FROM:

ANTH 115. The Emerging Global Culture	V	3
ANTH 177. Anthropology of Asia		3
BUS2 133B. Relationship Marketing: Pacific Rim		3
GEOG 160. East and South Asia		3
HIST 109A. History of China		4
HIST 109B. History of China		4
HIST 110A. History of Japan		4
HIST 110B. History of Japan		4
POLS 145. Asian Politics		4

Group C — 3-6

Three to six units in a foreign language related to one's chosen area, such as Chinese, Japanese, Punjabi, or Vietnamese.

Total Units Required — 15-24

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

Minor - Humanities

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Requirements of the Minor		18-21
Choose a Plan		
Plan A		**21**
HUM 001B. World Cultures and Societies- Honors	M15	6
HUM 002B. Honors - Modern World Cultures	M13	6
HUM 190. Senior Seminar in Humanities		3
COMPLETE TWO COURSE FROM:		
HUM 119. Myths, Heroes, and Global Cultures		3
HUM 120. Renaissance, Reason and Romanticism		3
HUM 128. Perspectives on the Twentieth Century: The West in a Global Context	V	3
HUM 160. Special Topics in Humanities		3
Any upper division humanities course		3
Plan B		**18**
HUM 101. Human Life: Let's Think About It		3
HUM 190. Senior Seminar in Humanities		3
Twelve units of upper-division Humanities courses, as approved by the advisor		12
Total Units Required		**18-21**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

Minor - Middle East Studies

This interdisciplinary minor provides background for students whose professional goals include the promotion of mutual understanding, tolerance and peace in the region. The Middle East Studies minor is especially recommended to students seeking a career in international law, business, economic development, health care, education or religious studies. Courses encompass the disciplines of art history, anthropology, business, foreign languages, history, humanities, political science, sociology and religious studies.

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Requirements of the Minor 18-20

Required Course 3

MDES 145. Middle Eastern Traditions	V	3

Traditions Courses 6

COMPLETE TWO COURSES FROM:

RELS 070. Gods, Guns, Gurus, Grails-World Religion	C2	3
MDES 156. Islam, Politics and the West		3
MDES 189. Islamic Perspectives on Gender		3

Electives 6-7

COMPLETE TWO COURSES FROM:

Art History

MDES 183A. Art of Egypt and Mesopotamia		3
MDES 183C. Art of Islam 13th-19th Century		3

Religious Studies

MDES 090. Bible History and Literature	C2	3

Political Science

MDES 144. Middle Eastern Politics		4

University Electives 3-4

ANTH 011. Cultural Anthropology	D1	3
ANTH 146. Culture and Conflict	V	3
BUS2 133A. International Marketing		3
BUS5 146. Fundamentals of Project Management		3
BUS3 161A. Applied Organizational Behavior		3
COMM 174. Intercultural Comm & Struct Inequality	S	3
GEOG 012. Global Geography	D2	3
MDES 180. Individual Studies		1-4
MDES 184. Directed Reading		1-4
MUSC 019. Music in World Cultures	C1	3
POLS 004. Introduction to International Relations	D3	3
POLS 154. U.S. Foreign Policy: Formulation and Administration		4
SOCI 162. Race and Ethnic Relations	S	3

or other appropriate courses selected with approval of the minor advisor (including individual studies, directed reading, and/or up to 6 units of foreign language studies)

Total Units Required 18-20

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

Minor - Religious Studies

This minor offers a basic understanding of religious beliefs and practices for those whose careers would benefit from familiarity with some religious traditions, such as those in teaching, business, journalism, social work, medicine, and law. The minor incorporates the study of religious traditions with reflection on what religion is and how we understand it.

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Requirements of the Minor	15
HUM 101. Human Life: Let's Think About It	3
plus 12 additional units of which 6 must be upper division and 9 in RELS courses	12
ONE COURSE FROM THE FOLLOWING CAN BE INCLUDED:	
AFAM 137. Religion in the Black Community	3
ENGL 116. Myth in Literature	4
HIST 121A. Medieval Worlds, 400-1000	4
HIST 121B. Medieval Worlds, 1000-1500	4
HIST 122. The Renaissance and Reformation	4
Total Units Required	**15**

Minor - Creative Arts

This degree is listed with the Creative Arts Program.

Industrial and Systems Engineering

College of Engineering

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Yasser M. Dessouky, Chair
Niranjani Patel
H.S. Jacob Tsao

Associate Professors

Anil Kumar

Assistant Professors

Ayca Erdogan
Hongrui Liu
Dan Nathan-Roberts

Curricula

BS, Industrial and Systems Engineering
Minor, Engineering Management
Minor, Statistical Quality Engineering
Certificate, Six Sigma Green Belt
Certificate, Six Sigma Black Belt
MS, Engineering Management
MS, Human Factors/Ergonomics
MS, Industrial and Systems Engineering

Introduction

Industrial and Systems Engineers figure out how to do things better by engineering processes and systems that improve quality and productivity. ISEs make significant contributions to their employers by saving money, increasing productivity, and making the workplace better for workers. Industrial and Systems Engineers focus on productivity improvement with respect for the human aspect of work. ISE bridges the gap between management and operations by applying six sigma principles, lean manufacturing processes, principles of organizational improvement, continuous improvement, and ergonomics. The undergraduate degree prepares engineers for challenges in manufacturing or service systems analysis and design. Students in our master's program build on an aptitude already in evidence for advanced professional work in industrial engineering. Our alumni are employed in a variety of industries, businesses and institutions, from retail establishments to manufacturing plants to government agencies to hospitals. The BS, Industrial and Systems Engineering program is accredited by the Engineering Accreditation Commission of ABET, www.abet.org

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

BS - Industrial and Systems Engineering

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

Major-Specific Graduation Requirements

All Technical Electives Required in the Major must be completed with a "C- or better". The following courses in Preparation for the Major must also be completed with a "C or better": ENGL 001B

University Graduation Requirements 24

Core Lower Division General Education 6

Of the 39 units required by the university, 33 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

Upper Division General Education 6

Of the 9 units required by the university, 3 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 12

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

AMS 001A. American Cultures to 1877	M4	6
AMS 001B. American Cultures 1877 to present	M5	6

Physical Education

Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Preparation for the Major 29

CHEM 001A. General Chemistry	B1+B3	5
ENGL 001B. Argument and Analysis	C2	3
or equivalent second semester composition course.		
MATH 030. Calculus I	B4	3
MATH 031. Calculus II	B4	4
MATH 032. Calculus III	B4	3
MATH 123. Differential Equations and Linear Algebra		3
PHYS 050. General Physics/Mechanics	B1+B3	4
PHYS 051. General Physics/Electricity and Magnetism	B1+B3	4

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Requirements of the Major		67

At least two approved technical electives must be engineering courses and all technical electives must be completed with a grade of "C-" or better.

Core Courses		11
ENGR 010. Introduction to Engineering	E	3
ME 020. Design and Graphics		2
MATE 025. Introduction to Materials		3
CMPE 030. Programming Concepts and Methodology		3

Concentration Requirements		50
ISE 102. Engineering Economic Systems		3
ISE 105. Introduction to Systems Engineering and Activity Costing		3
ISE 115. Lean Integrated Manufacturing		3
ISE 120. Work Methods Design and Measurement		3
ISE 130. Engineering Probability and Statistics		3
ISE 131. Statistical Process Control and Improvement		3
ISE 135. Design of Experiments		3
ISE 140. Operations Planning and Control		3
ISE 142. Service Systems Engineering and Management		3
ISE 151. Introduction to Engineering Management		3
ISE 155. Supply Chain Engineering		3
ISE 167. System Simulation		3
ISE 170. Operation Research		3
ISE 194. Analytics Workshop		1
ISE 195A. Senior Industrial Engineering Design I		1
ISE 195B. Senior Industrial Engineering Design II		3
ENGR 100W. Engineering Reports	Z+R	3
CMPE 131. Software Engineering I		3

Approved Technical Electives	6

Selected from the approved departmental list in consultation with the student's advisor.

Total Units Required	120

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Minor - Engineering Management

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Requirements of the Minor	**12**
Required Courses	**6**
ISE 102. Engineering Economic Systems	3
ISE 151. Introduction to Engineering Management	3
Additional Requirements	**6**
COMPLETE TWO COURSES FROM:	
ISE 105. Introduction to Systems Engineering and Activity Costing	3
ISE 142. Service Systems Engineering and Management	3
ISE 155. Supply Chain Engineering	3
Total Units Required	**12**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Minor - Statistical Quality Engineering

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Major-Specific Graduation Requirements

All courses in this minor require a grade of "C- or better".

Requirements of the Minor	12
Required Courses	**9**
ISE 131. Statistical Process Control and Improvement	3
ISE 135. Design of Experiments	3
COMPLETE ONE COURSE FROM:	
ISE 130. Engineering Probability and Statistics	3
ISE 162. Engineering Statistics and Analysis	2
MATH 161A. Applied Probability and Statistics I	3
Additional Requirements	**3**
COMPLETE ONE COURSE FROM:	
ISE 102. Engineering Economic Systems	3
ISE 151. Introduction to Engineering Management	3
Total Units Required	**12**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Six Sigma Certificates

The revolutions in lean manufacturing and quality have swept the world and broadened into the disciplines of lean enterprise and six sigma. Six Sigma's emphasis is on improving existing capabilities. Six Sigma is a set of structured methodologies, problem-solving tools and advanced statistical methods for analyzing and improving processes, product designs and services on a broad range of metrics, especially cost, quality, time and variability. It moves beyond treating symptoms and short-term problems to the elimination of root causes, thereby emphasizing lasting improvement.

This certificate is available to ISE graduate students and local professionals

Six Sigma Green Belt Certificate

Major-Specific Graduation Requirements

The following course in the minor requires a grade of "B or better": ISE 250

Requirements of the Certificate	**3**
ISE 250. Leading the Six Sigma Improvement Project	3
Total Units Required	**3**

Six Sigma Black Belt Certificate

Major-Specific Graduation Requirements

All courses in the Certificate must be successfully completed with a grade of "B or better", and students must pass an exit exam.

Requirements of the Certificate		**12**
ISE 202. Design and Analysis of Engineering Experiments		3
ISE 235. Quality Assurance and Reliability		3
ISE 250. Leading the Six Sigma Improvement Project		3
ISE 251. Managing the Lean Enterprise Improvement Program	GWAR	3
Total Units Required		**12**

MS - Industrial and Systems Engineering

The goal of Industrial and Systems Engineering is to ensure that manufacturing or service organization systems are efficient, productive, safe, and well designed against cumulative injury, and that the systems incorporate the right tools and equipment. The Master of Science in Industrial and Systems Engineering curriculum prepares engineers for these activities and helps achieve the goals of ISE in a manufacturing or service organization. It prepares students to bridge the gap between operations and management with courses ranging from operations planning and control, quality assurance and reliability, human factors and ergonomics, human-machine interaction, information engineering, and cost-effectiveness analysis, to organizational development and total quality management. It prepares students to enter the profession immediately or to enter a PhD program.

Requirements for Admission to Classified Standing

Applicants must meet all university admissions requirements. Applicants who meet the following requirements beyond university requirements will be considered for admission into the ISE Department. Students may be admitted in either classified or conditionally classified standing. Applicants for classified standing will ordinarily be expected to have completed work for the BS degree in industrial engineering (or its equivalent) at San José State University or other university with an accredited curriculum, with a grade point average of 3.0 ("B") or better in the last 60 units.

Requirements for Admission to Conditionally Classified Standing

Applicants who do not have a baccalaureate degree in industrial engineering (or equivalent), but who meet university requirements for graduate admission and whose academic records or professional achievements give promise of satisfactory performance in graduate study in industrial engineering, may be admitted to Conditionally Classified standing. Applicants whose baccalaureate degrees are not in industrial engineering will be required to take additional courses (prerequisites), which will not be counted in the graduate degree program for the MS - Industrial and Systems Engineering. The GRE General Test is not required.

Applicants from countries in which the native language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirement webpage at GAPE.

Requirements for Admission to Candidacy

Students seeking MS degrees in the College of Engineering must meet the general university requirements for candidacy as outlined in the Academic Requirements section of this catalog. The University requires that all graduate students complete the Graduation Writing Assessment Requirement (GWAR) as a condition for advancement to candidacy. Please refer to the SJSU catalog section titled "Graduation Writing Assessment Requirement" for details. For graduate courses that meet the GWAR, please refer to the Graduate Admissions and Program Evaluations website at www.sjsu.edu/gape. In addition, the candidate must demonstrate aptitude for advanced professional work in industrial engineering, as measured by instructor appraisals, analysis of previous academic work or other appropriate means. Admission to candidacy and approval of programs will be handled by a faculty committee and the student's advisor.

Requirements for Graduation

Completing Requirements for the MS - Industrial and Systems Engineering

Students who have been admitted to candidacy for master's degrees in engineering must thereafter maintain grade point averages of 3.0 ("B") or better in all work taken in the graduate program, and in the minimum 30 semester units of approved graduate work. All students are required to complete a thesis, project, or pass a comprehensive examination covering either their graduate course work or major project. The general requirements for the MS - Industrial and Systems Engineering include completion of at least 30 semester hours of approved work. The course requirements consist of three core courses, four courses in a specialty area, one elective, and a culminating experience (thesis, project or comprehensive exam). Four specialty areas are offered: Production and Quality Assurance, Human Factors Engineering, Healthcare and Service Systems Engineering, and Supply Chain and Logistics Engineering.

Culminating Experience

Plan A (Thesis)

The thesis must meet university requirements as stipulated in this catalog and in the SJSU Master's Thesis and Doctoral Dissertation Guidelines. It will be written under the guidance of the candidate's thesis committee chair with the assistance of the thesis committee, which consists of the chair and two other faculty members of the Department, College or University.

Plan B (Project)

The main purpose and hence the main scope of the MS project is to apply knowledge learned in a student's graduate study to a real-world problem, either identified in a current industrial or business setting as a need for improvement or in an academic setting in anticipation of opportunities for potential improvement. In either case, the amount of work must at least be commensurate with a three-unit graduate lecture course. Although creating new knowledge is not expected in the project, most effective application of the knowledge learned in the student's entire graduate program is.

The MS project should be an individual project. With special approval by the Graduate Advisor, a project whose scope is too large for one student can be pursued as a set of multiple MS projects. However, the scope of work for each student must be clearly defined and separated with respect to that of the other student(s). At the end of the MS Project, each student must complete and submit an individual project report and must give an individual presentation. The student earns credit (i.e., CR) for the MS Project if and only if the project has been successfully completed and the project report and the project presentation have been satisfactorily delivered. It will be written under the guidance of the candidate's project committee advisor. with the assistance of the thesis committee, which consists of the chair and another faculty member of the Department, College or University.

Plan B (Comprehensive Exam)

The Comprehensive Exam is a five-hour exam covering three core courses and two elective courses. It is an open-book and open-notes exam. Students in this option take a third elective course (amounting to a total of 9 units of approved electives).

Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR). For information on the GWAR, please see http://info.sjsu.edu/gcw.html.

Passing either ISE270 or ISE251 automatically satisfies this requirement.

Requirements of the Masters 30

Core ISE Courses 9

ISE 230. Advanced Operations Research 3
ISE 235. Quality Assurance and Reliability 3
ISE 240. Analytics for Systems Engineering 3

Courses in an ISE Specialty Area 12

Four Courses from one of the following four specialty areas: (a) production and quality assurance, (b) human factors engineering, (c) supply chain and logistics engineering, or (d) healthcare and service systems engineering

Approved Electives 6

Courses selected from other ISE specialty areas or approved by the graduate advisor.

Culminating Experience 3

COMPLETE ONE OPTION (PLAN A THESIS, PLAN B PROJECT, OR PLAN B COMPREHENSIVE EXAM):

Plan A (Thesis)
ISE 299. Master's Thesis 3

Plan B (Project)
ISE 298. Special Problems 3

Plan B (Comprehensive Exam)

Five-hour exam covering three core courses and two elective courses. Students in this option take a third elective course (a total of 9 units approved electives)

Total Units Required 30

Elective courses must be planned in consultation with the Graduate Advisor.

The maximum number of upper-division undergraduate units that can be applied toward the master's degree is 15.

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU Cumulative grade point averages of 3.0 in order to graduate.

MS - Engineering Management

Engineering Management is a specialized form of management that is concerned with the application of engineering principles to business practice. Engineering management is a career that brings together the technological problem-solving savvy of engineering and the organizational, administrative, and planning abilities of management in order to oversee complex enterprises from conception to completion.

Engineering Management programs typically include instruction in the areas of accounting, economics, project management, finance, systems engineering, mathematical modeling and optimization, quality control and six sigma, operations research, human resource management, industrial psychology, safety and health. At SJSU, engineering management program emphasizes quality and six sigma, statistics, fundamentals of business accounting and finance, engineering economic analysis, business ethics, supply chain engineering, and systems engineering. Through technical electives, students become knowledgeable in other aspects of business management, such as project management, human resource management, and operations research.

Additional information can be found at www.sjsu.edu/ise/programs/ms-em

University Admissions

Applicants must submit a complete graduate application by applying through the CSU Cal State Apply system at calstate.edu/apply and meet all the university admission requirements. Applicants apply separately to the department to obtain admission into the MS, Engineering Management program. See the GAPE Graduate Admissions website and this Catalog for general information about graduate admissions at SJSU.

Applicants from countries in which the native language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirements webpage at GAPE. For TOEFL Requirements, see the Policies and Procedures section, Graduate and Post-Baccalaureate Information in this Catalog.

Requirements for Admission to Classified Standing

Applicants must meet all university admissions requirements. Applicants who meet the following requirements beyond university requirements will be considered for admission into the ISE Department. In addition, applicants must possess a baccalaureate degree from an ABET-accredited engineering program with a grade point average of at least 3.0 in the last 60 semester hours of upper division work completed in all subjects and in technical subjects only. Students meeting these criteria may be admitted in classified standing; however, students may still be admitted conditionally if they need prerequisite courses for the selected option. An engineering technology degree does not satisfy the degree requirement for admission to this program.

Requirements for Admission to Conditionally Classified Standing

Applicants who do not meet the requirements for classified standing may be admitted with specific conditions as conditionally classified. An applicant whose undergraduate record indicates deficiencies in one or more technical areas and/or has a grade point average less than 3.0 in the last 60 semester hours of upper division work completed in all subjects and in technical subjects only may be admitted for graduate work on a conditionally classified basis. Such students will be expected to satisfactorily complete additional course work before becoming classified. Any conditions stated in the admission notification must be fulfilled within the first year and before the student can be admitted to candidacy for the degree.

Students admitted in conditionally classified status may petition for classified status when course work in deficient areas has been completed, when they have satisfied the Graduation Writing Assessment Requirement (GWAR), and when their records in classes at San José State University show sufficient promise of success in the master's degree program.

Requirements for Admission to Candidacy for the MS - Engineering Management

Students seeking the Master of Science in Engineering Management degree must meet the general university requirements for advancement to candidacy as outlined in the Academic Requirements Section of The University Bulletin, including successful completion of the GWAR. Admission to candidacy and approval of degree program will be handled by the Graduate Advisor. All classified graduate students must apply for admission to candidacy after completing the GWAR and a minimum of nine units of graduate work. All MS EM students are encouraged to apply for advancement to candidacy as soon as they have completed the GWAR and three graduate courses.

Requirements for Graduation

University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

Culminating Experience

Students choose the Plan A (Thesis) or Plan B (Project) option as their program culminating experience. The decision as to whether to embark on a thesis or project will be made by the student in consultation with the program's assigned advisor.

Plan A (Thesis)

Students wishing to pursue the thesis option must begin by obtaining the approval of the MS, Engineering Management (MS EM) program director, and then secure the agreement of a qualified faculty member to serve as Chair of the thesis committee. The candidate must provide the name of the committee Chair to the MS EM program Director prior to the beginning work on the thesis. The thesis and thesis process must meet university requirements as stipulated in this catalog and in the SJSU Master's Thesis and Doctoral Dissertation Guidelines. The thesis will be written under the guidance of the candidate's thesis committee chair with the assistance of the thesis committee.

Plan B (Project)

The project is the expected choice for the MS, Engineering Management candidate's culminating experience. Students must begin the project by identifying a qualified faculty advisor, or by having one appointed by the MS EM program director. The advisor and the student mutually agree on the scope of the project. The advisor determines when the student has met agreed upon project requirements and when the project report is acceptable for submission to the MS EM program, and notifies the MS EM program director of the student's satisfactory completion of the culminating experience requirement.

Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR). For information on the GWAR, please see http://info.sjsu.edu/gcw.html.

Requirements of the Masters 30

Core Courses 15

ISE 200. Financial Methods for Engineers		3
ISE 213. Principles of Engineering Management		3
ISE 222. Adv Sys Engr		3
ISE 250. Leading the Six Sigma Improvement Project		3
ISE 251. Managing the Lean Enterprise Improvement Program	GWAR	3

Approved Electives 12

Twelve units of electives selected in consultation with graduate advisor. Students take two and no more than three BUS electives (6 to 9 units).

Culminating Experience 3

COMPLETE ONE COURSE FROM:

Plan A (Thesis)

ISE 299. Master's Thesis		3

Plan B (Project)

ISE 298. Special Problems		3

Total Units Required 30

Elective courses must be planned in consultation with the Graduate Advisor.

The maximum number of upper-division undergraduate units that can be applied toward the master's degree is 15.

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU Cumulative grade point averages of 3.0 in order to graduate.

MS - Human Factors/Ergonomics

The Department of Industrial and Systems Engineering (ISE) administers the Master of Science in Human Factors/Ergonomics (HF/E) degree program. This is a cooperative program involving the Departments of Industrial and Systems Engineering, Psychology, Industrial Design, and Kinesiology.

Human factors/ergonomics is the discipline concerned with the development and application of human-system interface technology to systems analysis, design and evaluation. This technology encompasses human-machine (hardware ergonomics), human-task (workplace ergonomics), human-environment (environmental ergonomics), human-software (cognitive ergonomics) and organizational-machine (macro-ergonomics) interfaces. Practitioners are engaged in developing design specifications, guidelines, methods and tools. They also apply human-system interface technology to ensure that work systems are compatible with the characteristics of the humans who operate, maintain or otherwise interact with them. Their efforts include improving the operability, maintainability, usability, comfort, safety and health characteristics of systems to improve human and system effectiveness and to reproduce the potential of injury and error (adapted from remarks published by H. Holbrook, 1995-96 President, Human Factors and Ergonomics Society, HFES Bulletin, January, 1996).

This program prepares students for practice in this emerging profession through an interdisciplinary course sequence that emphasizes theory, practical applications and research. HF/E students take a group of five core courses from several different SJSU departments and elective courses in topics of their choosing. A one-semester weekly seminar is required of all students. The program culminates in a thesis or project.

Additional information can be found at http://www.sjsu.edu/hfe/

Admission Requirements

University Admissions

Applicants must submit a complete graduate application by applying through the CSU Cal State Apply system at calstate.edu/apply and meet all the university admission requirements. Applicants apply separately to the department to obtain admission into the MS, Human Factors/Ergonomics program. See the GAPE Graduate Admissions website and this Catalog for general information about graduate admissions at SJSU.

Applicants from countries in which the native language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirements webpage at GAPE. For TOEFL Requirements, see the Policies and Procedures section, Graduate and Post-Baccalaureate Information in this Catalog.

Requirements for Admission to Classified Standing

Applicants must meet all university admissions requirements. Applicants who meet the following requirements beyond university requirements will be considered for admission into the ISE Department. Applicants for classified standing must have completed a BS or BA degree in Psychology, Industrial Engineering, Occupational Therapy, Industrial Design, Kinesiology, or other related field at an accredited institution. A grade point average of 3.0 ("B") or better in the last two years of academic work is preferred. Applicants for classified standing will also be expected to have completed upper division courses in statistics, cognition, and perception.

Requirements for Admission to Conditionally Classified Standing

Applicants who do not meet the requirements for classified standing may be admitted with specific conditions as conditionally classified; any conditions stated in the admission notification must be fulfilled within the first year and before the student can be admitted to candidacy for the degree. If the conditions are not fulfilled, the program reserves the right to dismiss the student from the program by a process known as Administrative Academic Disqualification (see Section 41300.1, Title 5, California Code of Regulations).

Requirements for Admission to Candidacy for the MS - Human Factors/Ergonomics

Students seeking the Master of Science degree in Human Factors/Ergonomics must meet the general all-university requirements for candidacy as outlined in the Academic Requirements section of this catalog. The University requires that all graduate students complete the Graduation Writing Assessment Requirement (GWAR) as a condition for advancement to candidacy. Please refer to the SJSU catalog section titled "Graduation Writing Assessment Requirement" for details. For graduate courses that meet the GWAR, please refer to the Graduate Admissions and Program Evaluations website at www.sjsu.edu/gape. In addition, the applicant must demonstrate aptitude for advanced professional work in human factors/ergonomics, as measured by instructor appraisals, analysis of previous academic work or other appropriate means. Admission to candidacy and approval of programs will be handled by the student's graduate advisor.

Requirements for Graduation

University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

Culminating Experience

The decision as to whether to embark on the project (Option B) or Thesis (Option A) path for the culminating experience will be made by the student in consultation with the program's assigned advisor.

Plan A (Thesis)

Students wishing to pursue the thesis option must begin by obtaining the approval of the HF/E program Director and then by securing the agreement of a qualified faculty member to serve as Chair of the candidate's thesis committee. The name of the committee Chair must be provided to the HF/E program Director prior to the candidate beginning work on the thesis. The thesis and thesis process must meet university requirements as stipulated in this catalog and in the SJSU Master's Thesis and Doctoral Dissertation Guidelines. It will be written under the guidance of the candidate's thesis committee chair with the assistance of the thesis committee.

Plan B (Project)

The project is the expected choice for the HF/E candidate's culminating experience. Students must begin the project by identifying a qualified faculty advisor, or one will be appointed by the HF/E program Director. The advisor and the student mutually agree on the project's scope. The advisor determines when the student has met the agreed upon project requirements and when the project report is acceptable for submittal to the HF/E program, and notifies the HF/E program Director of the student's satisfactory completion of the requirement.

Three (3) elective courses must be planned in consultation with the Graduate Advisor. Electives may be selected from a wide range of graduate courses offered on the SJSU campus in industrial engineering, psychology, kinesiology and other departments. Course descriptions can be found under the listings for the respective departments elsewhere in this catalog. The program develops and offers its own elective courses from time to time in topics such as usability testing, human-computer interaction, safety and others. Please see the program website for further details.

Course Requirements

Students must maintain a GPA of 3.0 or above in all courses taken in fulfilling prerequisites and the 30 graduate units required for completion of the program. The general requirements for the course completion are as follows:

Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR). For information on the GWAR, please see http://info.sjsu.edu/gcw.html.

Requirements of the Masters — 30

Core Courses — 17

ISE 210. Human Factors/Ergonomics		3
ISE 212. Human Factors Experiments	GWAR	3
ISE 290. Human Factors & Ergonomics Professional Seminar		2
KIN 266. Principles and Concepts of Perceptual Motor Learning		3
PSYC 273. Seminar in Human Factors		3

COMPLETE ONE COURSE FROM:

ISE 135. Design of Experiments		3
ISE 202. Design and Analysis of Engineering Experiments		3
ISE 211. Experiment Design for Human Factors Engr		3

Approved Electives — 9

Elective courses must be planned in consultation with the graduate advisor

Culminating Experience — 4

Plan A (Thesis) or Plan B (Project)

COMPLETE FOUR UNITS FROM:

ISE 298. Special Problems	1-4
PSYC 298. Special Problems	1-6
KIN 298. Special Studies	3
ISE 299. Master's Thesis	4
PSYC 299. Master's Thesis or Project	1-6
KIN 299. Master's Thesis or Project	1-6

Total Units Required — 30

The maximum number of upper-division undergraduate units that can be applied toward the master's degree is 15.

Information School

College of Professional and Global Education

CLARK HALL 417
408-924-2490
http://ischool.sjsu.edu/

Professors

Anthony Bernier
Patricia Franks
Debra Hansen
Sandra Hirsh, Director
Geoffrey Liu
Ziming Liu
David Loertscher
Lili Luo
Linda Main

Associate Professors

Joni Bodart
Kristen Rebmann
Michael Stephens

Assistant Professors

Michelle Chen
Mary Ann Harlan
Deborah Hicks
Tonia San Nicolas Rocca
Virginia Tucker
Michele Villagran

Curricula

Credential, California Library Media Teacher Services
Certificate, Strategic Management of Digital Assets and Services (Special Session Program)
Certificate, Post Master's in Library and Information Science (Special Session Program)
MS, Informatics
MLIS, Library and Information Science (also offered in Special Session)
MARA, Archives and Records Administration (Special Session Program)

Introduction

The San Jose State University (SJSU) School of Information prepares individuals for careers as information professionals. Graduates work in diverse areas of the information profession, such as user experience design, digital asset management, information architecture, electronic records management, information governance, digital preservation, and librarianship. The SJSU School of Information is a recognized leader in online education and received the Online Learning Consortium's Outstanding Online Program award. For more information: ischool.sjsu.edu

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Credentials

To qualify for the California Library Media Teacher Services Credential with authorization as a library media teacher, the student must complete the credential course work outlined here in the university catalog.

Students must either already hold a valid California teaching credential or complete the requirements for a basic teaching credential (see College of Education section of this catalog for requirements for a teaching credential).

Core Courses		**10**
INFO 200. Information Communities	GWAR	3
INFO 202. Information Retrieval System Design		3
INFO 203. Online Learning: Tools and Strategies		1
INFO 204. Information Professions		3
Program Curriculum and Technology		**9**
INFO 233. School Library Media Centers		3
INFO 250. Design and Implementation of Instructional Strategies for Information Professionals		3
INFO 285. Applied Research Methods		1-4
Information Services and Materials		**9**
INFO 237. School Library Media Materials		3
INFO 248. Beginning Cataloging and Classification		3
INFO 266. Collection Management		3
Capstone Course		**3**
INFO 295. School Library Field Work		3
Total Units Required		**21**

Post-Master's Certificate in Library Information Sciences

The Post-Master's Certificate program features eight career pathways focused on diverse specializations, such as digital curation, emerging technologies, web programming, data science and more! Certificate program students choose one career pathway and then select five courses from that career pathway, tailoring their in-depth learning experience to their career aspirations. In addition, all students begin the program with a one-unit guided learning experience that introduces our school's interactive online learning environment. After completing 16 units of required coursework, certificate students demonstrate their mastery of the program's learning outcomes.

Gainful Employment Disclosure

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Certificate - Strategic Management of Digital Assets and Services

Handling and governance of digital information and data in organizational and networked contexts- including digital assets management, digital curation, information governance, information assurance, data analytics, marketing, community informatics, and demonstrating value. Students pick one career pathway and select 9 units from that pathway, http://ischool.sjsu.edu/programs/advanced-certificate-strategic-management

Digital Assets Management Pathway	**9**
Students Select Any 9 Units from the following:	
INFO 282. Seminar in Library Management	3
INFO 284. Seminar in Archives and Records Management	1-3
Information Governance, Assurance and Security	**9**
MARA 284. Seminar in Archives and Records Management	6
INFO 287. Seminar in Information Science	3
Data Analytics and Data Driven Decision Making	**9**
Students Select Any 9 Units from the following:	
INFO 246. Information Technology Tools and Applications - Advanced	1-3
INFO 220. Resources and Information Services in Professions and Disciplines	1-3
INFO 282. Seminar in Library Management	1-3
Advocacy, Marketing and Community Informatics	**9**
INFO 281. Seminar in Contemporary Issues	1-3
INFO 282. Seminar in Library Management	1-3
INFO 283. Marketing of Information Products and Services	1-3
Total Units Required	**9**

Master of Science in Informatics (Special Session Program)

Informatics is an interdisciplinary and inter-professional field that focuses on collecting, analyzing, securing, and managing data and information; and turning that data and information into actionable knowledge from a user centered perspective within the context of another domain - such as health or sports.

Students will take 18 units of course work that will provide the **foundations and skills** needed to:

- Design and develop secure user-centered knowledge structures for the Web environment using design thinking, prototyping, and human computer interaction tools.
- Set up secure digital assets management systems (DAM) working with metadata, workflow, taxonomy, data security, governance, and preservation of digital assets.
- Define, identify, control, manage, secure, and preserve electronic records and information including the management of records and information as operational, legal and historical evidence in electronic environments.
- Manage projects: people, timelines, resources, goals and outcomes.

Students will apply the above informatics skill set in one of three domains with an additional 9 units focused on health, sports, or cybersecurity/privacy.

However, the central set of knowledge and skills obtained in the foundation and skills courses can be applied to many different domains as graduates develop their careers.

For more information: http://ischool.sjsu.edu/programs/ms-informatics

Requirements for Admission to Classified Standing

Candidates must meet all university admissions requirements.

Applicants who meet the following requirements beyond university requirements will be considered for admission into the School of Information:

- A bachelor's degree from any regionally accredited institution in any discipline with a GPA of at least 2.8 at the bachelor's degree institution or in the last 60 semester or 90 quarter units.
- Skill with HTML5 and CSS3 - or updated standards -as demonstrated via class transcripts or work experience.
- The School requires that all students have computer access from home. See Home Computing Requirements.
- Applicants from countries in which the native language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirements webpage of GAPE.

Requirements for Admission to Conditional Classified Standing

The School of Information does not admit students on a conditional basis.

Requirements for Advancement to Graduate Candidacy

In order to achieve candidacy, students must meet the university requirements for candidacy. General university requirements for advancement to candidacy for the Informatics degree are detailed in the Graduate Policies and Procedures section of this catalog. Candidacy includes successful completion of the Graduation Writing Assessment Requirement (GWAR). For graduate courses that meet the GWAR, refer to the GWAR Course List on the College of Graduate Studies website.

Students must complete and submit the Petition for Advancement to Graduate Candidacy after completion of nine units and by the posted deadlines for the semester in which they plan to graduate.

Requirements for Graduation

University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures..

Special Session Program Information

Academic Programs offered through Special Session are operated by the College of Professional and Global Education (CPGE). Registration and enrollment in a Special Session course or program must use the special session application form and will follow special session fee and course schedules. Note that regular session students seeking to enroll simultaneously in a special session course or program will trigger a separate and additional set of fees. This may require an additional enrollment appointment from the Registrar and it may have implications for financial aid status or requirements. Please visit the CPGE website for more information.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

For Legend please see page 2

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CATALOG CONTENTS

Foundation and Skills		18
INFM 200. Informatics: Fundamentals	GWAR	3
INFM 201. Informatics: Technology Foundations		2
INFM 202. Informatics: Security Overview		1
INFM 203. Big Data analytics and Management		2
INFM 204. Human Centered Design		2
INFM 205. Informatics: Project Management		2
INFM 206. Electronic Records: Foundations		3
INFM 207. DAM: Digital Assets Management		2
INFM 208. Information Security: Info Assurance		1

Specialization Area		9

Specializations will be offered on a rotating basis: Health, Sports, Cybersecurity and Privacy

Health Specialization		
INFM 210. Health Informatics		3
INFM 213. Epidemiological Methods		3
INFM 214. Health Data and Analytics		3

Sports Specialization		
INFM 218. Sports Analytics		3
KIN 264. Sport Sociology		3
KIN 282. Marketing and Social Aspects of Sport		3

Cybersecurity and Privacy Specialization		
INFM 215. Network Security		3
INFM 216. Computer Digital Forensics		3
INFM 217. Tools Lab		3

Culminating Experience (Plan B only)		3
INFM 211. Organizational Consulting Project (OCP)		3

Total Units Required		30

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU cumulative grade point averages of 3.0 in order to graduate.

MLIS - Master of Library and Information Science (also offered in Special Session)

The San José State University (SJSU) School of Information prepares individuals for careers as information professionals. Graduates work in diverse areas of the information profession, such as user experience design, digital asset management, information architecture, electronic records management, information governance, digital preservation, and librarianship. The SJSU School of Information delivers all of its degrees and certificates fully online. It is a recognized leader in online education and received the Online Learning Consortium's Outstanding Online Program award.

For more information: ischool.sjsu.edu

Requirements for Admission to Classified Standing

Candidates must meet all university admissions requirements. Applicants who meet the following requirements beyond university requirements will be considered for admission into the School of Information:

- A bachelor's degree from any regionally accredited institution in any discipline with a GPA of at least 3.0 at the bachelor's degree institution or in the last 60 semester or 90 quarter units;
- A general understanding of computers and technology. See Technology Literacy Requirements;
- The School requires that all students have computer access from home. See Home Computing Requirements; and
- Applicants from countries in which the native language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirements webpage of GAPE.

Requirements for Admission to Conditionally Classified Standing

The School of Information does not admit students on a conditional basis.

Requirements for Advancement to Graduate Candidacy

In order to achieve candidacy, students must meet the university requirements for candidacy. General university requirements for advancement to candidacy for the MLIS degree are detailed in the Graduate Policies and Procedures section of this catalog. Candidacy includes successful completion of the Graduation Writing Assessment Requirement (GWAR). For graduate courses that meet the GWAR, refer to the GWAR Course List on the College of Graduate Studies website.

Students must complete and submit the Petition for Advancement to Graduate Candidacy after completion of nine units and by the posted deadlines for the semester in which they plan to graduate. For additional program requirements and submission instructions, refer to the MLIS Candidacy Approval Form Information website.

Requirements for Graduation

University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

Special Session Program Information

Academic Programs offered through Special Session are operated by the College of Professional and Global Education (CPGE). Registration and enrollment in a Special Session course or program must use the special session application form and will follow special session fee and course schedules. Note that regular session students seeking to enroll simultaneously in a special session course or program will trigger a separate and additional set of fees.

Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR). For information on the GWAR, please see http://info.sjsu.edu/gcw.html.

This requirement is satisfied by passing INFO 200.

Requirements of the Masters 43

Core Courses 13

INFO 200. Information Communities	GWAR	3
INFO 202. Information Retrieval System Design		3
INFO 203. Online Learning: Tools and Strategies		1
INFO 204. Information Professions		3
INFO 285. Applied Research Methods		1-4

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Electives 27

COMPLETE TWENTY-SEVEN UNITS FROM:

INFO 210. Reference and Information Services 3
INFO 220. Resources and Information Services in Professions and Disciplines 1-3
INFO 221. Government Information Sources 3
INFO 228. Advanced Information Resources and Services 3
INFO 230. Issues in Academic Libraries 3
INFO 231. Issues in Special Libraries and Information Centers 3
INFO 232. Issues in Public Libraries 3
INFO 233. School Library Media Centers 3
INFO 234. Intellectual Freedom Seminar 3
INFO 237. School Library Media Materials 3
INFO 240. Information Technology Tools and Applications 3
INFO 241. Automated Library Systems 3
INFO 242. Database Design and Management 3
INFO 243. Systems Analysis 3
INFO 244. Online Searching 3
INFO 245. Advanced Online Searching 3
INFO 246. Information Technology Tools and Applications - Advanced 1-3
INFO 247. Vocabulary Design 3
INFO 248. Beginning Cataloging and Classification 3
INFO 249. Advanced Cataloging and Classification 3
INFO 250. Design and Implementation of Instructional Strategies for Information Professionals 3
INFO 251. Web Usability 3
INFO 254. Information Literacy and Learning 3
INFO 256. Archives and Manuscripts 3
INFO 257. Records Management 3
INFO 259. Preservation Management 3
INFO 260. Resources for Children, Ages 0-6 3
INFO 261. Resources for Children, Ages 6-12 3
INFO 262. Resources for Young Adults 3
INFO 263. Materials for Children 3
INFO 264. Materials for Tweens 3
INFO 265. Materials for Young Adults Ages 3
INFO 266. Collection Management 3
INFO 267. Services to Youth 1-9
INFO 268. History of Youth Literature 3
INFO 269. Early Childhood Literacy 3
INFO 270. Intellectual Freedom and Youth 3
INFO 271A. Genres and Topics in Youth Literature 3
INFO 272. Authors and Illustrators in Youth Literature 3
INFO 275. Library Services for Racially and Ethnically Diverse Communities 3
INFO 280. History of Books and Libraries 3
INFO 281. Seminar in Contemporary Issues 1-3
INFO 282. Seminar in Library Management 1-3
INFO 283. Marketing of Information Products and Services 3
INFO 284. Seminar in Archives and Records Management 1-3
INFO 286. Interpersonal Communication Skills for Librarians 1-3
INFO 287. Seminar in Information Science 1-3
INFO 293. Introduction to Data Networking 3
INFO 294. Professional Experiences: Internships 2-4
INFO 295. School Library Field Work 3
INFO 298. Special Studies 1-3

Culminating Experience	3
COMPLETE ONE OPTION (PLAN A THESIS OR PLAN B PORTFOLIO):	
Plan A (Thesis)	
INFO 299. Thesis	3
Plan B (Portfolio)	
INFO 289. Advanced Topics in Library and Information Science	3
Total Units Required	**43**

Students can transfer up to 9 units subject to the School's transfer policies.

Elective courses must be planned in consultation with the Graduate Advisor

The maximum number of upper-division undergraduate units that can be applied toward the master's degree is 15.

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU cumulative grade point averages of 3.0 in order to graduate.

Culminating Experience

Plan A (Thesis)

The thesis must meet university requirements as stipulated in this catalog and in the SJSU Master's Thesis and Doctoral Dissertation Guidelines. It will be written under the guidance of the candidate's thesis committee chair with the assistance of the thesis committee.

Plan B (ePortfolio)

The e-Portfolio provides a program-based assessment to ensure that each student demonstrates mastery of all program learning outcomes for the MLIS degree before graduation. It requires students to select, document, and assemble evidence of their competence in a series of skill areas the faculty have deemed essential for entry-level professional performance.

Masters in Archives and Records Administration (Special Session Program)

The fully online Master of Archives and Records Administration (MARA) degree program at the San Jose State University School of Information prepares students for leadership positions in information governance and corporate archives.

With the convenient and fully online MARA program, students can live anywhere while they earn their graduate degrees. The master's program is delivered exclusively online via interactive online learning technology. The multimedia format enlivens the learning experience while introducing students to the same types of tools they'll use in their professional careers.

For more information: ischool.sjsu.edu

Requirements for Admission to Classified Standing

Candidates must meet all university admissions requirements. Applicants who meet the following requirements beyond university requirements will be considered for classified admission into the School of Information:

- A bachelor's degree from any regionally accredited institution in any discipline with a GPA of at least 3.0 at the bachelor's degree institution or in the last 60 semester or 90 quarter units;
- A general understanding of computers and technology. See Technology Literacy Requirements;
- The School requires that all students have computer access from home. See Home Computing Requirements}; and
- Applicants from countries in which the native language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirements webpage of GAPE.

Requirements for Admission to Conditionally Classified Standing

The School of Information does not admit students on a conditional basis.

Requirements for Advancement to Graduate Candidacy

In order to achieve candidacy, students must meet the university requirements for candidacy. General university requirements for advancement to candidacy for the MARA degree are detailed in the Graduate Policies and Procedures section of this catalog. Candidacy includes successful completion of the Graduation Writing Assessment Requirement (GWAR). For graduate courses that meet the GWAR, refer to the GWAR Course List on the College of Graduate Studies website.

Students must complete and submit the Petition for Advancement to Graduate Candidacy after completion of nine units and by the posted deadlines for the semester in which they plan to graduate. For additional program requirements and submission instructions, refer to the MARA Candidacy Approval Form Information website.

Requirements for Graduation

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

Special Session Program Information

Academic Programs offered through Special Session are operated by the College of Professional and Global Education (CPGE). Registration and enrollment in a Special Session course or program must use the special session application form and will follow special session fee and course schedules. Note that regular session students seeking to enroll simultaneously in a special session course or program will trigger a separate and additional set of fees.

Requirements of the Masters	42
Core Courses	**30**
MARA 200. Record and Recordkeeping Professions GWAR	3
MARA 204. Management of Records and Archival Institutions	3
MARA 210. Records Creation, Appraisal and Retention	3
MARA 211. Records Access, Storage and Retrieval	3
MARA 249. Electronic Recordkeeping Systems and Issues in Electronic Recordkeeping	3
MARA 283. Enterprise Content Management and Digital Preservation	3
MARA 284. Seminar in Archives and Records Management *Students take MARA 284 twice with different content*	3
MARA 285. Research Methods in Records Management and Archival Science	3

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

COMPLETE ONE COURSE FROM:

MARA 294. Professional Experience - Internships 3
MARA 295. Organizational Consulting Project (OCP) 3

Students take MARA 294 unless they petition the MARA coordinator and receive permission to substitute MARA 295 or an MLIS/MARA elective

Electives **9**

COMPLETE NINE UNITS FROM:

INFO 202. Information Retrieval System Design 3
INFO 220. Resources and Information Services in Professions and Disciplines 1-3
INFO 240. Information Technology Tools and Applications 3
INFO 242. Database Design and Management 3
INFO 246. Information Technology Tools and Applications - Advanced 1-3
INFO 247. Vocabulary Design 3
INFO 248. Beginning Cataloging and Classification 3
INFO 251. Web Usability 3
INFO 256. Archives and Manuscripts 3
INFO 259. Preservation Management 3
INFO 280. History of Books and Libraries 3
INFO 281. Seminar in Contemporary Issues 1-3
INFO 282. Seminar in Library Management 1-3
INFO 284. Seminar in Archives and Records Management 1-3
INFO 287. Seminar in Information Science 1-3
INFO 298. Special Studies 1-3

Culminating Experience (Plan B only) **3**

MARA 289. Advanced Topics in Archives and Records Administration (ePortfolio) 3

Total Units Required **42**

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU cumulative grade point averages of 3.0 in order to graduate.

Interdisciplinary Studies

Graduate Studies

ADMINISTRATION BUILDING, ROOM 145
408-924-2484
www.sjsu.edu/cgs

Curricula

MA, Interdisciplinary Studies
MS, Interdisciplinary Studies

Introduction

The Interdisciplinary Studies master's program for either an MA or MS provides an alternative for individuals whose desired plan of study does not fit into the degree offerings of any single existing graduate degree program on campus.

More information about the program can be found on the College of Graduate Studies website at www.sjsu.edu/cgs.

Applying to the Interdisciplinary Masters

The Interdisciplinary Studies master's program for either an MA or MS provides an alternative for individuals whose desired plan of study does not fit into the degree offerings of any single existing graduate degree program on campus.

More information about the program can be found on the College of Graduate Studies website.

Admissions Requirements

Candidates apply separately to the university to obtain approval for university-level admission and to the College of Graduate Studies for admission to the Interdisciplinary Studies program. Candidates must meet all university admissions requirements. They must also satisfy programmatic requirements, including a minimum 3.25 GPA in the last 60 semester units of post-secondary academic work. In addition, they must complete a programmatic application, separate from the university application, found in the Interdisciplinary Studies Guide, available at http://www.sjsu.edu/cgs/docs/interdisciplinary_studies_guide.pdf. In brief, the application includes the signature of a tenured or tenure-track faculty member from San Jose State who agrees to chair the master's committee of the student. Approval of the proposed curriculum, periodic advice, and supervision of the student's research and culminating report (usually a thesis) are expected of the faculty mentor. A summary of the proposed research and reasons for the appropriateness of the Interdisciplinary Studies program are also needed in advance of a positive admissions decision. Once the application is completed, it should be sent to the Associate Dean (AD) of Graduate Studies, who will make the final admissions decision.

Applicants from countries in which the official language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirements webpage at GAPE.

Requirements for Advancement to Graduate Candidacy

General university requirements for advancement to candidacy for the Interdisciplinary Studies master's degree are detailed in the Graduate Policies and Procedures section of this catalog. Candidacy includes successful completion of the Graduation Writing Assessment Requirement (GWAR). For graduate courses that meet the GWAR, refer to the GWAR Course List on the College of Graduate Studies website.

Requirements for Graduation

University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

MA or MS - Interdisciplinary Studies Graduation Requirements

The program consists of an individualized program of 30 units in classes taken from at least two different departments; a minimum of half of the units must be in graduate-level classes. Prerequisite classes must be taken in excess of the 30 unit total. The program may be Plan A (thesis), Plan B (project, but under highly restricted circumstances), or Plan C (creative project). All courses must be approved by the AD of Graduate Studies. The culminating report must be approved by the student's master's committee and by the College of Graduate Studies Associate Dean.

Jewish Studies Program

College of Social Sciences

DUDLEY MOORHEAD HALL 134
408-924-5500 (Voice)
408-924-5531 (Fax)
www.sjsu.edu/jwss/

Professors

Jonathan P. Roth
Mary Warner

Assistant Professors

Brent Walters

Other Faculty

Ignatz Ayzenberg, Director
Victoria Harrison
Rina Katzen

Curricula

Minor, Jewish Studies

Introduction

In the Jewish Studies Program, students explore Jewish and Israeli culture, history, literature, religion, politics, philosophy, languages, and art. The curriculum fosters critical thinking within and across disciplines and, as is true with any good learning, seeks to enable students to make the leap from knowledge to commitment and action. An interdepartmental minor in Jewish studies includes courses offered by six departments within the College of Humanities and Arts and the College of Social Sciences: the Departments of History, Religious Studies, English and Comparative Literatures, Foreign Languages, Art History, Political Science, Geography and Global Studies. Scholarships are awarded each semester to outstanding students enrolled in the Jewish studies minor program.

Minor - Jewish Studies

This degree is listed with the History Department.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Journalism and Mass Communications

College of Humanities and the Arts

DWIGHT BENTEL HALL 105
408-924-3240 (Voice)
408-924-3229 (Fax)

Professors

Richard Craig
Scott Fosdick
Diana Stover
Phylis West-Johnson, Director

Associate Professors

Mathew Cabot
Duane Michael Cheers
John Delacruz
Diane Guerrazzi
Timothy Hendrick
Robert Rucker

Assistant Professors

Shaun Fletcher
Nisha Garud-Patkar
Tina Korani
Cathy Zongchao Li

Curricula

BS, Advertising
BS, Journalism
BS, Public Relations
Minor, Advertising
Minor, Journalism
Minor, Public Relations
MS, Mass Communication

Introduction

Founded in 1936, the School of Journalism and Mass Communications is the largest school of its kind in Northern California. In 2012, the journalism program was ranked among the top two in California, and the top 50 in the U.S. It is also nationally accredited by the Accrediting Council on Education in Journalism and Mass Communications (ACEJMC). We offer undergraduate degrees in advertising, convergence journalism and public relations, and a master's degree in mass communications. Timely, ethical and responsible visual storytelling utilizing new technologies is the focus in all our degree programs. We offer students access to scholarships, regional and global internships, and competitive prizes unavailable to students in non-accredited programs. Our faculty are experienced multimedia journalists, photographers, writers, graphics designers and advertising, public relations, and social media executives. Our graduates have won six Pulitzer Prizes and excelled in careers as online content producers, publishers, editors, news directors, and communication executives.

Students who wish to change their major at SJSU to one of those offered in the JMC School must fulfill department-specific coursework and GPA requirements as specified on the department website.

Honors Program

Majors with a 3.2 GPA overall and a 3.5 GPA in advertising, journalism, or public relations at the end of their junior year (at least 90 units completed of which 30 are in the major) are eligible to apply for the Honors Program in the School of Journalism and Mass Communications. Application must be made to the Director of the School no later than the first semester of the senior year. The School will limit those admitted to the Honors Program each year to no more than 10 percent of the number of its graduates in the previous academic year. Once admitted to the Honors Program, students must maintain at least a 3.2 GPA overall and at least a 3.5 GPA in their major. They must take a graduate-level seminar that has been approved by the graduate coordinator. To receive honors, students, as part of the seminar requirements, must complete and present a seminar paper and must receive a 3.0 or better grade in the course.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

For Legend please see page 2

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CATALOG CONTENTS

BS - Advertising

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

Journalism and Mass Communication International Experience Requirement

To satisfy the Journalism and Mass Communication Department international requirement, students must study abroad for at least nine days in an approved program (exemption from the study abroad portion of the requirement must be approved by the dean of the College of Applied Sciences and Arts based on compelling individual life experiences or physical limitations. A relevant cross-cultural experience in the U.S. will be substituted). Specific details can be found on the college website at http://www.sjsu.edu/chahs/international-experience/.

University Graduation Requirements 47

Core Lower Division General Education 30

Of the 39 units required by the university, 9 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

Upper Division General Education 9

Of the 9 units required by the university, 0 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 6

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

COMPLETE ONE SEQUENCE FROM:

African American Studies **6**

AFAM 002A. African Americans and the Development of America's History and Government	D2	3
AFAM 002B. African Americans and the Development of America's History and Government	M7	3

Asian American Studies **6**

AAS 033A. Asian Americans in U.S. History I	D2	3
AAS 033B. Asian Americans in U.S. History II	M7	3

U.S. History and Government **6**

HIST 015. Essentials of U.S. History	M12	3
POLS 015. Essentials of U.S. & California Government	M11	3

Chicana and Chicano Studies **6**

CCS 010A. Mexican Americans and the Development of U.S. History and Government	D2	3
CCS 010B. Mexican Americans and the Development of U.S. History and Government	M7	3

Physical Education 2

Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Requirements of the Major 56-61

College International Experience 1-6

In consultation with advisor, select an International Experience course that is followed by -ITL.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Core Courses		28
ADV 091. Introduction to Advertising		3
ADV 121. Strategic Planning/Communications		3
ADV 128. Integrated Marketing Communications (IMC)		3
ADV 129. Advertising Campaign Planning and Management		3
MCOM 199 substitutes for MCOM 111 and ADV 129 by invitation.		
MCOM 070. Visual Communication for Modern Media		3
MCOM 100W. Writing Workshop: Mass Communications	Z	3
MCOM 104. Introduction to Mass Communications Research		3
MCOM 111. Internship		3
MCOM 170. Strategic Social Media & Digital Marketing		3
Approved elective in journalism, advertising, public relations or mass communications		1

Track Option Requirements		27
Choose Management, Creative or MarComm Track		

Creative Option		27
ENGL 071. Creative Writing	C2	3
ADV 093. Design Fundamentals for Advertising 1		3
ADV 094. Design Fundamentals for Advertising 2		3
ADV 095. Working With Type		3
ADV 124. Copywriting		3
ADV 126. Media Planning and Buying		3
ADV 130. Advertising Portfolio 1		3
ADV 131. Advertising Portfolio 2		3
ADV 132. UX UI Design for Advertising		3

Management Option		27
ADV 122. Business-to-Business Advertising		3
ADV 123. Broadcast and New Media Advertising		3
ADV 126. Media Planning and Buying		3
BUS2 130. Introduction to Marketing		3
BUS5 146. Fundamentals of Project Management		3
MCOM 063. New Media		3
MCOM 175. Social Media and Web Analytics		3
STAT 095. Elementary Statistics	B4	3
UNVS 015F and UNVS 015S may be used in lieu of the statistics course required by this major.		
COMPLETE ONE COURSE FROM:		
ADV 116. Spartan Daily Advertising Staff		3
Advertising Management Elective		3

MarCom Option		27
ADV 126. Media Planning and Buying		3
BUS2 130. Introduction to Marketing		3
BUS5 146. Fundamentals of Project Management		3
MCOM 063. New Media		3
MCOM 175. Social Media and Web Analytics		3
PR 099. Introduction to Public Relations		3
PR 190. Media and Influencer Relations		3
PR 191. Strategic Content Creation		3
STAT 095. Elementary Statistics	B4	3

University Electives	12-17
Total Units Required	**120**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

BS - Journalism

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

Journalism and Mass Communication International Experience Requirement

To satisfy the Journalism and Mass Communication Department international requirement, students must study abroad for at least nine days in an approved program (exemption from the study abroad portion of the requirement must be approved by the dean of the College of Applied Sciences and Arts based on compelling individual life experiences or physical limitations. A relevant cross-cultural experience in the U.S. will be substituted). Specific details can be found on the college website at http://www.sjsu.edu/chahs/international-experience/.

University Graduation Requirements 47

Core Lower Division General Education 30

Of the 39 units required by the university, 9 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

Upper Division General Education 9

Of the 9 units required by the university, 0 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 6

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

COMPLETE ONE SEQUENCE FROM:

African American Studies 6

AFAM 002A. African Americans and the Development of America's History and Government	D2	3
AFAM 002B. African Americans and the Development of America's History and Government	M7	3

Asian American Studies 6

AAS 033A. Asian Americans in U.S. History I	D2	3
AAS 033B. Asian Americans in U.S. History II	M7	3

U.S. History and Government 6

HIST 015. Essentials of U.S. History	M12	3
POLS 015. Essentials of U.S. & California Government	M11	3

Chicana and Chicano Studies 6

CCS 010A. Mexican Americans and the Development of U.S. History and Government	D2	3
CCS 010B. Mexican Americans and the Development of U.S. History and Government	M7	3

Physical Education 2

Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

Preparation for the Major 15

JOUR 050. Navigating the News	D1	3
MCOM 063. New Media		3
MCOM 072. Mass Communication and Society	D3	3
MCOM 100W. Writing Workshop: Mass Communications	Z	3
MCOM 163. Advanced New Media Technologies		3

Requirements of the Major 34-39

College International Experience 0-3

In consultation with advisor, select an International Experience course or a Study Abroad program.

Core Courses 30

JOUR 061. Writing for Print, Electronic and Online Media	3
JOUR 095. Beginning Digital News Photography	3
JOUR 130. Student Media Apprentice	3
JOUR 132. Magazine Reporting, Print and Online	3
JOUR 133. Editing and News Management	3
MCOM 101. Media Law and Ethics	3
MCOM 111. Internship	3

COMPLETE ONE COURSE FROM:

MCOM 104. Introduction to Mass Communications Research	3
MCOM 105. Lifestyles, Diversity and the Media	3
MCOM 106. Global Mass Communication	3

COMPLETE TWO COURSES FROM:

One course must be JOUR 140A, B, C, or D. All courses are repeatable for credit.

JOUR 140A. Student Media Production: Update News	3
JOUR 140B. Student Media Production: Spartan Daily	3
JOUR 140C. Student Media Production: The Spear	3
JOUR 140D. Student Media Production: Magazine	3
JOUR 150. News Media Management	3

Upper Division Journalism Electives 4-6

COMPLETE 4 UNITS FROM:

JOUR 136. Newspaper and Magazine Design	3
JOUR 140A. Student Media Production: Update News	3
JOUR 140B. Student Media Production: Spartan Daily	3
JOUR 140C. Student Media Production: The Spear	3
JOUR 140D. Student Media Production: Magazine	3
JOUR 142. Beginning Visual Journalism for Print/Electronic Media	3
JOUR 150. News Media Management	3
JOUR 167. Television News Magazine	3
JOUR 176A. Documentary Unit I - Short Form Feature Production	3
JOUR 176B. Documentary Unit II - Long Form/Series Production	3
MCOM 070. Visual Communication for Modern Media	3
MCOM 105. Lifestyles, Diversity and the Media	3
MCOM 106. Global Mass Communication	3
MCOM 107. Audio Podcasting, Aesthetics and Invention	3
MCOM 108. Virtual Worlds, Virtual Reality and Mass Media	3
MCOM 139. Specialized Writing	3
MCOM 180. Independent Study	1-3
MCOM 180ITL. JMC International Experience	1-3

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Advisor Approved Academic Focus or Minor	**18**

COMPLETE AN ADVISOR-APPROVED ACADEMIC FOCUS OR 18 UNITS CONSISTING OF A MINOR WITH APPROVED COURSES.

Academic foci include: Science, Justice Studies, Human Rights, Sports Journalism, or Visual Journalism & News Documentary. Must include at least 6 units of upper division.

University Electives	1-6
Total Units Required	**120**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

BS - Public Relations

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

Journalism and Mass Communication International Experience Requirement

To satisfy the Journalism and Mass Communication Department international requirement, students must study abroad for at least nine days in an approved program (exemption from the study abroad portion of the requirement must be approved by the dean of the College of Applied Sciences and Arts based on compelling individual life experiences or physical limitations. A relevant cross-cultural experience in the U.S. will be substituted). Specific details can be found on the college website at http://www.sjsu.edu/chahs/international-experience/.

University Graduation Requirements 50

Core Lower Division General Education 33

Of the 39 units required by the university, 6 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

Upper Division General Education 9

Of the 9 units required by the university, 0 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 6

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

COMPLETE ONE SEQUENCE FROM:

African American Studies **6**

AFAM 002A. African Americans and the Development of America's History and Government	D2	3
AFAM 002B. African Americans and the Development of America's History and Government	M7	3

Asian American Studies **6**

AAS 033A. Asian Americans in U.S. History I	D2	3
AAS 033B. Asian Americans in U.S. History II	M7	3

U.S. History and Government **6**

HIST 015. Essentials of U.S. History	M12	3
POLS 015. Essentials of U.S. & California Government	M11	3

Chicana and Chicano Studies **6**

CCS 010A. Mexican Americans and the Development of U.S. History and Government	D2	3
CCS 010B. Mexican Americans and the Development of U.S. History and Government	M7	3

Physical Education 2

Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Preparation for the Major		**22**
BUS2 130. Introduction to Marketing		3
COMM 144F. Organizational Communication		4
MCOM 063. New Media		3
Academic focus in an academic department with approval of school academic advisor		12
Requirements of the Major		**41-46**
MCOM 072. Mass Communication and Society	D3	3
MCOM 100W. Writing Workshop: Mass Communications	Z	3
MCOM 101. Media Law and Ethics		3
MCOM 104. Introduction to Mass Communications Research		3
MCOM 111. Internship		3
JOUR 061. Writing for Print, Electronic and Online Media		3
PR 099. Introduction to Public Relations		3
PR 190. Media and Influencer Relations		3
PR 191. Strategic Content Creation		3
PR 192. Case Studies in Strategic Communication		3
PR 199. Campaign Planning and Management		3
MCOM 199 substitutes for MCOM 111 and PR 199 by invitation.		
Approved electives in journalism, advertising, public relations or mass communications		4
COMPLETE ONE COURSE FROM:		
MCOM 070. Visual Communication for Modern Media		3
MCOM 105. Lifestyles, Diversity and the Media		3
MCOM 106. Global Mass Communication		3
College International Experience		**1-6**
In consultation with advisor, select an International Experience course that is followed by -ITL.		
University Electives		**2-7**
Total Units Required		**120**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

Minor - Advertising

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Requirements of the Minor	18
ADV 091. Introduction to Advertising	3
ADV 128. Integrated Marketing Communications (IMC)	3
ADV 129. Advertising Campaign Planning and Management	3
COMPLETE THREE COURSES FROM:	
ADV 116. Spartan Daily Advertising Staff	3
ADV 121. Strategic Planning/Communications	3
ADV 122. Business-to-Business Advertising	3
ADV 123. Broadcast and New Media Advertising	3
ADV 124. Copywriting	3
ADV 125. Advertising Layout and Production	3
ADV 126. Media Planning and Buying	3
Total Units Required	**18**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

Minor - Journalism

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Requirements of the Minor		17-21
MCOM 063. New Media		3
MCOM 072. Mass Communication and Society	D3	3
JOUR 061. Writing for Print, Electronic and Online Media		3
JOUR 132. Magazine Reporting, Print and Online		3
JOUR 140B. Student Media Production: Spartan Daily		1-3
JOUR 140A. Student Media Production: Update News		1-3
Upper Division ADV/JOUR/PR/MCOM Elective		3
Total Units Required		**17-21**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

Minor - Public Relations

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Requirements of the Minor		18
MCOM 072. Mass Communication and Society	D3	3
JOUR 061. Writing for Print, Electronic and Online Media		3
PR 099. Introduction to Public Relations		3
PR 192. Case Studies in Strategic Communication		3
COMPLETE ONE COURSE FROM:		
PR 190. Media and Influencer Relations		3
PR 191. Strategic Content Creation		3
Approved electives in journalism, advertising, public relations or mass communications		3
Total Units Required		**18**

MS - Mass Communications

The School of Journalism and Mass Communications offers a 30-unit, four-semester Master of Science in Mass Communications degree program that culminates with a professional standard project. The curriculum was designed to help students master the concepts and skills that are driving emerging communication technologies in public relations, advertising and journalism. Elective units allow students to tailor the program to their interests.

Information about the Master of Science in Mass Communications is available on the website of the School of Journalism and Mass Communications: https://sjsujmc.com/programs/graduate/masters-in-mass-communications/

Admission Requirements

University Admissions

Applicants must submit a complete graduate application by applying through the CSU Cal State Apply system at calstate.edu/apply and meet all the university admission requirements. Applications meeting university graduate admission standards will be reviewed by the School of Journalism and Mass Communications. See the GAPE Graduate Admissions website and this Catalog for general information about graduate admissions at SJSU.

Applicants from countries in which the native language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirements webpage at GAPE. For TOEFL Requirements, see the Policies and Procedures section, Graduate and Post-Baccalaureate Information in this Catalog.

Requirements for Admission to Classified Standing

The School admits students in the fall semester only. Applicants are responsible for obtaining information on admissions criteria and deadlines from the JMC School Graduate Coordinator or the main school office.

To be admitted to the program a prospective student must:

1. Complete an application for admission to the university, submit required transcripts and pay the required application fees.
2. Complete a 250-500 word essay on the applicant's career objectives and upload it on the same application site as above;
3. Obtain two letters of recommendation from current or former professors and/or employers who can testify to the candidate's ability to pursue an advanced academic degree. These letters should be sent directly to the Graduate Coordinator of the program. At least one recommendation letter must be from a current or former professor unless the applicant has not taken any courses during the previous five years;
4. Foreign students must score at least 600 on the TOEFL and must demonstrate English proficiency in a written essay; and
5. Grade point averages are given considerable weight in evaluating applications, but are not the sole criterion. An applicant should have an average of 3.0 or better (3.3 for foreign students) in the last two years of undergraduate study and the undergraduate major. Exceptions may be made for applicants if the candidate has had significant professional experience in the mass media, offers strong letters of recommendation or other evidence indicating a potential for success in graduate study.

Applicants must meet requirements for graduate admission; however, no particular specialization in undergraduate work is required of a candidate.

Requirements for Admission to Candidacy

To be admitted to candidacy for the Master of Science degree, a student must first meet all university requirements for the degree as stated in this catalog. The University requires that all graduate students complete the Graduation Writing Assessment Requirement (GWAR) as a condition for advancement to candidacy. That requirement is met by taking MCOM 210 (a required course in the program).

The student must demonstrate an aptitude for advanced work in communications, as measured by instructor appraisals, evaluation of previous academic work, recommendations by qualified professionals or other assessments.

The student will meet with the graduate coordinator to develop a formal course of study. The MS degree-approved program will be individually designed to meet the specific objectives of each student. It will take into consideration the nature of previous undergraduate work and post-graduate work completed, as well as any professional and related occupational experience. The proposed graduate course of study must be approved by the graduate coordinator before the student may be considered a candidate for the MS, Mass Communications.

Requirements for Graduation

University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

In consultation with the department graduate coordinator, the candidate will develop and pursue a program of study. The candidate must successfully complete all requirements of the selected plan including the course work specified in the Master's Degree Approval Program.

Culminating Experience

All students in this program follow Plan B (Project) for their culminating experience.

Plan B (Project)

Plan B requires successful completion of a professionally-oriented project employing multiple media and an oral presentation to a faculty-student audience. Projects should reflect the values of journalism, advertising, or public relations. Projects are designed and completed in a two-semester sequence.

Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR). For information on the GWAR, please see http://info.sjsu.edu/gcw.html.

Requirements of the Masters 30

Core Courses 15

MCOM 210. Media and Social Issues	GWAR	3
MCOM 215. New Media Visionaries		3
MCOM 284. Advanced User Experience		3
MCOM 285. Web Design and Development		3
MCOM 295. Mass Communications Research		3

Electives 9

Nine units of electives approved by graduate advisor. 100- or 200-level courses in the School or other departments, related to the candidate's career objective and culminating experience topic.

Culminating Experience 6

Plan B (Project)

MCOM 298A. Master's Project I	3
MCOM 298B. Master's Project II	3

Students take 3 units of MCOM 298A and MCOM 298B in consecutive semesters.

Total Units Required 30

Elective courses must be planned in consultation with the Graduate Advisor.

The maximum number of upper-division undergraduate units that can be applied toward the master's degree is 15.

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU Cumulative grade point averages of 3.0 in order to graduate.

Justice Studies Department

College of Health and Human Sciences

MACQUARRIE HALL 524
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408-924-2953 (Fax)
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Professors

Yoko Baba
Alessandro De Giorgi
James Lee, Chair
Steven Lee, Forensic Science Program Coordinator

Associate Professors

Christopher Hebert, Undergraduate Coordinator
Sang Hea Kil
Claudio Vera Sanchez, Program Coordinator

Assistant Professors

Ericka Adams, Graduate Coordinator
Sambuddha Ghatak, Human Rights Coordinator
Edith Kinney, Legal Studies Coordinator
Bryce Westlake, International Experience and Internship Coordinator
Yue (Wilson) Yuan

Curricula

BS, Justice Studies
BS, Justice Studies, Concentration in Criminology
BS, Forensic Science, Concentration in Biology
BS, Forensic Science, Concentration in Chemistry
Minor, Forensic Studies
Minor, Human Rights
Minor, Justice Studies
Minor, Legal Studies
Certificate, Collaborative Response to Family Violence (Special Session Program)
MS, Justice Studies
MS, Criminology, Concentration in Global Criminology(Special Session Program)

Introduction

Since 1930, the Department of Justice Studies has developed, promoted and fostered social justice and empowered communities. In an ever-changing social, political and economic environment, we remain committed to academic excellence, social activism and policy relevant research. We offer BS and MS degrees in justice studies, a BS in forensic science and minors in justice studies,forensic studies, an MS in Criminology, legal studies and human rights. Among other topics, our widely regarded faculty conduct research in the areas of human rights, immigration, violence against women, sex offender behavior, family violence, and DNA profiling. Student groups and clubs include Alpha Phi Sigma, Chi Pi Sigma and the Forensic Science Club. Our graduates work in a multitude of settings including probation, parole, corrections, law enforcement, crime labs, and nonprofit agencies, or they continue their education in law school or other graduate programs.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

BS - Justice Studies

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

Major-Specific Graduation Requirements

All courses in the Preparation and Requirements for the major (all courses in preparation, core, and concentration/specialization) must be completed with a grade of "C or better".

Justice Studies International Experience Requirement

To satisfy the Justice Studies Department international requirement, students must study abroad for at least nine days in an approved program (exemption from the study abroad portion of the requirement must be approved by the dean of the College of Applied Sciences and Arts based on compelling individual life experiences or physical limitations. A relevant cross-cultural experience in the U.S. will be substituted). Specific details can be found on the college website at http://www.sjsu.edu/chahs/international-experience/.

University Graduation Requirements 41

Core Lower Division General Education 30

Of the 39 units required by the university, 9 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

NOTE: STUDENTS WHO HAVE COMPLETED THE ADT TRANSFER DEGREE (UNDER SB 1440) FOR THIS MAJOR WILL HAVE COMPLETED ALL LOWER DIVISION GE REQUIREMENTS AND SHOULD FOLLOW THE 60 UNIT GUARANTEE ROADMAP. MEET WITH AN ADVISOR PRIOR TO REGISTERING FOR YOUR FIRST SEMESTER FOR THE 60 UNIT ROADMAP OR SPECIFIC QUESTIONS.

Upper Division General Education 3

Of the 9 units required by the university, 6 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 6

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

COMPLETE ONE SEQUENCE FROM:

African American Studies 6

AFAM 002A. African Americans and the Development of America's History and Government	D2	3
AFAM 002B. African Americans and the Development of America's History and Government	M7	3

Asian American Studies 6

AAS 033A. Asian Americans in U.S. History I	D2	3
AAS 033B. Asian Americans in U.S. History II	M7	3

U.S. History and Government 6

HIST 015. Essentials of U.S. History	M12	3
POLS 015. Essentials of U.S. & California Government	M11	3

Chicana and Chicano Studies 6

CCS 010A. Mexican Americans and the Development of U.S. History and Government	D2	3
CCS 010B. Mexican Americans and the Development of U.S. History and Government	M7	3

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Physical Education 2

Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Preparation for the Major 6

COMPLETE ONE COURSE FROM:

FS 011. Survey of Forensic Science 3
JS 010. Introduction to Justice Studies 3
JS 012. Introduction to Legal Studies 3
JS 025. Introduction to Human Rights and Justice D3 3

COMPLETE ONE COURSE FROM:

JS 015. Introductory Statistics in Justice Studies B4 3
STAT 095. Elementary Statistics B4 3

UNVS 015F and UNVS 015S may be used in lieu of the statistics course required by this major.

Requirements of the Major 45-48

College International Experience 0-3

In consultation with advisor, select an International Experience course that is followed by -ITL.

Justice Studies Core 15

JS 100W. Writing Workshop ..... Z 3
JS 114. Research Methods in Justice Studies 3
JS 151. Criminological Theory 3

COMPLETE ONE COURSE FROM:

JS 181. Internship: Justice Studies 3
JS 141. Record Clearance Project Representation 3

COMPLETE ONE COURSE FROM:

JS 189. Senior Seminar: Contemporary Problems 3
FS 169. FS Senior Sem : Studies in Contemporary FS Issues 3

Required Courses 6

JS 101. Critical Issues and Ideas in Justice 3
JS 102. Police and Society 3

Additional Courses 24

Students must complete 24 units from the following areas

Area A: Theory Courses 6-9

COMPLETE SIX TO NINE UNITS FROM:

JS 103. Courts and Society 3
JS 104. Penal Politics & Institutions 3
JS 132. Race, Gender, Inequality and the Law ..... S 3
JS 153. Crime and Justice Across the Life Course 3
JS 155. Victimology 3
JS 157. Deviance and Justice 3
JS 185. Special Topics in Law and Justice 3

When topic area is offered.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Area B: Methodology Courses **3-6**

COMPLETE THREE TO SIX UNITS FROM:

JS 107. Justice Management and Ethics 3
JS 117. Qualitative Research Methods 3
JS 131. Crisis Intervention, Mediation and Restorative Justice 3
JS 143. Criminal Evidence and Procedure 3
JS 185. Special Topics in Law and Justice 3
When topic area is offered.

FS 161. Crime Scene Investigation 3
FS 162. Forensic Science Applications 3

Area C: Critical Inquiry Courses **3-6**

COMPLETE THREE TO SIX UNITS FROM:

JS 122. Drugs and Society 3
JS 128. Punishment, Culture and Society 3
JS 130. Sexuality & Justice 3
JS 136. Family and Community Violence ..... S 3
JS 144. Criminal Law 3
JS 150. Gender and Crime 3
JS 152. Juvenile Delinquency & Justice 3
JS 185. Special Topics in Law and Justice 3
When topic area is offered.

Area D: Local, Transnational, Historical Courses **3-6**

COMPLETE THREE TO SIX UNITS FROM:

JS 121. Media and Justice 3
JS 123. Terrorism, Intelligence, and Security 3
JS 127. Immigration and Justice 3
JS 129. International Crime and Deviance 3
JS 137. Collaborative Response to Family Violence 3
JS 145. White Collar Crime 3
JS 156. Gangs, Criminal Syndicates & Justice 3
JS 158. The Prison Community 3
JS 161. Introduction to Cybercrime 3
JS 171. Human Rights and Justice ..... V 3
JS 172. Human Trafficking and Modern Day Slavery 3
JS 185. Special Topics in Law and Justice 3
When topic area is offered.

Area E: Experiential Learning Courses **0-6**

COMPLETE UP TO SIX UNITS FROM:

JS 140. Record Clearance Project 3
JS 142. RCP - Advanced Study and Comm Involvement 3
JS 179. Human Rights Practicum and Seminar 3
JS 180. Individual Studies 1-3
JS 181. Internship: Justice Studies 3
JS 181 may be taken again for elective credit.

JS 184. Directed Reading 1-3

University Electives **25-28**

A minor is strongly recommended

Total Units Required **120**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

BS - Justice Studies, Concentration in Criminology

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

Major-Specific Graduation Requirements

All courses in the Preparation and Requirements for the major (all courses in preparation, core, and concentration/specialization) must be completed with a grade of "C or better".

Justice Studies International Experience Requirement

To satisfy the Justice Studies Department international requirement, students must study abroad for at least nine days in an approved program (exemption from the study abroad portion of the requirement must be approved by the dean of the College of Applied Sciences and Arts based on compelling individual life experiences or physical limitations. A relevant cross-cultural experience in the U.S. will be substituted). Specific details can be found on the college website at http://www.sjsu.edu/chahs/international-experience/.

University Graduation Requirements 44

Core Lower Division General Education 30

Of the 39 units required by the university, 9 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

NOTE: STUDENTS WHO HAVE COMPLETED THE ADT TRANSFER DEGREE (UNDER SB 1440) FOR THIS MAJOR WILL HAVE COMPLETED ALL LOWER DIVISION GE REQUIREMENTS AND SHOULD FOLLOW THE 60 UNIT GUARANTEE ROADMAP. MEET WITH AN ADVISOR PRIOR TO REGISTERING FOR YOUR FIRST SEMESTER FOR THE 60 UNIT ROADMAP OR SPECIFIC QUESTIONS.

Upper Division General Education 6

Of the 9 units required by the university, 3 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 6

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

COMPLETE ONE SEQUENCE FROM:

African American Studies 6

AFAM 002A. African Americans and the Development of America's History and Government	D2	3
AFAM 002B. African Americans and the Development of America's History and Government	M7	3

Asian American Studies 6

AAS 033A. Asian Americans in U.S. History I	D2	3
AAS 033B. Asian Americans in U.S. History II	M7	3

U.S. History and Government 6

HIST 015. Essentials of U.S. History	M12	3
POLS 015. Essentials of U.S. & California Government	M11	3

Chicana and Chicano Studies 6

CCS 010A. Mexican Americans and the Development of U.S. History and Government	D2	3
CCS 010B. Mexican Americans and the Development of U.S. History and Government	M7	3

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Physical Education 2

Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Preparation for the Major 6

COMPLETE ONE COURSE FROM:

FS 011. Survey of Forensic Science 3
JS 010. Introduction to Justice Studies 3
JS 012. Introduction to Legal Studies 3
JS 025. Introduction to Human Rights and Justice D3 3

COMPLETE ONE COURSE FROM:

JS 015. Introductory Statistics in Justice Studies B4 3
STAT 095. Elementary Statistics B4 3

UNVS 015F and UNVS 015S may be used in lieu of the statistics course required by this major.

Requirements of the Major 45-48

College International Experience 0-3

In consultation with advisor, select an International Experience course that is followed by -ITL.

Justice Studies Core 15

JS 100W. Writing Workshop ..... Z 3
JS 114. Research Methods in Justice Studies 3
JS 151. Criminological Theory 3
JS 181. Internship: Justice Studies 3
JS 189. Senior Seminar: Contemporary Problems 3

Concentration Required Courses 30

Students must complete 30 units from the following areas

Area A: Theory Courses 3

COMPLETE THREE UNITS FROM:

JS 132. Race, Gender, Inequality and the Law ..... S 3
JS 153. Crime and Justice Across the Life Course 3
JS 155. Victimology 3
JS 157. Deviance and Justice 3
JS 185. Special Topics in Law and Justice 3
When topic area is offered.

Area B: Methodology Courses 3

JS 117. Qualitative Research Methods 3

Area C: Critical Inquiry Courses 12

COMPLETE TWELVE UNITS FROM:

JS 122. Drugs and Society 3
JS 130. Sexuality & Justice 3
JS 136. Family and Community Violence ..... S 3
JS 150. Gender and Crime 3
JS 152. Juvenile Delinquency & Justice 3
JS 185. Special Topics in Law and Justice 3
When topic area is offered.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Area D: Local, Transnational, Historical Courses **12**

COMPLETE TWELVE UNITS FROM:

JS 121. Media and Justice 3
JS 123. Terrorism, Intelligence, and Security 3
JS 129. International Crime and Deviance 3
JS 145. White Collar Crime 3
JS 156. Gangs, Criminal Syndicates & Justice 3
JS 161. Introduction to Cybercrime 3
JS 172. Human Trafficking and Modern Day Slavery 3
JS 185. Special Topics in Law and Justice 3
When topic area is offered.

University Electives	22-25

A minor is strongly recommended

Total Units Required	**120**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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BS - Forensic Science, Concentration in Biology

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

Prerequisite Requirements

Enrollment in any chemistry course requires that the prerequisite courses be passed with a grade of "C or better" (C- not accepted). Exceptions may be made only with instructor consent or if not explicitly stated in the course description. Refer to the SJSU Course Catalog for specific information regarding course prerequisites.

Justice Studies International Experience Requirement

To satisfy the Justice Studies Department international requirement, students must study abroad for at least nine days in an approved program (exemption from the study abroad portion of the requirement must be approved by the dean of the College of Applied Sciences and Arts based on compelling individual life experiences or physical limitations. A relevant cross-cultural experience in the U.S. will be substituted). Specific details can be found on the college website athttp://www.sjsu.edu/chahs/international-experience/.

University Graduation Requirements 41

Core Lower Division General Education 24

Of the 39 units required by the university, 15 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

NOTE: STUDENTS WHO HAVE COMPLETED THE ADT TRANSFER DEGREE (UNDER SB 1440) FOR THIS MAJOR WILL HAVE COMPLETED ALL LOWER DIVISION GE REQUIREMENTS (EXCEPT FOR 1 COURSE IN GE AREA C AND 1 COURSE IN GE AREA D) AND SHOULD FOLLOW THE 60 UNIT GUARANTEE ROADMAP (WHICH INCLUDE THE MISSING GE IN AREA C AND D). MEET WITH AN ADVISOR PRIOR TO REGISTERING FOR YOUR FIRST SEMESTER FOR THE 60 UNIT ROADMAP OR SPECIFIC QUESTIONS.

Upper Division General Education 9

Of the 9 units required by the university, 0 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 6

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

COMPLETE ONE SEQUENCE FROM:

African American Studies 6

AFAM 002A. African Americans and the Development of America's History and Government	D2	3
AFAM 002B. African Americans and the Development of America's History and Government	M7	3

Asian American Studies 6

AAS 033A. Asian Americans in U.S. History I	D2	3
AAS 033B. Asian Americans in U.S. History II	M7	3

U.S. History and Government 6

HIST 015. Essentials of U.S. History	M12	3
POLS 015. Essentials of U.S. & California Government	M11	3

Chicana and Chicano Studies 6

CCS 010A. Mexican Americans and the Development of U.S. History and Government	D2	3
CCS 010B. Mexican Americans and the Development of U.S. History and Government	M7	3

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Physical Education		**2**

Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Preparation for the Major		**40**
CHEM 001A. General Chemistry	B1+B3	5
CHEM 001B. General Chemistry	B1+B3	5
CHEM 055. Quantitative Analysis		2
CHEM 055L. Quantitative Analysis Laboratory		2
CHEM 112A. Organic Chemistry		3
CHEM 112B. Organic Chemistry		3
CHEM 113A. Organic Chemistry Lab		2
MATH 030. Calculus I	B4	3
PHYS 002A. Fundamentals of Physics	B1+B3	4
PHYS 002B. Fundamentals of Physics	B1+B3	4
STAT 095. Elementary Statistics	B4	3
COMPLETE ONE COURSE FROM:		
CHEM 130A. Biochemistry		4
CHEM 135. General Biochemistry		4

Requirements of the Major		**39**
Core Courses		**32**
BIOL 030. Principles of Biology I	B2+B3	4
BIOL 031. Principles of Biology II	B2+B3	4
BIOL 115. General Genetics		4
FS 011. Survey of Forensic Science		3
FS 161. Crime Scene Investigation		3
FS 162. Forensic Science Applications		3
FS 167. Forensic Molecular Biology		5
JS 100W. Writing Workshop	Z	3
COMPLETE ONE COURSE FROM:		
FS 169. FS Senior Sem : Studies in Contemporary FS Issues		3
JS 189. Senior Seminar: Contemporary Problems		3
Practical Requirement		**3**
JS 181. Internship: Justice Studies		3
College International Experience		**0-3**

In consultation with advisor, select an International Experience course that is followed by -ITL.

Major Electives		**1-4**
Complete 4 units from the following. Other electives may be substituted with advisor approval		
ANTH 157. Forensic Anthropology		3
BIOL 116. Molecular Genetics		4
BIOL 117. Human Genetics		3
BIOL 118. Evolutionary Genetics		4
BIOL 123A. Bioinformatics I		3
BIOL 123B. Bioinformatics II		3

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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BIOL 124. Systems Physiology		3
BIOL 125. Systems Physiology Laboratory		2
BIOL 135B. Eukaryotic Cell and Molecular Biology II	R	3
BIOL 135L. Molecular Cell Biology Lab		3
BIOL 137. Introduction to Principles of Toxicology		3
BIOL 145. Advanced Undergraduate Biology Seminar		1-3
BIOL 145L. Advanced Undergraduate Biology Lab		1-2
BIOL 165. Advanced Human Anatomy		4
CHEM 120S. Chemical Safety Seminar		1
FS 160. Special Topics in Forensic Science		1-5
FS 163. Fingerprint Science		3
FS 164. Crime Scene and Evidence Photography		3
FS 165. Forensic Biometrics		3
FS 166. Forensic Chemistry		3
FS 168. Fluorescent Applications in Molecular Biology and Forensic Science		3
FS 106. Forensic Entomology		3
JS 143. Criminal Evidence and Procedure		3
JS 171. Human Rights and Justice	V	3
JS 180. Individual Studies		1-3
JS 181. Internship: Justice Studies		1-7
JS 185. Special Topics in Law and Justice		3
MATH 031. Calculus II	B4	4
MICR 101. General Microbiology		5
PHIL 133. Ethics in Science	V	3
PHIL 160. Philosophy of Science	R	3
PSYC 110. Adult Psychopathology		3
PSYC 129. Neuroscience		3
PSYC 153. Psychology in the Courtroom		3
Total Units Required		**120**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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BS - Forensics Science, Concentration in Chemistry

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

Prerequisite Requirements

Enrollment in any chemistry course requires that the prerequisite courses be passed with a grade of "C or better" (C- not accepted). Exceptions may be made only with instructor consent or if not explicitly stated in the course description. Refer to the SJSU Course Catalog for specific information regarding course prerequisites.

Justice Studies International Experience Requirement

To satisfy the Justice Studies Department international requirement, students must study abroad for at least nine days in an approved program (exemption from the study abroad portion of the requirement must be approved by the dean of the College of Applied Sciences and Arts based on compelling individual life experiences or physical limitations. A relevant cross-cultural experience in the U.S. will be substituted). Specific details can be found on the college website at http://www.sjsu.edu/chahs/international-experience/.

University Graduation Requirements 41

Core Lower Division General Education 24

Of the 39 units required by the university, 15 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

NOTE: STUDENTS WHO HAVE COMPLETED THE ADT TRANSFER DEGREE (UNDER SB 1440) FOR THIS MAJOR WILL HAVE COMPLETED ALL LOWER DIVISION GE REQUIREMENTS (EXCEPT FOR 1 COURSE IN GE AREA C AND 1 COURSE IN GE AREA D) AND SHOULD FOLLOW THE 60 UNIT GUARANTEE ROADMAP (WHICH INCLUDE THE MISSING GE IN AREA C AND D). MEET WITH AN ADVISOR PRIOR TO REGISTERING FOR YOUR FIRST SEMESTER FOR THE 60 UNIT ROADMAP OR SPECIFIC QUESTIONS.

Upper Division General Education 9

Of the 9 units required by the university, 0 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 6

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

COMPLETE ONE SEQUENCE FROM:

African American Studies 6

AFAM 002A. African Americans and the Development of America's History and Government	D2	3
AFAM 002B. African Americans and the Development of America's History and Government	M7	3

Asian American Studies 6

AAS 033A. Asian Americans in U.S. History I	D2	3
AAS 033B. Asian Americans in U.S. History II	M7	3

U.S. History and Government 6

HIST 015. Essentials of U.S. History	M12	3
POLS 015. Essentials of U.S. & California Government	M11	3

Chicana and Chicano Studies 6

CCS 010A. Mexican Americans and the Development of U.S. History and Government	D2	3
CCS 010B. Mexican Americans and the Development of U.S. History and Government	M7	3

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Physical Education 2

Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Preparation for the Major 32

BIOL 030. Principles of Biology I	B2+B3	4
CHEM 001A. General Chemistry	B1+B3	5
CHEM 001B. General Chemistry	B1+B3	5
CHEM 055. Quantitative Analysis		2
CHEM 055L. Quantitative Analysis Laboratory		2
MATH 030. Calculus I	B4	3
PHYS 002A. Fundamentals of Physics	B1+B3	4
PHYS 002B. Fundamentals of Physics	B1+B3	4

COMPLETE ONE COURSE FROM:

JS 015. Introductory Statistics in Justice Studies	B4	3
STAT 095. Elementary Statistics	B4	3

Requirements of the Major 47

Core Courses 39

CHEM 112A. Organic Chemistry		3
CHEM 112B. Organic Chemistry		3
CHEM 113A. Organic Chemistry Lab		2
CHEM 120S. Chemical Safety Seminar		1
CHEM 130A. Biochemistry		4
CHEM 145. Inorganic Chemistry		3
CHEM 155. Instrumental Analysis		4
CHEM 160. Physical Chemistry		4
FS 011. Survey of Forensic Science		3
FS 161. Crime Scene Investigation		3
FS 162. Forensic Science Applications		3
JS 100W. Writing Workshop	Z	3

COMPLETE ONE COURSE FROM:

FS 169. FS Senior Sem : Studies in Contemporary FS Issues		3
JS 189. Senior Seminar: Contemporary Problems		3

Practical Requirement 3

JS 181. Internship: Justice Studies		3

College International Experience 0-3

In consultation with advisor, select an International Experience course that is followed by -ITL.

Major Electives 2-5

COMPLETE 2-5 UNITS FROM:

Other electives may be substituted with advisor approval

ANTH 157. Forensic Anthropology		3
BIOL 031. Principles of Biology II	B2+B3	4
BIOL 115. General Genetics		4

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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BIOL 116. Molecular Genetics		4
BIOL 117. Human Genetics		3
BIOL 118. Evolutionary Genetics		4
BIOL 123A. Bioinformatics I		3
BIOL 123B. Bioinformatics II		3
BIOL 124. Systems Physiology		3
BIOL 125. Systems Physiology Laboratory		2
BIOL 135B. Eukaryotic Cell and Molecular Biology II	R	3
BIOL 135L. Molecular Cell Biology Lab		3
BIOL 137. Introduction to Principles of Toxicology		3
BIOL 145. Advanced Undergraduate Biology Seminar		1-3
BIOL 145L. Advanced Undergraduate Biology Lab		1-2
BIOL 165. Advanced Human Anatomy		4
BIOL 190. Field Studies in Biology		1-4
CHEM 101. Chemistry and the Computer		3
CHEM 113B. Organic Chemistry Lab		3
CHEM 131A. Biochemistry Lab		2
CHEM 173. Polymer Chemistry		3
FS 160. Special Topics in Forensic Science		1-5
FS 163. Fingerprint Science		3
FS 164. Crime Scene and Evidence Photography		3
FS 165. Forensic Biometrics		3
FS 166. Forensic Chemistry		3
FS 167. Forensic Molecular Biology		5
FS 168. Fluorescent Applications in Molecular Biology and Forensic Science		3
FS 106. Forensic Entomology		3
JS 143. Criminal Evidence and Procedure		3
JS 171. Human Rights and Justice	V	3
JS 180. Individual Studies		1-3
JS 181. Internship: Justice Studies		1-7
MATH 031. Calculus II	B4	4
PHIL 133. Ethics in Science	V	3
PHIL 160. Philosophy of Science	R	3
PHYS 158. Modern Optics		3
PSYC 110. Adult Psychopathology		3
PSYC 129. Neuroscience		3
PSYC 153. Psychology in the Courtroom		3
Total Units Required		**120**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Minor- Forensic Studies

The Minor in Forensic Studies will appeal to students in majors across the university, and has practical applications in the areas of law, law enforcement, engineering, computer science, accounting, chemistry, biology, nursing, medicine, and anthropology.

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Requirements of the Minor	15
Required Courses	**9**
FS 011. Survey of Forensic Science	3
FS 161. Crime Scene Investigation	3
FS 162. Forensic Science Applications	3
Additional Courses	**6**
COMPLETE TWO COURSES FROM:	
Substantive Electives are revised each fall semester	
ANTH 157. Forensic Anthropology	3
FS 160. Special Topics in Forensic Science	1-5
FS 163. Fingerprint Science	3
FS 164. Crime Scene and Evidence Photography	3
FS 165. Forensic Biometrics	3
JS 143. Criminal Evidence and Procedure	3
JS 185. Special Topics in Law and Justice	3
Special topic must be approved by minor advisor	
PHIL 133. Ethics in Science V	3
PHIL 160. Philosophy of Science R	3
PHOT 110. Black and White Photography	3
PSYC 110. Adult Psychopathology	3
PSYC 129. Neuroscience	3
PSYC 153. Psychology in the Courtroom	3
Total Units Required	**15**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Minor - Human Rights

The Minor in Human Rights is meant to prepare students for careers in relation to international law, human rights advocacy/reporting/organizing, and human rights scholarship. The Minor can supplement the program of students who have interests in (for example) social problems, public policy, social movements and social change, international relations/studies, law and governance, issues of justice, and global cultures.

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Requirements of the Minor 15

Required Courses 9

JS 025. Introduction to Human Rights and Justice	D3	3
JS 179. Human Rights Practicum and Seminar		3

COMPLETE ONE COURSE FROM:

JS 171. Human Rights and Justice	V	3
SOCI 118. Sociology of Human Rights and Social Justice		3

Additional Courses 6

Choose two courses from different departments. Substantive Electives are revised each Fall semester.

COMPLETE TWO COURSES FROM:

AAS 175. Asian American Communities	S	3
AFAM 120. Sociology of African American Communities		3
AFAM 134. The Black Civil Rights Movements		3
AFAM 151. Race, Class and the Environment		3
AFAM 159. Economic Issues in the Black Community		3
ANTH 115. The Emerging Global Culture	V	3
ANTH 140. Human Sexuality	S	3
ANTH 146. Culture and Conflict	V	3
COMM 157SL. Community Action/Community Service	S	3
COMM 174. Intercultural Comm & Struct Inequality	S	3
ECON 112. Economic Development		4
ENGL 117B. Global Film, Literature, and Cultures	V	3
ENGL 122. Topics in Comparative World Literature		4
ENGL 126. Holocaust Literature	V	3
ENGL 165. Topics in Ethnic American Literature		4
ENGL 169. Ethnicity in American Literature	S	3
ENVS 105. Environmental Change and Problems, San Francisco Bay Area		3
ENVS 107. Introduction to Environmental Economics and Policy		3
ENVS 117. Human Ecology		3
ENVS 140. Politics and the Environment		3
ENVS 152. Globalization and the Environment	R	3
ENVS 159. Nature and World Cultures	V	3
GEOG 112. Nations, Cultures, and Territorial Disputes	V	3
GEOG 115. Global Development		3
GLST 162. Contemporary Global Issues		3
GLST 164. Advanced Seminar in Global Citizenship		3
GLST 167. Changing Ecologies of Globalization	R	3
HIST 188. History of Women in the United States	S	3
HS 172. Contemporary Environmental Health Issues	R	3
HUM 122. Topics in Comparative World Literature		4
HUM 126. Holocaust Literature	V	3
JS 122. Drugs and Society		3
JS 127. Immigration and Justice		3

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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JS 129. International Crime and Deviance		3
JS 132. Race, Gender, Inequality and the Law	S	3
JS 172. Human Trafficking and Modern Day Slavery		3
CCS 105. Chicanos: United States/Mexico Relations		3
CCS 120. Political Economy and Chicana/o Communities		3
CCS 130. Chicanas and Chicanos in American Society	S	3
CCS 175. Human Migrations: Global Reach		3
MCOM 106. Global Mass Communication		3
MDES 144. Middle Eastern Politics		4
MDES 156. Islam, Politics and the West		3
METR 168A. Global Climate Change I		6
METR 168B. Global Climate Change II	R+S+V	3
METR 174. Climate Change Solutions		3
NUFS 139. Hunger and Environmental Nutrition	R	3
PHIL 122. Social Justice		3
PHIL 126. Environmental Ethics and Philosophy		3
POLS 130. American Public Policy		4
POLS 135. U.S. Environmental Policy		3
POLS 147. Globalization		4
POLS 150. War and Peace	V	3
POLS 152A. International Organizations and NGOs		4
POLS 152B. Model United Nations		4
POLS 154. U.S. Foreign Policy: Formulation and Administration		4
POLS 155. The Wealth of Nations		4
POLS 170V. American Politics in Global Perspective	USV	3
PSYC 145. Community Mental Health		3
PSYC 191. The Psychology of Prejudice	S	3
SOCI 116. Global Society		3
SOCI 118. Sociology of Human Rights and Social Justice		3
SOCI 120. Contemporary Social Issues		3
SOCI 141. Environmental Sociology		3
SOCI 160. Immigration and Identity		3
SOCI 162. Race and Ethnic Relations	S	3
SOCI 164. Social Action		3
SOCI 165. Poverty, Wealth and Privilege		3
SOCI 172. Lesbian, Gay, Bi, Transgender Studies		3
SOCS 137. California History for Teachers		3
SOCS 138. US History for Teachers	S	3
SOCS 139. World History for Teachers	V	3
WOMS 101. Sex, Power, and Politics	S	3
WOMS 112. Women in the Global Economy		3
WOMS 160. Queering Gender, Race, and Class		3
Total Units Required		**15**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Minor - Justice Studies

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Requirements of the Minor	18
Required Lower Division Courses	**3**
COMPLETE ONE COURSE FROM:	
JS 010. Introduction to Justice Studies	3
JS 012. Introduction to Legal Studies	3
JS 025. Introduction to Human Rights and Justice D3	3
Required Upper Division Courses	**6**
COMPLETE TWO COURSES FROM:	
JS 101. Critical Issues and Ideas in Justice	3
JS 102. Police and Society	3
JS 114. Research Methods in Justice Studies	3
JS 151. Criminological Theory	3
Upper Division Electives	**9**
Complete any three upper division JS courses.	
Total Units Required	**18**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

Minor - Legal Studies

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Requirements of the Minor			18-22
POLS 120. Law and Society	S	3	

Additional Courses			15-19
TAKE NO MORE THAN ONE COURSE FROM EACH AREA BELOW.			
Perspectives in Law			
ECON 141. Law and Economics		4	
ENVS 124. Introduction to Environmental Law		3	
Can also be taken as POLS 124			
JS 144. Criminal Law		3	
PHIL 155. Philosophy of Law		3	
Contemporary Issues in Law and Justice			
AFAM 142. Race, Ethnicity, and the Law		3	
JS 101. Critical Issues and Ideas in Justice		3	
JS 122. Drugs and Society		3	
JS 123. Terrorism, Intelligence, and Security		3	
JS 132. Race, Gender, Inequality and the Law	S	3	
JS 143. Criminal Evidence and Procedure		3	
JS 171. Human Rights and Justice	V	3	
CCS 127. Chicanas/os and the Criminal Justice System		3	
SOCI 151. Violence in the Family		3	
Legal History			
AFAM 134. The Black Civil Rights Movements		3	
POLS 121A. Constitutional Law: Institutional Powers		4	
POLS 121B. Constitutional Law: Civil Liberties		4	
POLS 121C. Constitutional Law: Civil Rights		4	
Law and Ethics			
BUS3 186. Professional and Business Ethics	S	3	
COMM 133F. Ethical Problems in Communication		4	
MCOM 101. Media Law and Ethics		3	
Law and the Courts			
COMM 147P. Argumentation and Persuasion in Courts of Law		4	
JS 103. Courts and Society		3	
POLS 122. Judicial Politics		4	
Total Units Required			**18-22**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Certificate - Collaborative Response to Family Violence (Special Session Program)

The Certificate for Collaborative Response to Family Violence is available to community professionals of all disciplines who wish to enhance their skills and effectiveness through continued study. It is a 12-14 unit certificate program which integrates knowledge in the areas of family violence and collaboration to inform and improve our response to family violence and enhance innovation and effectiveness. Certificate participants will develop a strong working knowledge and awareness of:

- Family violence
- Dynamics, impacts and meaning of violence across disciplines
- Critical systems involved in responding to family violence
- Skills for collaboration
- Critical analysis of stages and elements of effective collaboration

Required Core		6
JS 136. Family and Community Violence	S	3
JS 137. Collaborative Response to Family Violence		3

Required Seminars	3
TAKE THREE UNITS OF SEMINAR COURSES.	
JS 243. Collaborative Dialogues Seminar	1
JS 244. Collaborative Projects Seminar	1
JS 245. Collaborative Field Experience Seminar	1
JS 245B. Independent Study ICR Field Placement	1
Students take two units of JS 245B only if needed to fulfill the JS 245 co-requisite for field experience	

Elective Courses	3
TAKE THREE UNITS OF ELECTIVE COURSES	
JS 246. Research Methods in Family Violence	1
JS 247. Family Violence in Special Populations	1
JS 248. Community Justice	1
JS 249. Neurobiology Response to Family Violence	1
SCWK 247. Collaborative Leadership in Social Service Contexts	1
Other courses with approval of advisor	

Total Units Required	12-14

MS - Justice Studies

The Department of Justice Studies at San José State University, offers a full-time two-year or part-time three-year Master's program drawing upon criminology, criminal justice, sociology, political science, psychology, law and history.

Areas of teaching and research in the Department include theory, policing, law and society, human rights, policy evaluation, juvenile justice, immigration, punishment & society, race theory, history, and forensic science.

The Master's program, prepares students for careers in criminal justice settings, public institutions, grassroots community organizations, and nonprofit agencies, as well as for doctoral programs and research positions in public agencies.

More information is available on the Department of Justice Studies website at www.sjsu.edu/justicestudies/

Admission Requirements

University Admissions

Applicants must submit a complete graduate application by applying through the CSU Cal State Apply system at calstate.edu/apply and meet all the university admission requirements. Applicants apply separately to the department to obtain admission into the MS, Justice Studies program.

Applicants from countries in which the native language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirements webpage at GAPE. For TOEFL Requirements, see the Policies and Procedures section, Graduate and Post Baccalaureate Information in this Catalog.

Admission to the Program

To be considered for admission to the Justice Studies Department, applicants must complete the university admission requirements, as well as have a minimum grade point average of 3.0 in the last 60 units of university course work. Admission decisions will be based on a weighted assessment of the applicant's grade point average, course work and preparation, two letters of recommendation from academics, and a short essay on a justice-related topic chosen each year by the Justice Studies graduate committee (see department website for further information).

Admission in Conditionally Classified Standing

Applicants meeting the university's requirements for the Graduate Division but lacking experience in research methods in the social sciences may, at the department's discretion, be required to take one or two classes to prepare them for the degree. These students may be admitted under conditionally classified standing. The individual admission notification will explain required terms and conditions for attaining Classified standing.

Requirements for Advancement to Candidacy

For advancement to candidacy for the Master of Science degree in Justice Studies, students must meet the general university requirements for admission to candidacy outlined in the Academic Regulations section of this catalog. The University requires that all graduate students complete the Graduation Writing Assessment Requirement (GWAR) as a condition for advancement to candidacy. Please refer to the SJSU catalog section titled "Graduation Writing Assessment Requirement" for details. For graduate courses that meet the GWAR, please refer to the Graduate Admissions and Program Evaluations website at www.sjsu.edu/gape.

Advancement to Candidacy requires the following:

1. Classified standing;
2. Completion of 9 units of core or required courses with a grade point average of 3.0 ("B") or better; and
3. Completion of the GWAR

Once advanced to candidacy, the student should meet with the department graduate coordinator to draft an approved plan of study. This program must identify 33 units of course work as outlined in the following list of course requirements.

Requirements for Graduation

University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

Completing Requirements for the MS - Justice Studies

Course Requirements

Each student must complete a core curriculum of 18 units (JS 201, 202, 203, 207, 211 and 265), 9 units of elective courses, and master's thesis or project as their 6-unit culminating experience. The thesis option requires six units of JS 299; the project option requires completion of JS 297 and an additional 3-unit elective. Elective courses must be 200-level courses in the department. Subject to graduate coordinator approval, two graduate courses in other departments on campus may be taken as electives, if the student demonstrates their relevance to the student's program of study and/or career goals in Justice Studies. Undergraduate courses may not count toward the 33 units of required graduate course work. Students who are academically or administratively disqualified from the program will generally not be readmitted.

Culminating Experience

Students select one of the following options for their culminating experience. Students should choose the option that best suits their particular interests and goals.

Plan A (with Thesis)

Plan A provides an advanced program of study for those who are primarily interested in conducting research, and pursuing advanced study toward the doctorate. The Plan A is a 6-unit thesis option designed to provide opportunities for in-depth investigation in the student's area of emphasis. The thesis will include original research on a topic approved by the thesis committee, and must meet university requirements as stipulated in this catalog and in the SJSU Master's Thesis and Doctoral Dissertation Guidelines. The student and the thesis committee chair, with approval by the graduate coordinator, determine the thesis requirements and timelines. Approval by the graduate coordinator and thesis committee and a "B" average in the core coursework is required before a student can register for JS 299, Master's Thesis (3 units). Students interested in this option must also submit a brief written statement to the graduate coordinator describing their research interests and expertise, and receive permission from the graduate coordinator.

Plan B (Project)

The Plan B option provides an advanced program of study for professionals and those who want to pursue careers in justice studies fields. It requires a 3-unit research project that is conducted with the rigor appropriate to graduate work. Its culminating experience is a substantial, original paper on a specific research topic and an associated poster presentation evaluated by a faculty panel comprised of all members of the Justice Studies graduate committee. Individual projects are agreed to by the graduate student and JS 297 academic advisor, and require approval of the Graduate Coordinator. Students choosing this option must take an addition 3-unit elective and enroll in JS 297, Program Evaluation Project during their final semester.

Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR). For information on the GWAR, please see http://info.sjsu.edu/gcw.html.

Requirements of the Masters — 33

Core Courses — 18

JS 201. Justice and Social Theory	GWAR	3
JS 202. Survey of Research Methods		3
JS 203. Seminar in Applied Statistics in Justice		3
JS 207. Seminar in Qualitative Research Methods		3
JS 211. Historical Issues in Justice Studies		3
JS 223. Seminar: Comparative Criminology & Criminal Justice		3

Electives — 9

9 UNITS FROM THE FOLLOWING:

JS 204. Justice Organizations, Ethics & Change	3
JS 205. Seminar in Law and Courts	3
JS 206. Seminar in Juvenile Justice	3
JS 208. Seminar: Punishment & Society	3
JS 209. Seminar in Police and Social Control	3
JS 212. Local & Global Perspectives on Human Rights	3
JS 214. Seminar: Social Movement, Community Organizing, and Social Justice	3
JS 218. Seminar: Immigration, Law & Justice	3
JS 220. Seminar: Criminological Theory	3
JS 221. Seminar: Deviance & Social Control	3
JS 222. Seminar: Penal Policies and Justice	3

Culminating Experience — 6

Plan A (with Thesis)

JS 299. Master's Thesis	6

Plan B (Project)

JS 297. Program Evaluation Project	3
Additional 3 units electives	3

Total Units Required — 33

Elective courses must be planned in consultation with the graduate advisor.

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU cumulative grade point averages of 3.0 in order to graduate.

MS - Criminology, Concentration in Global Criminology, Law and Justice (Special Session Program)

The Department of Justice Studies at San José State University, offers an online Master of Science in Criminology with a Concentration in Global Criminology designed to adapt to the ever-changing environment of the justice and legal systems, and the discipline of criminology. It uniquely combines advanced study of contemporary international crime and the various responses to crime around the globe with analytic and research techniques used by advanced scholars. It provides an international comparative curriculum that develops analytical skills, understanding of legal concepts, theoretical competency, and abilities to apply criminology in practical ways. It aims to equip graduates with a truly global outlook on crime and criminal justice, a commitment to international justice, and professional competencies to apply practices from around the globe to meet the particular needs of their communities.

This degree program is housed in the Department of Justice Studies. More information is available at www.sjsu.edu/justicestudies/

Graduate Coordinator: Dr. Claudio Vera Sanchez (claudio.verasanchez@sjsu.edu)

Admission Requirements

To be considered for admission to the MS in Criminology program, applicants must complete the university admission requirements, as well as have a baccalaureate degree from an accredited four-year college or university, minimum grade point average of 3.0 in the last 60 credits of coursework, a general understanding of computers and technology, and access to a computer with Internet. International applicants must have a TOEFL score of 550 (Paper Based), 213 (Computer Based), or 80 (Internet Based).

International (Foreign) Students

Documentation of the applicant's TOEFL score should accompany other admission material. For TOEFL Requirements see Policies and Procedures section, Graduate and Post baccalaureate information.

Requirements for Advancement to Candidacy

For advancement to candidacy for the Master of Science degree in Criminology, Concentration in Global Criminology, students must meet the general university requirements for admission to candidacy outlined in the Academic Regulations section of this catalog. The University requires that all graduate students complete the Graduation Writing Assessment Requirement (GWAR) as a condition for advancement to candidacy. Please refer to the SJSU catalog section titled "Graduation Writing Assessment Requirement" for details. For graduate courses that meet the GWAR, please refer to the Graduate Admissions and Program Evaluations website at www.sjsu.edu/gape.

University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

Graduation Requirements for the MS - Criminology, Concentration in Global Criminology.

Each student must take a core curriculum of 15 units (JS 265, 266, 271, 272, and 273). Elective courses must be 200-level courses in the department. Subject to graduate coordinator approval, two graduate courses in other departments or programs may be taken as electives, if the student demonstrates their relevance to the student's program of study and/or career goals. Undergraduate courses may not count toward the 30 units of required graduate course work. Students who are academically or administratively disqualified from the program will generally not be readmitted.

Special Session Program Information

Academic Programs offered through Special Session are operated by the College of Professional and Global Education (CPGE). Registration and enrollment in a Special Session course or program must use the special session application form and will follow special session fee and course schedules. Note that regular session students seeking to enroll simultaneously in a special session course or program will trigger a separate and additional set of fees. This may require an additional enrollment appointment from the Registrar and it may have implications for financial aid status or requirements. Please visit the CPGE website for more information.

Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR). For information on the GWAR, please see http://info.sjsu.edu/gcw.html.

Requirements of the Masters 30

Core Courses 15

JS 265. Comparative Criminal Justice Systems	GWAR	3
JS 266. Applied Research Methods and Statistics		3
JS 271. International Human Rights		3
JS 272. Policing in Global Contexts		3
JS 273. International Criminology and Juvenile Delinquency		3

Concentration Requirements	**12**
JS 267. Crime and Gender Around the World	3
JS 268. Immigration and International Law	3
JS 269. Cyber Forensics	3
JS 270A. Global Terrorism	3
Culminating Experience	**3**
JS 274. Applied Project	3
Total Units Required	**30**

Kinesiology Department

College of Health and Human Sciences

SPARTAN COMPLEX, SPX 102
408-924-3010

Professors

Theodore Butryn
Gong Chen
Craig J. Cisar
KyungMo Han
Matthew A. Masucci
Peggy Plato
Shirley H. M. Reekie
Tamar Z. Semerjian, Interim Chair
Bethany Shifflett
Emily H. Wughalter

Associate Professors

Stanley B. Butler
Jessica Chin
Masaaki Tsuruike

Assistant Professors

Cole Armstrong
Seung Ho Chang
David Daum
Theodore Hayduk
Areum Jensen
Jihyun Lee
Erin Siebert

Curricula

BS, Kinesiology
BS, Kinesiology, Preparation for Teaching
Minor, Kinesiology
MA, Kinesiology
MA, Kinesiology, Concentration in Athletic Training
MA, Kinesiology, Concentration in Exercise Physiology
MA, Kinesiology, Concentration in Sport Management
MA, Kinesiology, Concentration in Sport Studies

Introduction

Kinesiology majors study human movement, the physical activity involved in work and play. Many of our graduates work as athletic directors, athletic trainers, coaches, teachers, personal trainers and sports managers; others continue on to medical school or receive advanced degrees in physical therapy. A charter member of the American Kinesiology Association, our department is a recognized leader in the CSU system as well as in kinesiology education and other allied health professions throughout the country. We offer bachelor's degrees in kinesiology, athletic training, and teaching, and a master's degree in kinesiology that allows degree candidates to focus on athletic training, exercise physiology, sport management, sport studies, and other areas of specialization. We support several student organizations, including SPATO, the athletic training club; the Adapted Physical Activity Club, a student service organization that advocates for individuals with disabilities; the Pre-PT Club; and the Kinesiology Ambassadors' Club, which seeks to spread information about the field of kinesiology.

BS - Kinesiology

Satisfactory completion of the requirements of the four-year major program in kinesiology leads to a BS degree. The program is based upon the discipline of kinesiology and stresses both theoretical and practical objectives. Five areas of specialization.

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

Major Exceptions

This degree program meets certain University Requirements through approved major modifications. Please see the Major Exceptions area in the Policy and Procedures section of this catalog to identify the specific adjustments for this degree program or contact your major advisor for more details.

Major-Specific Graduation Requirements

Students in this major must complete all courses Requirements for the Major (All courses in Preparation, Core, Concentration/Specialization) with a "C- or better" to graduate. The following courses in Preparation of major must be passed with a "C or better": KIN 100W.

Kinesiology International Experience Requirement

To satisfy the Department of Kinesiology international requirement, students must study abroad for at least nine days in an approved program (exemption from the study abroad portion of the requirement must be approved by the dean of the College of Applied Sciences and Arts based on compelling individual life experiences or physical limitations. A relevant cross-cultural experience in the U.S. will be substituted). Specific details can be found on the college website at http://www.sjsu.edu/chahs/international-experience.

University Graduation Requirements 41

Core Lower Division General Education 24

Of the 39 units required by the university, 15 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

NOTE: STUDENTS WHO HAVE COMPLETED THE ADT TRANSFER DEGREE (UNDER SB 1440) FOR THIS MAJOR WILL HAVE COMPLETED ALL LOWER DIVISION GE REQUIREMENTS AND SHOULD FOLLOW THE 60 UNIT GUARANTEE ROADMAP. MEET WITH AN ADVISOR PRIOR TO REGISTERING FOR YOUR FIRST SEMESTER FOR THE 60 UNIT ROADMAP OR SPECIFIC QUESTIONS.

Upper Division General Education 9

Of the 9 units required by the university, 0 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 6

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

COMPLETE ONE SEQUENCE FROM:

African American Studies 6

AFAM 002A. African Americans and the Development of America's History and Government	D2	3
AFAM 002B. African Americans and the Development of America's History and Government	M7	3

Asian American Studies 6

AAS 033A. Asian Americans in U.S. History I	D2	3
AAS 033B. Asian Americans in U.S. History II	M7	3

U.S. History and Government 6

HIST 015. Essentials of U.S. History	M12	3
POLS 015. Essentials of U.S. & California Government	M11	3

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

For Legend please see page 2

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Chicana and Chicano Studies **6**

CCS 010A. Mexican Americans and the Development of U.S. History and Government D2 3
CCS 010B. Mexican Americans and the Development of U.S. History and Government M7 3

Physical Education **2**

Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Preparation for the Major **18**

BIOL 065. Human Anatomy ..... B2+B3 4

BIOL 065O may also be used to meet this requirement. This course does not include a human cadaver lab.

BIOL 066. Human Physiology ..... B2+B3 5

BIOL 065 and 066 are not GE but meet Area B2 for Kinesiology majors

CHEM 030A. Introductory Chemistry ..... B1+B3 3
KIN 100W. Writing Workshop ..... Z 3

Mathematical Concepts (Area B4) 3

Requirements of the Major **61**

Core Courses **23**

KIN 070. Introduction to Kinesiology 3
KIN 155. Exercise Physiology 3
KIN 158. Biomechanics 3
KIN 175. Measurement and Evaluation in Kinesiology 3
KIN 185. Senior Seminar 1

PHYSICAL ACTIVITY COURSES:

Four activity courses from at least four different movement areas (In addition to university graduation requirement). 4

COMPLETE ONE COURSE FROM:

KIN 160. History of Sport and Physical Education 3
KIN 161. Philosophical Perspectives of Sport 3
KIN 164. Sociocultural Perspectives 3

COMPLETE ONE COURSE FROM:

KIN 165. Motor Development 3
KIN 166. Motor Learning 3

Area of Specialization **38**

Specializations are a cluster of courses used by departments for advising purposes. Specializations will not appear on transcripts or diplomas. See Advisor for more details.

Choose one area of study:

- Exercise and Fitness
- Rehabilitation Sciences
- Sport Management and Culture
- Inclusive Physical Activity in Communities
- Individualized Studies
- Transfer Curriculum Studies (students with AA-T)
- See department for approved clusters of electives.

Total Units Required **120**

BS - Kinesiology, Preparation for Teaching

This major is designed for students interested in teaching physical education in high school or middle school. The following course work satisfies San José State University's requirements for a BS in Kinesiology. The BS- Kinesiology, Preparation for Teaching is approved as subject matter preparation for a single subject credential by the California Commission on Teacher Credentialing (CCTC). Individuals who do not wish to complete one of the degree programs, or individuals seeking a single subject credential in subject areas not listed must pass all portions of the appropriate Commission-approved subject matter examination(s).

Minimum grade point average (GPA) criteria may be required for verification of subject matter competency. Completion of the program will not guarantee admission to the credential program. Like all other applicants, students must meet credential program standards and undergo screening for admission. See "Teaching: How to Become a Teacher in California" (see Teaching) for information on application and admission to credential programs.

Note: Students who wish to complete or have completed another major should consult with a Department of Kinesiology advisor who specializes in teacher preparation to determine requirements for single subject matter competency certification in physical education.

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

Major Exceptions

This degree program meets certain University Requirements through approved major modifications. Please see the Major Exceptions area in the Policy and Procedures section of this catalog to identify the specific adjustments for this degree program or contact your major advisor for more details.Major-Specific Graduation Requirements

Students in this major must complete all courses Required in the Major (All courses in Preparation, Core, Concentration/Specialization) with a "C- or better" to graduate. The following courses in Preparation of major must be passed with a "C or better": KIN 100W.

Kinesiology International Experience Requirement

To satisfy the Department of Kinesiology international requirement, students must study abroad for at least nine days in an approved program (exemption from the study abroad portion of the requirement must be approved by the dean of the College of Applied Sciences and Arts based on compelling individual life experiences or physical limitations. A relevant cross-cultural experience in the U.S. will be substituted). Specific details can be found on the college website at http://www.sjsu.edu/chahs/international-experience

University Graduation Requirements 41

Core Lower Division General Education 24

Of the 39 units required by the university, 15 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

Upper Division General Education 9

Of the 9 units required by the university, 0 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 6

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

COMPLETE ONE SEQUENCE FROM:

African American Studies 6

AFAM 002A. African Americans and the Development of America's History and Government	D2	3
AFAM 002B. African Americans and the Development of America's History and Government	M7	3

Asian American Studies 6

AAS 033A. Asian Americans in U.S. History I	D2	3
AAS 033B. Asian Americans in U.S. History II	M7	3

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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U.S. History and Government **6**

HIST 015. Essentials of U.S. History	M12	3
POLS 015. Essentials of U.S. & California Government	M11	3

Chicana and Chicano Studies **6**

CCS 010A. Mexican Americans and the Development of U.S. History and Government	D2	3
CCS 010B. Mexican Americans and the Development of U.S. History and Government	M7	3

Physical Education **2**

Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Preparation for the Major **18**

BIOL 065. Human Anatomy	B2+B3	4
BIOL 065O may also be used to meet this requirement. This course does not include a human cadaver lab.		
BIOL 066. Human Physiology	B2+B3	5
CHEM 030A. Introductory Chemistry	B1+B3	3
KIN 100W. Writing Workshop	Z	3
Mathematical Concepts (Area B4)		3

Requirements of the Major **61**

Core Courses **23**

KIN 070. Introduction to Kinesiology	3
KIN 155. Exercise Physiology	3
KIN 158. Biomechanics	3
KIN 175. Measurement and Evaluation in Kinesiology	3
KIN 185. Senior Seminar	1
Four activity courses from four of six different Movement areas (in addition to the 2 unit university graduation requirement)	4

COMPLETE ONE COURSE FROM:

KIN 160. History of Sport and Physical Education	3
KIN 161. Philosophical Perspectives of Sport	3
KIN 164. Sociocultural Perspectives	3

COMPLETE ONE COURSE FROM:

KIN 165. Motor Development	3
KIN 166. Motor Learning	3

Major Required Courses **38**

KIN 105. Water Safety Instructor's Course	2
Age requirement, minimum of 18 years	
KIN 107. Adapted Aquatics	1
KIN 156. Introduction to Adapted Physical Activity	3
KIN 159. Sport and Adapted Activities	3
KIN 168. Psychology of Coaching	3
KIN 170B. Field Experience-Teaching	3
Students will take KIN 170B multiple times for a total of 3 units	
KIN 170C. Fieldwork in Adapted Physical Activity	3
Students will take KIN 170C multiple times for a total of 3 units	

KIN 172. Elementary School Programs, K-6 3
KIN 173. Intro to Teaching PE & Non-trad Sports 3
KIN 174. Assessment of Psychomotor Function 3
KIN 178. Management Practices for Physical Education Teachers 3
KIN 179. Design and Assessment of Movement Experiences 3
2 Additional Activity course (by advisement) 2

COMPLETE ONE COURSE FROM:

KIN 165. Motor Development 3
KIN 166. Motor Learning 3
Whichever wasn't taken in Core.

Total Units Required	**120**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Minor - Kinesiology

Through advisement, students can develop the electives that help to focus their minor program of study. Contact the department for academic advisement.

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Requirements of the Minor	18
KIN 070. Introduction to Kinesiology	3
COMPLETE ONE COURSE FROM:	
KIN 160. History of Sport and Physical Education	3
KIN 161. Philosophical Perspectives of Sport	3
KIN 164. Sociocultural Perspectives	3
KIN 167. Sports Psychology	3
KIN 168. Psychology of Coaching	3
COMPLETE ONE COURSE FROM:	
KIN 155. Exercise Physiology	3
KIN 158. Biomechanics	3
KIN 165. Motor Development	3
KIN 166. Motor Learning	3
Three activity courses from three different movement areas approved by the advisor; these courses are in addition to the two unit university graduation requirement.	3
Kinesiology upper division electives	6
Total Units Required	**18**

Graduate Program in Kinesiology

Graduate Coordinator: Dr. Ted Butryn

Requirements for Admission to Classified Standing

The Department of Kinesiology requires the following of all applicants seeking admission to classified standing in the MA - Kinesiology in addition to meeting requirements for admission to the Graduate Division:

1. A baccalaureate degree with a major or a minor in Kinesiology or successful completion of a maximum of 12 units of foundation course work as assigned by the Graduate Coordinator or an assigned Academic Advisor.
2. A minimum grade point average of 3.0 in the last 60 semester units (or 90 quarter units) of work.
3. A fully completed CSU Apply Application, including the Statement of Purpose on the application. Statement of purpose should include a thoughtful narrative about the applicant's research interests, as the two core research methods courses necessitate that students think about their final culminating experiences upon acceptance into the program.
4. A GRE General Test score of at least 150 verbal and 141 quantitative.
5. Two (2) letters of recommendation mailed (or signed, scanned and emailed from a university or professional work account) directly to the Graduate Coordinator.

Requirements for Admission to Conditionally Classified Standing

The graduate coordinator, in consultation with faculty, may approve admission of a student who meets the requirements for admission to the Graduate Division who has neither a major nor a minor in Kinesiology; has a grade point average below 3.0 in the last 60 semester units (or 90 quarter units), or scores below 150 verbal or 141 quantitative on the GRE General Test. The student may become eligible for admission to classified standing upon: satisfactory completion of prescribed undergraduate course deficiencies (foundation coursework), and/or completion of six units of graduate course work with a minimum grade point average of 3.0 in each course.

Requirements for Admission to Candidacy for the MA Degree

General university requirements for admission to candidacy for the Master of Arts degree are outlined in detail in this catalog. The University requires that all graduate students complete the Graduation Writing Assessment Requirement (GWAR) as a condition for advancement to candidacy. Please refer to the SJSU catalog section titled "Graduation Writing Assessment Requirement" for details. For graduate courses that meet the GWAR, please refer to the Graduate Admissions and Program Evaluations website at www.sjsu.edu/gape. Following are additional requirements of the Department of Kinesiology for the Master of Arts degree.

Upon admission to the Graduate Division and prior to registration, each student should meet with a graduate academic advisor in the student's chosen concentration area. If there are any deficiencies in a student's undergraduate work, additional upper-division undergraduate foundation courses may be required. Foundation courses may not be counted for credit in the master's program. If foundation units are required. additional upper-division KIN units will be assigned by the graduate advisor.

A proposed program for the graduate objective selected should be developed as early as possible with the assistance of a graduate academic advisor in the student's concentration area.

The proposed program must be approved by the graduate advisor, the graduate coordinator, and the Office of Graduate Studies before the student is considered a candidate for the Master of Arts degree.

Graduation Requirements

University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

Completing Requirements for the MA - Kinesiology

Plan A (with Thesis)

The purpose of this plan is to provide concentrated study in one of the subdisciplinary areas of Kinesiology. It is crucial that students electing Plan A identify the focus of their concentration early so that an appropriate thesis topic may be developed and a thesis committee selected.

Required courses are KIN 250, KIN 251, and KIN 299 (6 units). Concentration and Elective classes (18 units) from the student's selected concentration should be determined in consultation with a graduate academic advisor. A maximum of 9 units may be selected from outside the Department of Kinesiology.

Plan B (Non-Thesis)

This plan is for students interested in producing a research-based creative project in Kinesiology. The plan requires a special project in place of a thesis.

Required courses are KIN 250, KIN 251, and KIN 298 (3 units).

Concentration and Elective classes (21 units) from the student's selected concentration should be determined in consultation with a graduate academic advisor. A maximum of 9 units may be selected from outside the Department of Kinesiology.

Note: The Graduate Athletic Training Education Program (GATEP) has a specific course structure and a separate application process.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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MA - Kinesiology

Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR). For information on the GWAR, please see http://info.sjsu.edu/gcw.html.

Requirements of the Masters 30

At least 15 units must be 200-level courses.

Plan A (with Thesis) 30

Required Courses **6**

KIN 250. Fundamentals of Quantitative Research	GWAR	3
KIN 251. Fundamentals of Qualitative Research	GWAR	3

Electives **18**

9 units maximum from outside Kinesiology

Culminating Experience **6**

KIN 299. Master's Thesis or Project	1-6

Plan B (Non-Thesis) 30

Required Courses **6**

KIN 250. Fundamentals of Quantitative Research	GWAR	3
KIN 251. Fundamentals of Qualitative Research	GWAR	3

Electives **21**

9 units maximum from outside Kinesiology

Culminating Experience **3**

KIN 298. Special Studies	3

Total Units Required 30

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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MA - Kinesiology, Concentration in Athletic Training

Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR). For information on the GWAR, please see http://info.sjsu.edu/gcw.html.

Requirements of the Masters 35

Required Course 6

KIN 250. Fundamentals of Quantitative Research	GWAR	3
KIN 251. Fundamentals of Qualitative Research	GWAR	3

Additional Athletic Training Courses 21

KIN 268. Evidence Based Research and Practice in Management and Assessment of Injuries to Lower Extremities	2
KIN 269. Evidence Based Research and Practice in the Mgmt and Assessment of Injuries to the Upper Extremity	2
KIN 272. Evidence Based Research in the Practice of Therapeutic Exercise	3
KIN 273. Evidence Based Research in the Practice of Therapeutic Modalities	2
KIN 292A. Leadership and Administration in Athletic Training	1
KIN 292B. Seminar in Sports Medicine II	2
KIN 293A. Fieldwork in Athletic Training I	2
KIN 293B. Fieldwork in Athletic Training II	2
KIN 293C. Fieldwork in Athletic Training III	2
KIN 293D. Fieldwork in Athletic Training IV	2

Electives 3-6

Culminating Experience 3-6

Plan A (Thesis) 6

KIN 299. Master's Thesis or Project	1-6

Plan B (Non-Thesis) 3

KIN 298. Special Studies	3

Total Units Required 35

Both Plan A (Thesis) and Plan B (Project) require a final oral defense.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

For Legend please see page 2

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CATALOG CONTENTS

MA - Kinesiology, Concentration in Exercise Physiology

Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR). For information on the GWAR, please see http://info.sjsu.edu/gcw.html.

Requirements of the Masters 30

Required Courses 6

KIN 250. Fundamentals of Quantitative Research ..... GWAR 3
KIN 251. Fundamentals of Qualitative Research ..... GWAR 3

Exercise Physiology Courses 9

KIN 255. Advanced Exercise Physiology 3
KIN 256. Environmental Exercise Physiology 3
KIN 285. Internship in Kinesiology 1-3

Electives 9

Electives determined based on a student's background, interests, and career goals

Culminating Experience 6

Plan A (Thesis) **6**

KIN 299. Master's Thesis or Project 1-6

3 units KIN 299 in each of two consecutive semesters

Oral Defense

Plan B (Project) **3**

KIN 298. Special Studies 3

3 additional units of electives selected in consultation with graduate advisor

Oral Defense

Total Units Required 30

Both Plan A (Thesis) and Plan B (Project) require a final oral defense.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

MA - Kinesiology, Concentration in Sport Management

Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR). For information on the GWAR, please see http://info.sjsu.edu/gcw.html.

Requirements of the Masters 30

Required Course		**6**
KIN 250. Fundamentals of Quantitative Research	GWAR	3
KIN 251. Fundamentals of Qualitative Research	GWAR	3
Additional Sport Management Courses		**15**
KIN 280. Advanced Fieldwork in Sport Management		1-3
KIN 281. Legal and Ethical Aspects of Sport		3
KIN 282. Marketing and Social Aspects of Sport		3
KIN 283. Management, Leadership and Communication in Sport		3
KIN 284. Financial Aspects of Sport		3
Electives		**3-6**
Culminating Experience		**3-6**
Plan A (Thesis)		**6**
KIN 299. Master's Thesis or Project		1-6
Plan B (Non-Thesis)		**3**
KIN 298. Special Studies		3
Total Units Required		**30**

Both Plan A (Thesis) and Plan B (Project) require a final oral defense.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

MA - Kinesiology, Concentration in Sport Studies

Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR). For information on the GWAR, please see http://info.sjsu.edu/gcw.html.

Requirements of the Masters 30

Required Course 6

KIN 250. Fundamentals of Quantitative Research	GWAR	3
KIN 251. Fundamentals of Qualitative Research	GWAR	3

Additional Sports Studies Courses 6

KIN 264. Sport Sociology	3
KIN 267. Advanced Sport Psychology	3

Electives 12-15

Electives determined based on a student's background, interests, and career goals

Culminating Experience 3-6

Plan A (Thesis) 6

KIN 299. Master's Thesis or Project	1-6

Plan B (Non-Thesis) 3

KIN 298. Special Studies	3

Total Units Required 30

Both Plan A (Thesis) and Plan B (Project) require a final oral defense.

Latin American Studies Program

College of Humanities and the Arts

CLARK HALL 420G
408-924-4626

Professors

Damian Bacich, Coordinator

Curricula

Minor, Latin American Studies

Introduction

The interdepartmental minor in Latin American Studies is designed to complement a wide variety of academic majors by providing knowledge of Latin American affairs, culture and politics. Courses may be selected from art, world languages and literatures, history, Chicana and Chicano studies, philosophy, political science and theatre arts.

Minor - Latin American Studies

This degree is listed with the World Languages and Literatures.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

Linguistics and Language Development Department

College of Humanities and the Arts

CLARK HALL 473
408-924-4413

Professors

Swathi Vanniarajan, Chair

Associate Professors

Stefan Frazier
Hahn Koo
Scott Phillabaum
Daniel Silverman

Assistant Professors

David Malinowski
Julie Swan

Curricula

BA, Linguistics
Minor, Linguistics
Certificate, Computational Linguistics
Certificate, Undergraduate TESOL
Certificate, Graduate TESOL
MA, Linguistics
MA, Teaching English to Speakers of Other Languages

Introduction

Linguistics, the scientific study of human language, explores what language is, how it works and which features human languages have in common. Our curriculum focuses on understanding how the languages of the world work and on addressing the English language needs of our culturally diverse society. Students in the Department of Linguistics and Language Development (LLD) are part of an ethnically and linguistically diverse student body, taught by nationally and internationally recognized faculty. We offer graduate and undergraduate degrees in linguistics, a certificate in computational linguistics, a master's degree in TESOL (Teaching English to Speakers of Other Languages), and undergraduate and graduate certificates in TESOL. Our research infrastructure includes a state-of-the-art computer lab, a phonology lab, and access to computerized language data. Approximately 25% of our students come from other countries and contribute greatly to our programs.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

BA - Linguistics

The BA-Linguistics undertakes the scientific study of the nature, structure and function of language. Linguists study the origins of language, the meaning and history of words, variation in language, what language tells us about the workings of the human mind, and the practical aspects of language, including intercultural communication, language learning and teaching, and language as a conveyor of information in profound human arenas, such as medicine and law. Linguistics is also a central discipline that is involved in communicating with machines using natural language (i.e., artificial intelligence and machine recognition and synthesis of speech). The program offers state-of-the-art equipment for the acoustic and perceptual study of speech. Students in the major acquire critical thinking and problem-solving skills and receive excellent preparation for advanced studies in linguistics as well as anthropology, communication, education, law, and speech and hearing. Students with knowledge of more than one language have an excellent background for the study of linguistics.

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

University Graduation Requirements 50

Core Lower Division General Education 33

Of the 39 units required by the university, 6 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

NOTE: STUDENTS WHO HAVE COMPLETED THE ADT TRANSFER DEGREE (UNDER SB 1440) FOR THIS MAJOR WILL HAVE COMPLETED ALL LOWER DIVISION GE REQUIREMENTS AND SHOULD FOLLOW THE 60 UNIT GUARANTEE ROADMAP. MEET WITH AN ADVISOR PRIOR TO REGISTERING FOR YOUR FIRST SEMESTER FOR THE 60 UNIT ROADMAP OR SPECIFIC QUESTIONS.

Upper Division General Education 6

Of the 9 units required by the university, 3 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 6

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

COMPLETE ONE SEQUENCE FROM:

African American Studies 6

AFAM 002A. African Americans and the Development of America's History and Government	D2	3
AFAM 002B. African Americans and the Development of America's History and Government	M7	3

Asian American Studies 6

AAS 033A. Asian Americans in U.S. History I	D2	3
AAS 033B. Asian Americans in U.S. History II	M7	3

U.S. History and Government 6

HIST 015. Essentials of U.S. History	M12	3
POLS 015. Essentials of U.S. & California Government	M11	3

Chicana and Chicano Studies 6

CCS 010A. Mexican Americans and the Development of U.S. History and Government	D2	3
CCS 010B. Mexican Americans and the Development of U.S. History and Government	M7	3

Physical Education 2

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Graduation Writing Assessment Requirement **3**

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

The department recommends LLD 100W....3

Preparation for the Major **0-10**

MUST MEET ONE OF THE FOLLOWING CRITERIA:

One year of college level language other than student's native language (10)

Demonstrated equivalent competence (0)

One year of college level American Sign Language (6)

For students for whom English is not the native language, one year of college level English study may fulfill this requirement.

Requirements of the Major **36**

GE Basic Skills requirements must be completed prior to taking courses in the major.

Core Courses **21**

LING 101. Introduction to Linguistics....3
LING 111. Introduction to Linguistic Phonetics....3
LING 112. Introduction to Syntax....3
LING 113. Introduction to Phonology....3
LING 114. Introduction to Semantics and Discourse....3
LING 125. Introduction to Historical and Comparative Linguistics....3
LING 162. Introduction to Morphology....3

Electives in the Major **15**

By a careful selection of five additional electives in the major (below), students can choose coursework toward completion of a Certificate in Computational Linguistics or a Certificate in TESOL. Elective courses (up to 3 units) from other departments such as World Languages and Literatures, English, Communication Studies, Computer Science, Psychology, Philosophy, Anthropology and Communicative Disorders can also be taken with prior advisor approval.

COMPLETE FIVE COURSES FROM:

LING 107. Patterns of English....3
LING 108. Introduction to Second Language Development, Teaching, and Assessment....3
LING 115. Corpus Linguistics....3
LING 122. English as a World Language....V....3
LING 124. Introduction to Speech Technology....3
LING 161. Psycholinguistics....3
LING 165. Introduction to Natural Language Processing....3
LING 166. Sociolinguistics: Cross-Cultural Communication....3

University Electives **24-34**

Upper Division electives may be required if 40 units are not taken as part of program.

Total Units Required **120**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

Minor - Linguistics

The minor in Linguistics provides training in the scientific study of language for students whose professional competence would be enhanced by a more thorough knowledge of linguistics than is provided in their majors.

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Proficiency for the Minor	0-10

MUST MEET ONE OF THE FOLLOWING CRITERIA:

One year of college level language other than student's native language (10)

Demonstrated equivalent competence (0)

One year of college level American Sign Language (6)

For students for whom English is not the native language, one year of college level English study may fulfill this requirement.

Requirements of the Minor	15
Core Courses	**9**
LING 101. Introduction to Linguistics	3
LING 111. Introduction to Linguistic Phonetics	3
LING 112. Introduction to Syntax	3
Electives	**6**
Six units of upper division course work, approved by the linguistics advisor	
Total Units Required	**15**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

Certificate - Computational Linguistics

The Certificate in Computational Linguistics is an 18 unit program that provides a basic education and a certain amount of practical training in the interdisciplinary field of computational linguistics. It was designed to meet the needs of individuals who desire formal course preparation as language analysts in the environment of human language interfaces in software development. Please contact the computational linguistics coordinator for advising before beginning this certificate.

To receive the Certificate in Computational Linguistics, students must complete the following 18 units of course work and fulfill the programming requirement:

Requirements of the Certificate		18
LING 101. Introduction to Linguistics	3	
LING 115. Corpus Linguistics	3	
LING 124. Introduction to Speech Technology	3	
LING 165. Introduction to Natural Language Processing	3	
Electives		**6**
CS 123A. Bioinformatics I	3	
CS 123B. Bioinformatics II	3	
CS 154. Formal Languages and Computability	3	
CS 156. Introduction to Artificial Intelligence	3	
LING 111. Introduction to Linguistic Phonetics	3	
LING 112. Introduction to Syntax	3	
LING 113. Introduction to Phonology	3	
LING 161. Psycholinguistics	3	
LING 166. Sociolinguistics: Cross-Cultural Communication	3	
MATH 105. Concepts in Mathematics, Probability, Statistics	3	
MATH 161A. Applied Probability and Statistics I	3	
MATH 161B. Applied Probability and Statistics II	3	
MATH 162. Statistics for Bioinformatics	3	
MATH 163. Probability Theory	3	
STAT 095. Elementary Statistics B4	3	
STAT 115. Intermediate Statistics	3	
Total Units Required		**18**

Programming requirement: Demonstrated competence with a programming language, such as PERL, Java script, C, C++, Python, Ruby, Prolog, or Lisp. This requirement may be fulfilled by completing a course at SJSU or a community college, or by providing work demonstrating knowledge of a programming language. NOTE: CS and MATH courses above have pre-requisites of their own, so the total number of units you must take for the certificate may vary depending on your choice of electives and your academic background.

Any matriculated upper division undergraduate or graduate student may pursue this certificate. Non-matriculated students may take the courses through Extended Studies Open University. Students must maintain a 3.0 average in these courses to be awarded the certificate.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

Certificate - Undergraduate TESOL

The undergraduate certificate in TESOL is for students who have not yet completed the BA. Students complete courses related to the structure of English and teaching of English to speakers of other languages. For students whose major is not linguistics, the TESOL certificate can be combined with the minor in linguistics. To receive the undergraduate Certificate in TESOL, students must complete the following eighteen units of required course work:

Requirements of the Certificate	18
Core Courses	**12**
LING 101. Introduction to Linguistics	3
LING 107. Patterns of English	3
LING 108. Introduction to Second Language Development, Teaching, and Assessment	3
LING 166. Sociolinguistics: Cross-Cultural Communication	3
Electives	**6**
Choose two courses with the approval of the TESOL Coordinator	
Total Units Required	**18**

Any matriculated upper division student may pursue this certificate. Students must maintain a 3.0 average in these courses to be awarded the certificate.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

Certificate - Graduate TESOL

The certificate is designed to meet the needs of individuals desiring formal course preparation and training as classroom teachers of English to speakers of other languages but not requiring an MA degree. While the certificate is approved by the university, it does not provide certification, accreditation, or credentialing approved by the Commission on Teacher Credentialing. Students must maintain a 3.0 average in these courses to be awarded the certificate.

Requirements of the Certificate	18
Core Courses	**18**
LING 101. Introduction to Linguistics	3
LING 107. Patterns of English	3
LLD 270. Second Language Acquisition	3
LLD 271. Intercultural Communication and Second Language Acquisition	3
LLD 280. Methods and Materials for Teaching English to Speakers of Other Languages	3
LLD 283. Curriculum and Assessment in TESOL	3
Total Units Required	**18**

Any matriculated graduate student may pursue this certificate. Non-matriculated post-graduate students may take the courses through Extended Studies Open University. Students must maintain a 3.0 average in these courses to be awarded the certificate.

Graduate Programs

Linguistics, the scientific study of human language, explores what language is, how it works and which features human languages have in common. Our curriculum focuses on understanding how the languages of the world work and on addressing the English language needs of our culturally diverse society. Students in the Department of Linguistics and Language Development (LLD) are part of an ethnically and linguistically diverse student body, taught by nationally and internationally recognized faculty. We offer graduate and undergraduate degrees in linguistics, a certificate in computational linguistics, a master's degree in TESOL (Teaching English to Speakers of Other Languages), and undergraduate and graduate certificates in TESOL. Our research infrastructure includes a state-of-the-art computer lab, a phonology lab, and access to computerized language data. Approximately 25% of our students come from other countries and contribute greatly to our programs.

Requirements for Admission to Conditionally Classified Standing

Students holding an accredited baccalaureate degree and who otherwise satisfy the graduate level admissions requirements of San José State University (in the case of students with baccalaureate degrees from a university where English is not the principal language of instruction the minimum score of 577, computer score of 233, or Internet based score of 90 on the TOEFL or 7.0 on IELTS) are eligible for admission as conditionally classified students. Students must have a grade point average of at least 3.0 in the last 60 semester (90 quarter) units.

Requirements for Admission to Classified Standing

Students are eligible for admission as classified graduate students if they hold an accredited baccalaureate degree and otherwise satisfy the graduate level admissions requirements for San José State University (in the case of students with baccalaureate degrees from a university where English is not the principal language of instruction, this includes a minimum score of 577, 233 on the computerized version, or 90 on the Internet based version on the TOEFL or 7.0 on IELTS). In addition, students in the MA Linguistics program are eligible for admission as classified graduate students if they have completed at least nine semester units of acceptable work in linguistics equivalent to San José State University's Introduction to Linguistics (LING 101), Introduction to Phonetics (LING 111), and Introduction to Syntax (LING 112) with a grade of "B" or better in each of these three classes. For students in the MA TESOL program, two courses are prerequisite for admission to classified standing: Introduction to Linguistics (LING 101), and Patterns of English (LING 107), which must be completed with a grade of "B" or better in each.

Students admitted as conditionally classified may complete the requirements for classified standing after admission to the program; however a "B" grade must be achieved in all prerequisite courses. Additionally, the granting of classified standing is subject to the coordinator's review of the conditionally classified student's work.

Requirements for Admission to Candidacy

The requirements for admission to candidacy for the Master of Arts degree in Linguistics or TESOL are those established by the university and the department. For information see the Graduate Policies and Procedures section of this catalog.

Graduation Writing Assessment Requirement

Candidacy includes successful completion of the Graduation Writing Assessment Requirement (GWAR). For graduate courses that meet the GWAR, refer to the GWAR Course List on the College of Graduate Studies website.

Requirements for Graduation

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

MA - Linguistics

The MA - Linguistics provides students with an interdisciplinary education in the scientific study of language. Courses in general and computational linguistics serve students interested in cognitive and functional linguistics, language variation and change, speech synthesis, and machine speech recognition. Graduates in linguistics offer a set of highly specialized skills to computer companies working in speech technology and artificial intelligence. Many pursue careers with companies specializing in these areas. A small but significant number of linguistics graduates enter PhD programs for more advanced study. Other graduates pursue teaching careers in language and linguistics in domestic and overseas institutions.

Requirements for the MA - Linguistics include those established by the department. For information concerning university requirements, see the Academic Requirements section of this catalog.

Graduation Requirements

University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

Culminating Experience

Students have the option of completing the MA - Linguistics under one of two plans:

Plan A (Thesis)

Completion of 30 units; approved thesis proposal and thesis. The thesis option allows a student to pursue research in an area of common interest to the student and a faculty member. A thesis proposal may grow out of a course or be developed in LING 298, and must be approved by the student's advisor and thesis committee members. For Master's Thesis requirements please visit http://www.sjsu.edu/cgs/current-students/thesis-and-dissertation-information/index.html.

Plan B (Comprehensive Exam)

Completion of 30 units; passing of a comprehensive examination.

Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR). For information on the GWAR, please see http://info.sjsu.edu/gcw.html.

Requirements of the Masters	30
Core Courses	**18**
LING 113. Introduction to Phonology	3
LING 114. Introduction to Semantics and Discourse	3
LING 201. Phonology: Theory and Applications	3
LING 202A. Syntactic Theory	3
LING 203. Semantic Structures	3
LING 213. Linguistic Field Methods	3
Culminating Experience	**12**
COMPLETE ONE OPTION (PLAN A OR PLAN B)	
Plan A (Thesis)	**12**
LING 299. Master's Thesis or Project	1-3
Two Electives	6
Plan B (Comprehensive Exam)	**12**
Four electives	12
Comprehensive Exam	0
Total Units Required	**30**

Elective courses must be planned in consultation with the Graduate Advisor.

The maximum number of upper-division undergraduate units that can be applied toward the master's degree is 15.

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU Cumulative grade point averages of 3.0 in order to graduate.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

MA - Teaching English to Speakers of Other Languages (TESOL)

The MA- TESOL prepares students to assess and systematically build the listening, speaking, reading and writing skills of students from other language backgrounds who wish to learn English or to improve their skills in English. The department strikes a balance between theory and practice. Graduates from the MA- TESOL program staff many of the area's English as a Second Language programs at the community college, adult school and private program level. In addition, a number of TESOL graduates have chosen careers in international settings, teaching English as a Foreign Language in universities, schools and companies in Taiwan, Korea, Japan, Hungary, Mexico and other countries. MA- TESOL graduates are also eligible to teach abroad through the U.S. government sponsored Fulbright and English Teaching Fellow programs. Any undergraduate major is appropriate preparation for this degree.

Culminating Experience

Plan A (with Thesis)

Completion of 30 units; approved thesis proposal and thesis. The thesis option allows a student to pursue research in an area of common interest to the student and a faculty member. A thesis proposal may grow out of a course or be developed in LLD 298, and must be approved by the student's advisor and thesis committee members. For Master's Thesis requirements please visit http://www.sjsu.edu/cgs/current-students/thesis-and-dissertation-information/index.html.

Plan B (without Thesis)

Students are required to complete a total of 30 units (27 required; 3 electives); in addition, students must pass a comprehensive examination.

Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR). For information on the GWAR, please see http://info.sjsu.edu/gcw.html.

Requirements of the Masters 27

Core Courses 24

LLD 250W. Becoming a Professional in Linguistics/TESOL	GWAR	3
LLD 260. English Structures for Teaching I		3
LLD 261. English Structures for Teaching II		3
LLD 270. Second Language Acquisition		3
LLD 271. Intercultural Communication and Second Language Acquisition		3
LLD 280. Methods and Materials for Teaching English to Speakers of Other Languages		3
LLD 282. Practicum in Teaching English to Speakers of Other Languages		3
LLD 283. Curriculum and Assessment in TESOL		3
LLD 293. Teaching College-level Reading and Writing		3

Additional Courses 3

Plan A (with Thesis) 3

LLD 299. Master's Thesis or Project	1-3

Plan B (without Thesis) 3

One Elective	3
Comprehensive Exam	0

Total Units Required 30

Elective courses must be planned in consultation with the Graduate Advisor.

The maximum number of upper-division undergraduate units that can be applied toward the master's degree is 15.

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU Cumulative grade point averages of 3.0 in order to graduate.

Mathematics and Statistics Department

College of Science

MACQUARRIE HALL 308
408-924-5100
www.sjsu.edu/math/

Professors

Marilyn J. Blockus
Bem Cayco-Gajic, Chair
Steven Crunk
Roger Dodd
Daniel A. Goldston
Tim Hsu
Bradley W. Jackson
Hidefumi Katsuura
Richard P. Kubelka
Bee Leng Lee
Ho Kuen Ng
Samih A. Obaid
Barbara J. Pence
Richard E. Pfiefer
Ferdinand Rivera
Cheryl Roddick
Mohammad Saleem
Tatiana Shubin
Slobodan Simic
Wasin So
Julie Sliva Spitzer
Maurice C. Stanley

Associate Professors

Martina Bremer
Andrea Gottlieb
Plamen Koev

Assistant Professors

Daniel Brinkman
Marion Campisi
Guangliang Chen
Dashiell Fryer
Elizabeth Gross
Kyle Hambrook
Sogol Jahanbekam
Matthew Johnston
Wesley Maciejewski
Jordan Schettler
Liam Stanton
Cristina Tortora
Yan Zhang

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

Curricula

BA, Mathematics
BA, Mathematics, Preparation for Teaching (Integrated)
BS, Applied Mathematics, Concentration in Applied and Computational Mathematics
BS, Applied Mathematics, Concentration in Economics and Actuarial Science
BS, Applied Mathematics, Concentration in Statistics
Minor, Mathematics
Minor, Mathematics Education
Minor, Mathematics, For K-8 Teachers
MA, Mathematics
MA, Mathematics, Concentration in Mathematics Education (Not Accepting Students)
MS, Mathematics
MS, Statistics

Introduction

One of the oldest intellectual disciplines, mathematics plays a key role in many fields: cryptography, computer graphics, operations research, engineering and science. Students majoring in mathematics learn to communicate mathematical ideas effectively and to use basic computational skills, mathematical models and technology to solve practical problems. The Department of Mathematics and Statistics offers both undergraduate and graduate programs that prepare our alumni to work in industry and to teach in secondary schools or community colleges. In addition to a BA in mathematics, we offer a BS in applied mathematics that trains students for more technical careers and incorporates student research projects at the Center for Applied Mathematics, Computation and Statistics (CAMCOS). We also offer four master's degrees: an MS and an MA in mathematics, an MA that concentrates on mathematics education and an MS in Statistics.

Honors Program in Mathematics

The requirements for mathematics majors to graduate with departmental honors are: (1) at least a 3.0 G.P.A. overall, (2) at least a 3.5 G.P.A. in the major, (3) Completion of MATH 180H (Individual Studies for Honors).

Restriction on Enrollment for Credit

Enrollment for credit in MATH 008, 010, 012, 070, 071, 101, 105, 106, 107A, and 107B will not be allowed for students who have received credit in MATH 019, 030, 031, 030P, 032, unless the particular course in question is required for the student's major, minor or credential requirements.

Calculus Placement Examination

Many students who wish to enroll in MATH 030, MATH 030P, MATH 060 or MATH 071 are required to take the Calculus Placement Examination. Information and forms are available in the Mathematics and Statistics Department Office, MH 308, or online at the Mathematics and Statistics Department website: www.sjsu.edu/math.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

BA - Mathematics

The BA - Mathematics is recommended for students who enjoy problem solving and would like to apply problem solving skills along with communication and analyzing skills in a future career. This degree also provides an excellent background for graduate work in mathematics and other disciplines including law and medicine as well as engineering and science.

The degree requires 33 upper division units of mathematics and computer science. If upper division mathematics and computer science requirements are satisfied using lower division transferred courses, then additional upper division math courses will need to be taken to obtain the required number of upper division units.

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

Major Exceptions

This degree program meets certain University Requirements through approved major modifications. Please see the Major Exceptions area in the Policy and Procedures section of this catalog to identify the specific adjustments for this degree program or contact your major advisor for more details.

Major-Specific Graduation Requirements

All courses in the Preparation and Required in the Major must be completed with a grade of "C- or better", and the following Preparation for the Major course with a grade of "C or better": MATH 100W

University Graduation Requirements 47

Core Lower Division General Education 30

Of the 39 units required by the university, 9 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

NOTE: STUDENTS WHO HAVE COMPLETED THE ADT TRANSFER DEGREE (UNDER SB 1440) FOR THIS MAJOR WILL HAVE COMPLETED ALL LOWER DIVISION GE REQUIREMENTS AND SHOULD FOLLOW THE 60 UNIT GUARANTEE ROADMAP. MEET WITH AN ADVISOR PRIOR TO REGISTERING FOR YOUR FIRST SEMESTER FOR THE 60 UNIT ROADMAP OR SPECIFIC QUESTIONS.

Upper Division General Education 9

Of the 9 units required by the university, 0 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 6

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

COMPLETE ONE SEQUENCE FROM:

African American Studies 6

AFAM 002A. African Americans and the Development of America's History and Government	D2	3
AFAM 002B. African Americans and the Development of America's History and Government	M7	3

Asian American Studies 6

AAS 033A. Asian Americans in U.S. History I	D2	3
AAS 033B. Asian Americans in U.S. History II	M7	3

U.S. History and Government 6

HIST 015. Essentials of U.S. History	M12	3
POLS 015. Essentials of U.S. & California Government	M11	3

Chicana and Chicano Studies 6

CCS 010A. Mexican Americans and the Development of U.S. History and Government	D2	3
CCS 010B. Mexican Americans and the Development of U.S. History and Government	M7	3

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Physical Education 2

Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Preparation for the Major 12-15

MATH 100W. Technical Writing Workshop ..... Z 3

PHYS 50 and one of PHYS 51, PHYS 52, or MATH 161A (or with prior approval, 6 units of upper division mathematics-related courses from other departments may be substituted) 7-8

COMPLETE ONE COURSE FROM:

MATH 050. Scientific Computing I 2
MATH 167R. Statistical Programming with R 3
CS 046A. Introduction to Programming 4
CS 049C. Programming in C 3
CS 049J. Programming in Java 3

Requirements of the Major 46

Core Courses 13

MATH 030. Calculus I B4 3

MATH 30P or MATH 30PL may be used instead of MATH 30.

MATH 031. Calculus II B4 4
MATH 032. Calculus III B4 3
MATH 042. Discrete Mathematics 3

Upper Division Core 18

MATH 108. Introduction to Abstract Mathematics and Proofs 3
MATH 128A. Abstract Algebra I 3
MATH 129A. Linear Algebra I 3
MATH 131A. Introduction to Analysis 3

COMPLETE ONE COURSE FROM:

MATH 112. Vector Calculus 3
MATH 113. Differential Geometry 3
MATH 115. Modern Geometry and Transformations 3
MATH 138. Complex Variables 3

COMPLETE ONE COURSE FROM:

MATH 128B. Abstract Algebra II 3
MATH 129B. Linear Algebra II 3
MATH 131B. Introduction to Real Variables 3

Upper Division Mathematics Elective 15

COMPLETE FIVE COURSES (NOT COUNTED ABOVE) FROM:

MATH 104. History of Mathematics 3
MATH 112. Vector Calculus 3
MATH 113. Differential Geometry 3
MATH 115. Modern Geometry and Transformations 3
MATH 126. Theory of Numbers 3
MATH 128B. Abstract Algebra II 3
MATH 129B. Linear Algebra II 3
MATH 131B. Introduction to Real Variables 3
MATH 132. Advanced Calculus 3

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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MATH 133B. Partial Differential Equations 3
MATH 134. Ord. Diff. Eqns and Dynamical Systems 3
MATH 138. Complex Variables 3
MATH 142. Introduction to Combinatorics 3
MATH 143C. Numerical Analysis and Scientific Computing 3
MATH 143M. Numerical Analysis and Scientific Computing 3
MATH 146. An Introduction to Mathematical Cryptography 3
MATH 150. Theory of Interest 3
MATH 161A. Applied Probability and Statistics I 3
MATH 161B. Applied Probability and Statistics II 3
MATH 162. Statistics for Bioinformatics 3
MATH 163. Probability Theory 3
MATH 164. Mathematical Statistics 3
MATH 177. Linear and Non-Linear Optimization 3
MATH 179. Introduction to Graph Theory 3
MATH 180. Individual Studies 1-4
MATH 180H. Individual Studies for Honors 3
MATH 180R. Undergraduate Research in Mathematics 1-4
Requires prior approval

MATH 203. Applied Mathematics, Computation, and Statistics Projects 3

COMPLETE ONE COURSE FROM:

MATH 170. Mathematical Modeling for the Life Sciences 3
MATH 178. Mathematical Modeling 3

University Electives	12-15
Total Units Required	**120**

BA - Mathematics, Preparation for Teaching (Integrated)

This integrated major is designed for students interested in teaching mathematics in high school or middle school. The course work satisfies requirements for (1) a BA in Mathematics, (2) a single subject teaching credential in mathematics (SSC), and (3) an education specialist instruction credential in mild to moderate disabilities (ESC). The integrated BA Mathematics Preparation for Teaching has been approved by the California Commission on Teacher Credentialing (CCTC) as an integrated undergraduate teacher preparation program. Students who complete the 4-year BA Math degree will be recommended to the CCTC for a preliminary single subject credential to teach middle school and high school mathematics. Students who complete the ESC requirements for an additional semester after graduation will be recommended to the CCTC for a preliminary education specialist credential to teach math to students with special needs.

Students in the integrated program must have successfully passed the California Basic Educational Skills Test (or equivalent alternatives) and completed 80% of math coursework in order to satisfy subject matter competency and engage in solo teaching in middle school or high school math classrooms. Minimum grade point average (GPA) criteria is required to verify subject matter competency and entry to student teaching.

The subject matter preparation component of the integrated BA Math Preparation for Teaching Program includes (1) a minimum of 30 semester units of core mathematics coursework that is directly related to subjects that are commonly taught in departmentalized mathematics classes in California public schools and (2) a minimum of 15 semester units of coursework that provides extended study (breadth and depth) of the subject. The degree requires 30 upper division units of mathematics. If upper division mathematics requirements are satisfied using lower division transferred courses, then additional upper division math courses will need to be taken to obtain the required number of upper division units.

The 33 required upper division units of credential courses need to be taken at SJSU.

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

Major-Specific Graduation Requirements

All courses in the Preparation and Required in the Major must be completed with a grade of "C- or better", and the following Preparation for the Major course with a grade of "C or better": ENGR 100W.

All credential courses in the Preparation and Required in the Major must be completed with a grade of "B" or better.

University Graduation Requirements 29

Core Lower Division General Education 21

Of the 39 units required by the university, 18 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

Upper Division General Education

Of the 9 units required by the university, 9 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 6

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

COMPLETE ONE SEQUENCE FROM:

African American Studies **6**

AFAM 002A. African Americans and the Development of America's History and Government	D2	3
AFAM 002B. African Americans and the Development of America's History and Government	M7	3

Asian American Studies **6**

AAS 033A. Asian Americans in U.S. History I	D2	3
AAS 033B. Asian Americans in U.S. History II	M7	3

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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U.S. History and Government **6**

HIST 015. Essentials of U.S. History	M12	3
POLS 015. Essentials of U.S. & California Government	M11	3

Chicana and Chicano Studies **6**

CCS 010A. Mexican Americans and the Development of U.S. History and Government	D2	3
CCS 010B. Mexican Americans and the Development of U.S. History and Government	M7	3

Physical Education **2**

Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Preparation for the Major **19-21**

CHAD 060. Child Development	E	3
ENGR 100W. Engineering Reports	ZR	3
MTED 184X. Student Teaching Phase I		4
PHYS 050. General Physics/Mechanics	B1B3	4

COMPLETE ONE COURSE FROM:

CS 022A. Python Programming for Non Majors I		3
CS 046A. Introduction to Programming		4
CS 049C. Programming in C		3
CS 049J. Programming in Java		3
MATH 050. Scientific Computing I		2
MATH 167. Programming in SAS		3

COMPLETE ONE COURSE FROM:

CCS 030. Race and Ethnicity in Public Space	D1	3
SOCI 001. Introduction to Sociology	D1	3

Requirements of the Major **72**

Lower Division Courses **13**

MATH 030. Calculus I	B4	3

MATH 030P or MATH 030PL may be used instead of MATH 030.

MATH 031. Calculus II	B4	4
MATH 032. Calculus III	B4	3
MATH 042. Discrete Mathematics		3

Upper Division Core **27**

EDSE 102. Speech, Language & Typical, Atypical Dev	S	3
EDSE 124. Methodologies for Eng Learners w/out Dis	V	3
MATH 102. Secondary School Mathematics		3
MATH 108. Introduction to Abstract Mathematics and Proofs		3
MATH 115. Modern Geometry and Transformations		3
MATH 128A. Abstract Algebra I		3
MATH 129A. Linear Algebra I		3
MATH 131A. Introduction to Analysis		3
MTED 394. Secondary School Mathematics		3

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Additional Requirements	**32**
EDEL 294. Research and Practices in Health and Special Education	3
EDSE 215. Assessment And Evaluation of Individuals with Mild/Moderate Disabilities	3
EDSE 218B. ASD: Mild to Moderate Disabilities	3
EDSE 279. Managing Behavior and Emotional Problems of Students in Special Education	3
MATH 161A. Applied Probability and Statistics I	3
MATH 161B. Applied Probability and Statistics II	3
MTED 184Y. Student Teaching II - Classroom Teaching	4
MTED 184Z. Student Teaching III - Classroom Teaching	4
COMPLETE ONE COURSE FROM:	
MATH 126. Theory of Numbers	3
MATH 201B. Mathematics for Secondary Teachers	3
COMPLETE ONE COURSE FROM:	
MATH 128B. Abstract Algebra II	3
MATH 129B. Linear Algebra II	3
MATH 131B. Introduction to Real Variables	3
Total Units Required	**120-122**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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BS - Applied Mathematics, Concentration in Applied and Computational Mathematics

This degree is recommended for students who wish to work in the research and development area of industry. This program also prepares a student for graduate study in applied mathematics, numerical analysis, or operations research.

The concentration in applied and computational mathematics provides a solid foundation in classical applied mathematics as well as computational mathematics, which could be informally described as "how to employ mathematics on computers wisely." A graduate could seek direct employment assisting a group of scientists with the formulation and solution of problems. There is a great need in local and national technical industries for people with sufficiently strong mathematical knowledge to participate on such teams. For example, modern techniques for solving partial differential equations are very sophisticated; the best method in a given situation depends on the properties of the model. Once a numerical approximation has been formulated, the techniques to solve that, and the commercial software available to do it, again require informed decisions.

30 upper division units of mathematics are required for this degree. If upper division requirements are fulfilled using transferred lower division courses, then additional upper division math courses will need to be taken to obtain the required number of upper division units.

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

Major-Specific Graduation Requirements

All courses in the Preparation and Required in the Major must be completed with a grade of "C- or better", and the following Preparation for the Major course with a grade of "C or better": MATH 100W

University Graduation Requirements 47

Core Lower Division General Education 30

Of the 39 units required by the university, 9 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

Upper Division General Education 9

Of the 9 units required by the university, 0 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 6

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

COMPLETE ONE SEQUENCE FROM:

African American Studies 6

AFAM 002A. African Americans and the Development of America's History and Government	D2	3
AFAM 002B. African Americans and the Development of America's History and Government	M7	3

Asian American Studies 6

AAS 033A. Asian Americans in U.S. History I	D2	3
AAS 033B. Asian Americans in U.S. History II	M7	3

U.S. History and Government 6

HIST 015. Essentials of U.S. History	M12	3
POLS 015. Essentials of U.S. & California Government	M11	3

Chicana and Chicano Studies 6

CCS 010A. Mexican Americans and the Development of U.S. History and Government	D2	3
CCS 010B. Mexican Americans and the Development of U.S. History and Government	M7	3

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Physical Education 2

Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Preparation for the Major 25

CS 046A. Introduction to Programming 4
CS 046B. Introduction to Data Structures 4
MATH 100W. Technical Writing Workshop ..... Z 3

8 units from Economics, Science or Engineering. The choices must be approved by the Mathematics and Statistics Department 8

6 additional upper division units from Math, CS, Science, Engineering, Economics. All of these units can be in MATH 203 or similar applied mathematics projects. The choices must be approved by the Mathematics and Statistics Department 6

Requirements of the Major 43

Lower Division Requirements 13

MATH 030. Calculus I B4 3
MATH 030P or MATH 030PL may be used instead of MATH 030.
MATH 031. Calculus II B4 4
MATH 032. Calculus III B4 3
MATH 042. Discrete Mathematics 3

Upper Division Requirements 30

MATH 129A. Linear Algebra I 3
MATH 134. Ord. Diff. Eqns and Dynamical Systems 3
MATH 161A. Applied Probability and Statistics I 3

COMPLETE ONE COURSE FROM:

MATH 170. Mathematical Modeling for the Life Sciences 3
MATH 178. Mathematical Modeling 3

COMPLETE ONE COURSE FROM:

MATH 129B. Linear Algebra II 3
MATH 143M. Numerical Analysis and Scientific Computing 3
MATH 177. Linear and Non-Linear Optimization 3

Specialized Track 15

Complete one of the following two tracks. Tracks are a cluster of courses used for advising purposes. Tracks will not appear on transcripts or diplomas. Please see an advisor in the Mathematics and Statistics department for more details.

Applied Math Track

MATH 112. Vector Calculus 3
MATH 133B. Partial Differential Equations 3
MATH 138. Complex Variables 3
MATH 143C. Numerical Analysis and Scientific Computing 3

COMPLETE ONE COURSE FROM:

MATH 131A. Introduction to Analysis 3
MATH 132. Advanced Calculus 3
MATH 142. Introduction to Combinatorics 3
MATH 179. Introduction to Graph Theory 3

Applied Discrete Math Track

MATH 142. Introduction to Combinatorics 3
MATH 179. Introduction to Graph Theory 3

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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COMPLETE ONE COURSE FROM:

MATH 127. Applied and Industrial Algebra	3
MATH 163. Probability Theory	3

COMPLETE TWO COURSES (NOT COUNTED ABOVE):

MATH 127. Applied and Industrial Algebra	3
MATH 129B. Linear Algebra II	3
MATH 143C. Numerical Analysis and Scientific Computing	3
MATH 143M. Numerical Analysis and Scientific Computing	3
MATH 146. An Introduction to Mathematical Cryptography	3
MATH 161B. Applied Probability and Statistics II	3
MATH 162. Statistics for Bioinformatics	3
MATH 163. Probability Theory	3
MATH 177. Linear and Non-Linear Optimization	3
CS 116A. Introduction to Computer Graphics	3
CS 146. Data Structures and Algorithms	3
CS 151. Object-Oriented Design	3
CS 155. Introduction to the Design and Analysis of Algorithms	3
CS 157A. Introduction to Database Management Systems	3
CS 159. Introduction to Parallel Processing	3

University Electives	5
Total Units Required	**120**

BS - Applied Mathematics, Concentration in Economics and Actuarial Science

This program is designed for students who want to become actuaries and for students who want a program that integrates business, economics, and mathematics. Actuaries are trained to analyze risk and are typically employed by insurance companies, banks, the government, and companies that handle retirement funds.

33 upper division units of mathematics are required for this degree. If upper division requirements are fulfilled using transferred lower division courses, then additional upper division math courses will need to be taken to obtain the required number of upper division units.

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

Major-Specific Graduation Requirements

All courses in the Preparation and Required in the Major must be completed with a grade of "C- or better", and the following Preparation for the Major course with a grade of "C or better": MATH 100W

University Graduation Requirements 44

Core Lower Division General Education 27

Of the 39 units required by the university, 12 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

Upper Division General Education 9

Of the 9 units required by the university, 0 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 6

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

COMPLETE ONE SEQUENCE FROM:

African American Studies 6

AFAM 002A. African Americans and the Development of America's History and Government	D2	3
AFAM 002B. African Americans and the Development of America's History and Government	M7	3

Asian American Studies 6

AAS 033A. Asian Americans in U.S. History I	D2	3
AAS 033B. Asian Americans in U.S. History II	M7	3

U.S. History and Government 6

HIST 015. Essentials of U.S. History	M12	3
POLS 015. Essentials of U.S. & California Government	M11	3

Chicana and Chicano Studies 6

CCS 010A. Mexican Americans and the Development of U.S. History and Government	D2	3
CCS 010B. Mexican Americans and the Development of U.S. History and Government	M7	3

Physical Education 2

Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Preparation for the Major 24-26

ECON 001A. Principles of Economics: Macroeconomics 4
ECON 001B. Principles of Economics: Microeconomics D1 4
ECON 101. Microeconomic Analysis 4
ECON 102. Macroeconomic Analysis 4
BUS2 190. Quantitative Business Analysis 3
MATH 100W. Technical Writing Workshop ..... Z 3

COMPLETE ONE COURSE FROM:

MATH 050. Scientific Computing I 2
MATH 167R. Statistical Programming with R 3
CS 046A. Introduction to Programming 4
CS 049C. Programming in C 3
CS 049J. Programming in Java 3

Requirements of the Major 46-49

Lower Division Requirements 13

MATH 030. Calculus I B4 3
MATH 030P or MATH 030PL may be used instead of MATH 030.
MATH 031. Calculus II B4 4
MATH 032. Calculus III B4 3
MATH 042. Discrete Mathematics 3

Upper Division Requirements 27-28

MATH 129A. Linear Algebra I 3
MATH 150. Theory of Interest 3
MATH 161A. Applied Probability and Statistics I 3
MATH 161B. Applied Probability and Statistics II 3
MATH 163. Probability Theory 3
MATH 164. Mathematical Statistics 3
MATH 178. Mathematical Modeling 3

COMPLETE ONE COURSE FROM:

CS 046B. Introduction to Data Structures 4
MATH 143C. Numerical Analysis and Scientific Computing 3
MATH 143M. Numerical Analysis and Scientific Computing 3

COMPLETE ONE COURSE FROM:

MATH 177. Linear and Non-Linear Optimization 3
ISE 170. Operation Research 3

Upper Division Electives 6-8

COMPLETE SIX TO EIGHT UNITS FROM:

BUS1 170. Fundamentals of Finance 3
BUS1 172A. Investment Analysis 3
BUS1 172B. Portfolio Management 3
BUS1 173A. Financial Management: Theory and Policy 3
ECON 103. Intro to Econometrics 4
ECON 104. Mathematical Methods for Economics 4
ECON 106. Managerial Economics 4
ECON 138. Business and Economic Forecasting 4
ECON 139. Principles of Investments 4
ISE 167. System Simulation 3
MATH 131A. Introduction to Analysis 3
MATH 132. Advanced Calculus 3
Only one of MATH 131A or MATH 132 may be taken
MATH 134. Ord. Diff. Eqns and Dynamical Systems 3

University Electives 1-6

Total Units Required 120

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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BS - Applied Mathematics, Concentration in Statistics

This degree program is recommended for students who wish to pursue a career in statistics. This program also prepares a student for graduate study in probability and statistics.

The concentration in statistics is appropriate for students pursuing a career involving the collection and analysis of numerical data, the use of statistical techniques to predict population growth or economic conditions, the use of statistics to analyze medical, environmental, legal and social problems, or to help business managers make decisions and carry out quality control. The statistics concentration also provides a solid foundation for students who plan to become actuaries.

36 upper division units of mathematics are required for this degree. If upper division requirements are fulfilled using transferred lower division courses, then additional upper division math courses will need to be taken to obtain the required number of upper division units.

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

Major-Specific Graduation Requirements

All courses in the Preparation and Required in the Major must be completed with a grade of "C- or better", and the following Preparation for the Major course with a grade of "C or better": MATH 100W

University Graduation Requirements	50

Core Lower Division General Education	33

Of the 39 units required by the university, 6 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

Upper Division General Education	9

Of the 9 units required by the university, 0 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions	6

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

COMPLETE ONE SEQUENCE FROM:

African American Studies		**6**
AFAM 002A. African Americans and the Development of America's History and Government	D2	3
AFAM 002B. African Americans and the Development of America's History and Government	M7	3
Asian American Studies		**6**
AAS 033A. Asian Americans in U.S. History I	D2	3
AAS 033B. Asian Americans in U.S. History II	M7	3
U.S. History and Government		**6**
HIST 015. Essentials of U.S. History	M12	3
POLS 015. Essentials of U.S. & California Government	M11	3
Chicana and Chicano Studies		**6**
CCS 010A. Mexican Americans and the Development of U.S. History and Government	D2	3
CCS 010B. Mexican Americans and the Development of U.S. History and Government	M7	3

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Physical Education		**2**

Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Preparation for the Major		**17**
MATH 100W. Technical Writing Workshop	Z	3
8 units from Economics, Business, Science, or Engineering. The choices must be approved by the Mathematics and Statistics Department.		8
6 additional upper division units from Math, CS, Science, Engineering, Economics, or Business. All of these units can be in MATH 203 or similar applied mathematics projects. The choices must be approved by the Mathematics and Statistics Department		6
Requirements of the Major		**49**
Lower Division Requirements		**13**
MATH 030. Calculus I	B4	3
MATH 030P or MATH 030PL may be used instead of MATH 030.		
MATH 031. Calculus II	B4	4
MATH 032. Calculus III	B4	3
MATH 042. Discrete Mathematics		3
Upper Division Requirements		**36**
MATH 129A. Linear Algebra I		3
MATH 161A. Applied Probability and Statistics I		3
MATH 161B. Applied Probability and Statistics II		3
MATH 163. Probability Theory		3
MATH 164. Mathematical Statistics		3
MATH 167R. Statistical Programming with R		3
COMPLETE EIGHTEEN UNITS FROM:		
MATH 112. Vector Calculus		3
MATH 131A. Introduction to Analysis		3
MATH 132. Advanced Calculus		3
Only one of MATH 131A or MATH 132 may be taken		
MATH 142. Introduction to Combinatorics		3
MATH 143C. Numerical Analysis and Scientific Computing		3
MATH 143M. Numerical Analysis and Scientific Computing		3
MATH 150. Theory of Interest		3
MATH 162. Statistics for Bioinformatics		3
MATH 170. Mathematical Modeling for the Life Sciences		3
MATH 178. Mathematical Modeling		3
University Electives		**4**
Total Units Required		**120**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Minor - Mathematics

A grade of "C-" or better is required for courses being used to satisfy the requirements for this minor.

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Requirements of the Minor		19
Lower Division		**10**
MATH 030. Calculus I	B4	3
MATH 030P or MATH 030PL may be used instead of MATH 030.		
MATH 031. Calculus II	B4	4
COMPLETE ONE COURSE FROM:		
MATH 032. Calculus III	B4	3
MATH 042. Discrete Mathematics		3
Upper Division Mathematics Electives		**9**
Total Units Required		**19**

MATH 30P or Math 30PL may be used instead of Math 30. MATH 101, MATH 105, MATH 106, MATH 107A and MATH 107B may not be included in the minor. MATH 123 can be included in the minor only if neither MATH 129A nor MATH 133A nor Math 134 is included in the minor. At most one of Math 133A and Math 134 can be included in the minor.

Minor - Mathematics Education

A grade of "C-" or better is required for courses being used to satisfy the requirements for this minor.

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Requirements of the Minor	12
MATH 102. Secondary School Mathematics	3
EDSC 173. Psychological Foundations of Secondary Teacher Education	3
EDTE 190. Health Education for the Classroom Teacher	3
EDSE 192A. Including and Supporting Students	3
Total Units Required	**12**

Units for the above courses, while leading to the Minor in Mathematics Education, are not transferred to credential programs. These courses do, however, satisfy requirements that must be met in order for the credential programs at SJSU to recommend the credential to the State of California.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Minor - Mathematics, For K-8 Teachers

A grade of "C-" or better is required for courses being used to satisfy the requirements for this minor.

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Requirements of the Minor		18
MATH 012. Number Systems	B4	3
MATH 101. Problem Solving for Teachers		3
MATH 105. Concepts in Mathematics, Probability, Statistics		3
MATH 106. Intuitive Geometry		3
MATH 107A. Explorations in Algebra		3
MATH 107B. Explorations in Geometry		3

Math 19 Precalculus or a Calculus course may be substituted for one of the required courses in this minor. A grade of "C-" or better is required for courses being used to satisfy the requirements for this minor.

Total Units Required	18

MA - Mathematics

This degree is recommended for future community college teachers and for students who plan to continue toward the PhD in mathematics.

Requirements for Admission

Candidates must meet all the university admissions requirements. Students can be admitted in either classified or conditionally classified standing. If an applicant's preparation for advanced graduate work is considered inadequate to meet the course prerequisites or other departmental requirements, the conditions will include taking preparatory courses to meet these requirements. Such courses will not count as part of the master's degree program requirements.

Applicants from countries in which the native language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirements webpage at GAPE.

Classified Standing

To enter this program with classified standing, a student must meet the minimum requirements for admission to the Graduate Division, have completed 18 semester units of upper-division mathematics with a GPA of at least 3.0, and have one to three letters of recommendation submitted on his or her behalf. The coursework must be acceptable toward a bachelor's degree in mathematics and may not be counted toward the MA degree.

Conditionally Classified Standing

A student who meets the minimum requirements for admission to the Graduate Division but does not satisfy the mathematics coursework requirements stated above may be admitted as a conditionally classified student. Eligibility is determined on a case-by-case basis. The individual admission letter will explain required terms and conditions for attaining classified standing. After arrival at SJSU, a conditionally accepted student must complete additional coursework to make up the unit deficiency in order to achieve classified status. These make-up units will not be included in the MA degree unit requirement total.

Requirements for Advancement to Graduate Candidacy

To advance to candidacy in the MA in Mathematics degree, a student must meet the university candidacy requirements, as stated in this catalog. The University requires that all graduate students complete the Graduation Writing Assessment Requirement (GWAR) as a condition for advancement to candidacy. Please refer to the SJSU catalog section titled "Graduation Writing Assessment Requirement" for details. For graduate courses that meet the GWAR, please refer to the Graduate Admissions and Program Evaluations (GAPE) website at www.sjsu.edu/gape.

Thesis and Writing Project students must have their committees (see below) in place before filing for candidacy.

The student must complete the Petition for Advancement to Graduate Candidacy form. This form lists, among other things, all the coursework to be counted toward the master's degree. After the form has been signed by the student's thesis or writing project director (if applicable) and the Graduate Coordinator, it is forwarded to GAPE for final approval. Any subsequent changes to the student's program require approval from GAPE.

Requirements for Graduation

University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

MA - Mathematics Graduation Requirements

Culminating Experience

Students must choose one of three options: The Plan A (Thesis), Plan B (Project), or Plan B (Comprehensive Examination).

Plan A (Thesis)

A student who selects the Thesis option must find a willing tenured or tenure-track faculty member to serve as the thesis advisor, and complete a thesis under that advisor's supervision. The thesis must be reviewed and approved by a committee composed of the advisor and two other faculty members chosen by the student in consultation with the advisor. The student must give a public presentation on the thesis, which is followed by an oral examination (defense) conducted by the committee. Theses must be filed with the Associate Dean of the College of Graduate Studies, subject to the rules and deadlines established by the College of Graduate Studies.

Thesis students must enroll in MATH 299, Master's Thesis (3 units). Students receive credit when the thesis is completed, successfully defended, and all committee members have signed off on it. Students who do not complete their theses during the semester in which they are enrolled in MATH 299 will receive a grade of "RP" for that course. If all other degree requirements have been completed, students must subsequently enroll in MATH 1290R in compliance with university regulations until the thesis is completed, defended, and approved by Graduate Studies.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Plan B (Project)

A student who selects the Project option must find a willing tenured or tenure-track faculty member to serve as the project advisor, and complete a written project under that advisor's supervision. The project must be reviewed and approved by a committee composed of the advisor and two other faculty members chosen by the student in consultation with the advisor. The student must give a public presentation on the project, which is followed by an oral examination (defense) conducted by the committee.

Students choosing the Plan B (Project) option must enroll in MATH 298, Special Study (3 units). Students receive credit when the writing project is completed, successfully defended, and all committee members have signed off on it. Students who do not complete their projects during the semester in which they are enrolled in MATH 298 will receive a grade of "RP" for that course. If all other degree requirements have been completed, students must subsequently sign up for MATH 1290R in compliance with university regulations until the writing project is completed and defended.

Plan B (Comprehensive Examination)

Students who select this option must pass two written comprehensive examinations. One examination will be in Higher Algebra (221A and 221B). The second exam will be in Analysis (231A and 231B).

Students choosing the Plan B (Comprehensive Exam) option must enroll in an additional elective (3 units) selected in consultation with the program graduate advisor. Students complete the program Culminating Experience when they pass both exams. Students who successfully complete all other program requirements but not one or both exams must subsequently enroll in MATH 1290R for the following semester or semesters in compliance with the university requirement for continuous enrollment until both exams have been passed.

Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR). For information on the GWAR, please see http://info.sjsu.edu/gcw.html.

Requirements for the Masters 33

Core Courses 21

CS 200W. Graduate Technical Writing	GWAR	3
MATH 221A. Higher Algebra I		3
MATH 221B. Higher Algebra II		3
MATH 231A. Real Analysis		3
MATH 231B. Functional Analysis		3

COMPLETE TWO COURSES FROM:

MATH 229. Advanced Matrix Theory	3
MATH 238. Advanced Complex Variables	3
MATH 275A. Topology	3
MATH 279A. Graph Theory	3

Electives 6

COMPLETE TWO COURSES FROM:

MATH 203. Applied Mathematics, Computation, and Statistics Projects	3
MATH 211A. Geometry of Projective Spaces	3
MATH 213A. Introduction to Smooth Manifolds	3
MATH 213B. Introduction to Riemannian Geometry	3
MATH 226. Theory of Numbers	3
MATH 229. Advanced Matrix Theory	3
MATH 233A. Applied Mathematics I	3
MATH 234. Advanced Dynamical Systems	3
MATH 235. Wavelets and their Applications	3
MATH 238. Advanced Complex Variables	3
MATH 243A. Advanced Numerical Analysis	3
MATH 243B. Advanced Topics in Numerical Analysis	3
MATH 243M. Numerical Linear Algebra	3
MATH 261A. Regression Theory and Methods	3
MATH 263. Stochastic Processes	3
MATH 275A. Topology	3
MATH 275B. Advanced Topics in Topology	3

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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MATH 279A. Graph Theory 3
MATH 279B. Advanced Graph Theory 3
MATH 285. Advanced Topics in Mathematics 3
MATH 297A. Preparation for Writing Project, Research Project or Thesis 3

Additional Electives **3**

COMPLETE AN ADDITIONAL 100-LEVEL OR 200-LEVEL COURSES SELECTED IN CONSULTATION WITH GRADUATE ADVISOR.

Courses excluded: MATH 100W, MATH 101, MATH 102, MATH 105, MATH 106, MATH 107A, MATH 107B, MATH 123, MATH 129A, MATH 133A, MATH 201A, MATH 201B, MATH 287.

Culminating Experience **3**

COMPLETE ONE OPTION (PLAN A THESIS, PLAN B WRITING PROJECT, OR PLAN B COMPREHENSIVE EXAM):

Plan A (Thesis) **3**
MATH 299. Master's Thesis 3
Oral Presentation
Oral Defense

Plan B (Writing Project) **3**
MATH 298. Special Study 3
Oral Presentation
Oral Defense

Plan B (Comprehensive Exam) **3**
MATH 295E. Mathematics Comprehensive Exam Preparation 3
Comprehensive Exam

Total Units Required **33**

Elective courses must be planned in consultation with the Graduate Advisor.

The maximum number of upper-division undergraduate units that can be applied toward the master's degree is 6.

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU cumulative grade point averages of 3.0 in order to graduate.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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MA - Mathematics, Concentration in Mathematics Education (Not Accepting Students)

This degree is recommended for secondary school mathematics teachers who want to increase their mathematical competence and their knowledge of the teaching and learning of mathematics.

Requirements for Admission to Classified Standing

Admission requirements to classified standing for this program are the same as for the MA - Mathematics program, except the 18 semester unit requirement is replaced by 21 semester units.

Requirements for Admission to Conditionally Classified Standing

Admission requirements to conditionally classified standing are the same as for the MA - Mathematics program.

Requirements for Admission to Candidacy for the MA - Mathematics, Concentration in Mathematics Education

Requirements are the same as for the MA - Mathematics except that requirement 2 is replaced by: The Qualifying Examination is an individualized written exam on fundamental ideas related to the concentration in Mathematics Education. These ideas are normally covered in MATH 201A, MATH 201B, and MTED 209.

Completing Requirements for the MA - Mathematics, Concentration in Mathematics Education

Both Plan A (with Thesis) and Plan B (with Writing Project) requirements are the same as in the MA Mathematics except the thesis or writing project must be in the field of mathematics education.

Electives

The rules for elective units are the same as those for MA - Mathematics

Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR). For information on the GWAR, please see http://info.sjsu.edu/gcw.html.

Requirements of the Masters 30

Required Core Courses 21

MATH 201A. Mathematics for Secondary Teachers 3

COMPLETE TWELVE UNITS FROM:

MATH 211A. Geometry of Projective Spaces 3
MATH 213A. Introduction to Smooth Manifolds 3
MATH 213B. Introduction to Riemannian Geometry 3
MATH 221A. Higher Algebra I 3
MATH 221B. Higher Algebra II 3
MATH 226. Theory of Numbers 3
MATH 229. Advanced Matrix Theory 3
MATH 231A. Real Analysis 3
MATH 231B. Functional Analysis 3
MATH 233A. Applied Mathematics I 3
MATH 234. Advanced Dynamical Systems 3
MATH 235. Wavelets and their Applications 3
MATH 238. Advanced Complex Variables 3
MATH 243A. Advanced Numerical Analysis 3
MATH 243B. Advanced Topics in Numerical Analysis 3
MATH 243M. Numerical Linear Algebra 3
MATH 258. Categorical Data Analysis 3
MATH 261A. Regression Theory and Methods 3
MATH 261B. Design and Analysis of Experiments 3

MATH 263. Stochastic Processes	3
MATH 265. Time Series Theory and Methods	3
MATH 266. Survival Analysis	3
MATH 275A. Topology	3
MATH 275B. Advanced Topics in Topology	3
MATH 279A. Graph Theory	3
MATH 279B. Advanced Graph Theory	3
MATH 285. Advanced Topics in Mathematics	3
Including a one-year sequence	
Electives	**6**
100-200 level mathematics courses not to include MATH 101, MATH 102, MATH 105, MATH 106, MATH 107A, MATH 107B, MATH 123, MATH 129A, MATH 133A, or MATH 287.	
Culminating Experience	**3**
Plan A	
MATH 299. Master's Thesis	3
Plan B	
MATH 298. Special Study	3
Total Units Required	**30**

The maximum number of upper-division undergraduate units that can be applied toward the master's degree is 6.

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU cumulative grade point averages of 3.0 in order to graduate.

MS - Mathematics

This degree is appropriate for students who seek to deepen their knowledge of mathematics and its applications for work in the research and development area of industry.

Requirements for Admission

Candidates must meet all the university admissions requirements. Students can be admitted in either classified or conditionally classified standing. If an applicant's preparation for advanced graduate work is considered inadequate to meet the course prerequisites or other departmental requirements, the conditions will include taking preparatory courses to meet these requirements. Such courses will not count as units that fulfill the master's degree program requirements.

Applicants from countries in which the native language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirements webpage at GAPE.

Classified Standing

To enter this program with classified standing, a student must meet the minimum requirements for admission to the Graduate Division, have completed 18 semester units of upper-division mathematics with a GPA of at least 3.0, and have one to three letters of recommendation submitted on his or her behalf. The coursework must be acceptable toward a bachelor's degree in mathematics and may not be counted toward the MS degree.

Conditionally Classified Standing

A student who meets the minimum requirements for admission to the Graduate Division but does not satisfy the mathematics coursework requirements stated above may be admitted as a conditionally classified student. Eligibility is determined on a case-by-case basis. The individual admission letter will explain required terms and conditions for attaining classified standing. After arrival at SJSU, a conditionally accepted student must complete additional coursework to make up the unit deficiency in order to achieve classified status. These make-up units will not be included in the MA degree unit requirement total.

Requirements for Advancement to Graduate Candidacy

To advance to candidacy for the MS degree, a student must meet the university candidacy requirements, as stated in this catalog. The University requires that all graduate students complete the Graduation Writing Assessment Requirement (GWAR) as a condition for advancement to candidacy. Please refer to the SJSU catalog section entitled "Graduation Writing Assessment Requirement" for details. For graduate courses that meet the GWAR, please refer to the Graduate Admissions and Program Evaluations (GAPE) website at www.sjsu.edu/gape.

Thesis and Writing Project students must have their committees (see below) in place before filing for candidacy.

The student must complete the Petition for Advancement to Graduate Candidacy form. This form lists, among other things, all the coursework to be counted toward the master's degree. After the form has been signed by the student's thesis or writing project director (if applicable) and the Graduate Coordinator, it is forwarded to GAPE for final approval. Any subsequent changes to the student's program require approval from GAPE.

Requirements for Graduation

University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

MS - Mathematics Graduation Requirements

Culminating Experience

Students must choose one of three options: The Plan A (Thesis), Plan B (Project), or Plan B (Comprehensive Examination).

Plan A (Thesis)

A student who selects the Thesis option must find a willing tenured or tenure-track faculty member to serve as the thesis advisor, and complete a thesis under that advisor's supervision. The thesis must be reviewed and approved by a committee composed of the advisor and two other faculty members chosen by the student in consultation with the advisor. The student must give a public presentation on the thesis, which is followed by an oral examination (defense) conducted by the committee. Theses must be filed with the Associate Dean of Graduate Studies, subject to the rules and deadlines established by the College of Graduate Studies.

Thesis students must enroll in MATH 299, Master's Thesis (3 units). Students receive credit when the thesis is completed, successfully defended, and all committee members have signed off on it. Students who do not complete their theses during the semester in which they are enrolled in MATH 299 will receive a grade of "RP" for that course. If all other degree requirements have been completed, students must subsequently enroll in MATH 1290R in compliance with university regulations until the thesis is completed, defended, and approved by College of Graduate Studies.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Plan B (Project)

A student who selects the Project option must find a willing tenured or tenure-track faculty member to serve as the project advisor, and complete a written project under that advisor's supervision. The project must be reviewed and approved by a committee composed of the advisor and two other faculty members chosen by the student in consultation with the advisor. The student must give a public presentation on the project, which is followed by an oral examination (defense) conducted by the committee.

Students choosing the Plan B (Project) option must enroll in MATH 298, Special Study (3 units). Students receive credit when the writing project is completed, successfully defended, and all committee members have signed off on it. Students who do not complete their projects during the semester in which they are enrolled in MATH 298 will receive a grade of "RP" for that course. If all other degree requirements have been completed, students must subsequently sign up for MATH 1290R in compliance with university regulations until the writing project is completed and defended.

Plan B (Comprehensive Examination)

Students who select this option must pass two written comprehensive examinations. One examination will be in Numerical Analysis (243A and 243M). The second exam will be in Differential Equations/Dynamical Systems (233A and 234).

Students must enroll in MATH 298E (3 units)for the semester they are taking their comprehensive exams. Students receive credit when both exams are passed. Students who do not pass one or both exams during the semester they are enrolled in MATH 298E will receive a grade of "RP" for that course. If all other degree requirements have been completed, students must subsequently enroll in MATH 1290R for the following semester or semesters in compliance with the university requirement for continuous enrollment until both exams have been passed.

Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR). For information on the GWAR, please see http://info.sjsu.edu/gcw.html.

Requirements of the Masters 33

Core Courses 21

CS 200W. Graduate Technical Writing	GWAR	3
MATH 233A. Applied Mathematics I		3
MATH 234. Advanced Dynamical Systems		3
MATH 243A. Advanced Numerical Analysis		3
MATH 243M. Numerical Linear Algebra		3

APPLIED MATHEMATICS: SELECT ONE OF THE FOLLOWING COURSES IN CONSULTATION WITH THE GRADUATE ADVISOR:

MATH 203. Applied Mathematics, Computation, and Statistics Projects	3
MATH 285. Advanced Topics in Mathematics	3
MATH 288J. Applied Mathematics Internship	3

STATISTICS: SELECT ONE OF THE FOLLOWING COURSES IN CONSULTATION WITH THE GRADUATE ADVISOR:

MATH 261A. Regression Theory and Methods	3
MATH 263. Stochastic Processes	3

or another 200-level statistics course with consent of advisor

Electives 6

COMPLETE TWO COURSES FROM:

MATH 213A. Introduction to Smooth Manifolds	3
MATH 213B. Introduction to Riemannian Geometry	3
MATH 229. Advanced Matrix Theory	3
MATH 235. Wavelets and their Applications	3
MATH 238. Advanced Complex Variables	3
MATH 243B. Advanced Topics in Numerical Analysis	3
MATH 261A. Regression Theory and Methods	3
MATH 263. Stochastic Processes	3
MATH 279A. Graph Theory	3
MATH 279B. Advanced Graph Theory	3
MATH 285A. Advanced Topics in Applied Mathematics	3
MATH 297A. Preparation for Writing Project, Research Project or Thesis	3

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Additional Electives	**3**

Complete one 100-level or 200-level course selected in consultation with advisor. Elective courses may include a maximum of 3 units of MATH 280 and/or MATH 297A. Courses excluded are: MATH 100W, MATH 101, MATH 102, MATH 105, MATH 106, MATH 107A, MATH 107B, MATH 123, MATH 129A, MATH 133A, MATH 201A, MATH 201B, and MATH 287.

Culminating Experience	**3**

Plan A (Thesis)

MATH 299. Master's Thesis 3

Oral Presentation

Oral Defense

Plan B (Project)

MATH 298. Special Study 3

Oral Presentation

Oral Defense

Plan B (Comprehensive Exam)

Additional 3-unit elective selected in consultation with graduate advisor

Comprehensive Exam

Total Units Required	**33**

Elective courses must be planned in consultation with the Graduate Advisor.

The maximum number of upper-division undergraduate units that can be applied toward the master's degree is 6.

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU cumulative grade point averages of 3.0 in order to graduate.

MS - Statistics

The Master of Science in Statistics prepares students to become practicing statisticians in business, government and industry fields. It features theoretical and applied coursework in statistics and advanced statistical techniques, and its skills-based coursework emphasizes writing and communication skills and provides students with practical project experience. The program was developed in concert with industry and is designed to dovetail into professional career opportunities.

Persons with bachelor's degrees in engineering, the sciences, economics, business, the social sciences or other fields that use statistics are encouraged to apply. Those with bachelor's degrees in mathematics or statistics are welcome to apply for the program in order to advance their technical and theoretical skills.

Information about the MS, Statistics is available on the Department of Mathematics & Statistics website at www.sjsu.edu/math

Admissions Requirements

University Admissions

Applicants must submit a complete graduate application by applying through the CSU Cal State Apply system at calstate.edu/apply and meet all the university admission requirements. See the GAPE Graduate Admissions website and this Catalog for general information about graduate admissions at SJSU.

Applicants from countries in which the native language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirements webpage at GAPE. For TOEFL Requirements, see the Policies and Procedures section, Graduate and Post-Baccalaureate Information in this Catalog.

Requirements for Admission to Classified Standing

To enter this program with classified standing, an applicant must meet the minimum requirements for admission to the Graduate Division. Applicants must also have completed the following SJSU courses or their equivalents each with a grade of "B" or better (this coursework is not counted toward the MS degree):

1. A calculus series through multiple integration and partial differentiation (equivalent to the SJSU courses MATH 30, 31 and 32);
2. Linear algebra equivalent to MATH 129A; and
3. Introductory calculus-based probability and statistics equivalent to MATH 161A.

In addition, applicants must also submit scores from the general GRE test. Applicants must have two letters of recommendation submitted on their behalf.

Requirements for Admission to Conditionally Classified Standing

An applicant who meets the minimum requirements for admission to the Graduate Division but does not yet satisfy the mathematics and statistics coursework program requirements stated above may be admitted as Conditionally Classified. The student must complete additional coursework to make up the deficiency before beginning the program. The units earned from this additional coursework may not be counted towards the total number of units required for the MS degree. The individual admission letter will explain required terms and conditions for attaining Classified standing.

Requirements for Admission to Candidacy

To be admitted to candidacy for the MS Statistics degree:

1. A student must meet the candidacy requirements as stated in this catalog. The University requires that all graduate students complete the Graduation Writing Assessment Requirement (GWAR) as a condition for advancement to candidacy. Please refer to the SJSU catalog section titled "Graduation Writing Assessment Requirement" for details. The GWAR requirement is fulfilled by passing CS 200W.
2. Complete MATH 163 and 164, each with a grade of at least B.
3. Complete at least 18 units towards the degree with at least a 3.0 average.
4. Complete the Request for Candidacy and Graduate Degree Program form for the Master of Science degree. This form lists, among other things, all the coursework to be counted toward the master's degree. After the form has been signed by the Graduate Coordinator, it is forwarded to the Associate Dean for College of Graduate Studies for final approval. Any subsequent changes to the student's program require approval from College of Graduate Studies.

Requirements for Graduation

University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

MS- Statistics Graduation Requirements

Students in the MS Statistics program complete all courses in the program core, project experience or written exam, and culminating experience. Those choosing the Specialization in Machine Learning complete the electives MATH 251, 252, 253 and 267. All other students complete MATH 261B and 9 units of electives selected in consultation with, and approved by, the Statistics Coordinator. The electives should form a coherent set of courses associated with the student's career goals. They may include a maximum of 3 units of MATH 180 and a maximum of three units of MATH 203 or MATH 298. The maximum number of 100-level undergraduate units that can be applied toward the master's degree is 15.

Culminating Experience

Plan B (Project)

Students in the MS, Statistics enroll in the MATH 269 in their final semester. They complete the program culminating experience requirement by successfully completing the course and an oral examination related to their consulting project.

Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR). For information on the GWAR, please see http://info.sjsu.edu/gcw.html.

Requirements of the Masters — 36

Core Courses — 18

CS 200W. Graduate Technical Writing	GWAR	3
MATH 163. Probability Theory		3
MATH 164. Mathematical Statistics		3
MATH 167R. Statistical Programming with R		3
MATH 167PS. Introduction to Python Programming and SQL		3
MATH 261A. Regression Theory and Methods		3

Project Experience — 3

COMPLETE ONE COURSE FROM:

MATH 203. Applied Mathematics, Computation, and Statistics Projects	3
MATH 288I. Internships	3
MATH 298. Special Study	3

Comprehensive written exam on material from Math 163, Math 164, and Math 261A and one additional elective approved by the graduate advisor

Electives or Specialization — 12

COMPLETE 12 UNITS OF ELECTIVES OR THE SPECIALIZATION IN MACHINE LEARNING

Electives

Students not pursuing a specialization take MATH 261B and 9 units of electives selected in consultation with the graduate advisor	9
MATH 261B. Design and Analysis of Experiments	3

Specialization in Machine Learning

MATH 251. Classification	3
MATH 252. Cluster Analysis	3
MATH 253. Mathematical Methods for Data Visualization	3
MATH 267. Computational Statistics	3

Culminating Experience — 3

MATH 269. Statistical Consulting	3

Total Units Required — 36

Elective courses must be planned in consultation with the Graduate Advisor.

The maximum number of upper-division undergraduate units that can be applied toward the master's degree is 15.

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU Cumulative grade point averages of 3.0 in order to graduate.

Mechanical Engineering Department

College of Engineering

ENGINEERING BUILDING 310
408-924-3850
sjsu.edu/me/

Professors

Raghu B. Agarwal, Graduate Program Coordinator
Fred Barez
Winncy Y. Du
Burford J. Furman
Tai-Ran Hsu
John Lee
Nicole Okamoto, Chair
Raymond K. Yee, Associate Chair

Assistant Professors

Feruza Amirkulova
Amir Armani
Saeid Bashash
Amir Ghazanfari
Crystal Han
Vimal Viswanathan

Curricula

BS, Mechanical Engineering
MS, Mechanical Engineering

Introduction

Do you like to design and innovate? Are you good at math and science? Would you like to help solve problems facing our society? Consider a BS or MS in Mechanical Engineering. These programs are part of the Charles W. Davidson College of Engineering, which is ranked #3 in the nation among public universities that do not offer a doctorate. We place hands-on labs and projects as a priority, and interaction with faculty is substantial. Mechanical engineering students focus on mechanical design, mechatronics, thermal-fluids engineering, or a combination of those areas. Our BS and MS graduates work in industries including product design, sustainable energy, transportation solutions, biomedical devices, aerospace systems, sensor technology, and semiconductor manufacturing. Please visit our website at www.sjsu.edu/me for more information. The BS Mechanical Engineering program is accredited by the Engineering Accreditation Commission of ABET, www.abet.org.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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BS - Mechanical Engineering

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

Major Exceptions

This degree program meets certain University Requirements through approved major modifications. Please see the Major Exceptions area in the Policy and Procedures section of this catalog to identify the specific adjustments for this degree program or contact your major advisor for more details.

Major-Specific Graduation Requirements

All courses required in the major (all courses in preparation for the major, core, required, capstone, and technical electives) must be completed with a grade of "C- or better". The following courses in Preparation and Required for the Major must be completed with a "C or better": ENGR 100W. The following required courses must be completed with a "C or better" to earn S and V credit: ME 195A, ME 195B, ENGR 195A, ENGR 195B.

University Graduation Requirements 18

Core Lower Division General Education 6

Of the 39 units required by the university, 33 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

Upper Division General Education

Of the 9 units required by the university, 9 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 12

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

AMS 001A. American Cultures to 1877	M4	6
AMS 001B. American Cultures 1877 to present	M5	6

Physical Education

Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Preparation for the Major 33

CHEM 001A. General Chemistry	B1+B3	5
ENGL 001B. Argument and Analysis	C2	3
or equivalent second semester composition course.		
MATH 030. Calculus I	B4	3
MATH 031. Calculus II	B4	4
MATH 032. Calculus III	B4	3
MATH 133A. Ordinary Differential Equations		3
PHYS 050. General Physics/Mechanics	B1+B3	4
PHYS 051. General Physics/Electricity and Magnetism	B1+B3	4
PHYS 052. General Physics/Waves, Light, Heat	B1+B3	4

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Requirements of the Major		69
Core Courses		**17**
CE 095. Theory and Application of Statics		3
EE 098. Introduction to Circuit Analysis		3
ENGR 010. Introduction to Engineering	E	3
MATE 025. Introduction to Materials		3
ME 020. Design and Graphics		2
ME 030. Computer Applications		2
ME 041. Machine Shop Safety		1
Required Courses		**43**
CE 112. Mechanics of Materials		3
ENGR 100W. Engineering Reports	Z+R	3
ME 106. Fundamentals of Mechatronics Engineering		3
ME 111. Fluid Mechanics		3
ME 113. Thermodynamics		4
ME 114. Heat Transfer		3
ME 115. Thermal Engineering Laboratory		1
ME 120. Experimental Methods		2
ME 130. Applied Engineering Analysis		3
ME 147. Dynamic Systems Vibration and Control		3
ME 154. Mechanical Engineering Design		4
ME 195A. Senior Design Project I	S	3
ME 195B. Senior Design Project II	V	3
ENGR 195A. Global and Social Issues in Engineering	S	1
ENGR 195B. Global and Social Issues in Engineering	V	1
Must take both ME and ENGR 195 A and B to meet Area requirements		
COMPLETE ONE COURSE FROM:		
ME 101. Dynamics		3
ME 101H. Honors Dynamics		3
Required Capstone Courses		**3**
COMPLETE ONE COURSE FROM:		
ME 157. Mechanical System Design		3
ME 182. Thermal Systems Design		3
ME 190. Mechatronics System Design		3
Technical Electives		**6**
Technical electives can be chosen from designated courses for breadth or focus in one of the three areas of mechanical design, mechatronics, or thermal/fluids, with advisor approval.		
Total Units Required		**120**

MS - Mechanical Engineering

The Mechanical Engineering graduate program is designed to afford ample opportunity for working engineers to continue their education. Courses and scholarly activities in such areas as computational fluid dynamics, thermodynamics, heat transfer, rigid-body dynamics, robotics, vibrations, product design, finite element methods, computer-aided mechanical engineering design and optimization, controls and manufacturing engineering and mechatronic systems engineering can lead to a degree of Master of Science in Mechanical Engineering (MSME).

For more information visit the program website at www.sjsu.edu/me.

Educational Objectives for Graduate Program

The Master of Science in Mechanical Engineering degree program provides students with:

1. A strong foundation beyond the undergraduate level in their chosen focus area as well as in mathematics, basic science and engineering fundamentals, that allows them to successfully compete for technical engineering positions in the local, national and global engineering market, advance in their current position or pursue doctoral studies.
2. Professional and lifelong learning skills to be able to apply and extend theory to solve practical contemporary engineering problems.
3. The expertise necessary to design mechanical engineering systems with possible specialization in areas such as energy systems, thermal management of electronic systems, electronics packaging and reliability, finite element analysis and CAD, mechatronics and MEMS, product design, robotics, automation and manufacturing.
4. Strong verbal and written communication skills, including the ability to comprehend and write technical documents.
5. Ability to think and work independently to perform design and in-depth analysis in solving open-ended mechanical engineering problems.

Admission Requirements

University Admissions

Applicants must submit a complete graduate application by applying through the CSU Cal State Apply system at calstate.edu/apply and meet all the university admission requirements. Applicants apply separately to the department to obtain admission into the Mechanical Engineering Program. See the GAPE Graduate Admissions website and this Catalog for general information about graduate admissions at SJSU.

Applicants from countries in which the native language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirements webpage at GAPE. For TOEFL Requirements, see the Policies and Procedures section, Graduate and Post-Baccalaureate Information in this Catalog.

Requirements for Admission to Classified Standing

Students desiring to pursue a Master of Science in Mechanical Engineering must meet all the university admissions requirements and satisfy each of the following requirements for admission to classified standing:

1. A Bachelor of Science degree from an engineering department accredited by the Accreditation Board of Engineering and Technology (ABET) or equivalent. Special programs can be developed for those with degrees from other related disciplines. These programs must be approved by the Graduate Program Advisor;
2. A minimum grade point average (GPA) of 3.0 on a 4.0 scale over the last 60 semester units completed in engineering and/or science; and
3. Applicants from non-ABET accredited Mechanical Engineering programs must have obtained minimum GRE scores as stipulated on the Graduate Program Test Requirements webpage at GAPE.

Admission to Conditionally Classified Standing

Applicants whose records show certain deficiencies, such as in GPA or having a non-ME undergraduate major, may be admitted to conditionally classified standing. The Mechanical Engineering Graduate Program Advisor should be contacted for this purpose. Conditionally classified students may later initiate petitions for classified standing in the program when such deficiencies have been removed and their records show promise of success in the degree program. The individual admission letter will explain required terms and conditions for attaining Classified standing.

Requirements for Advancement to Graduate Candidacy

Prior to registering for the first time (or upon reentering), a student should consult with the Mechanical Engineering Graduate Program Advisor. A schedule of courses will be developed at this time. Students admitted as conditionally classified must satisfy the requirements listed on their letter of acceptance and then apply to GAPE for a change of classification. Students who have completed matriculation and received classified standing in a master's degree curriculum must next be advanced to candidacy for the degree.

A student may advance to candidacy after completing a minimum of 9 units of graded work as a graduate student in 100- or 200-level courses acceptable to the department in which the degree is sought as well as satisfying all other university requirements for advancement to candidacy. Both the university overall GPA and the GPA in courses listed on the MSME Candidacy Form must be at least 3.0 on a scale of 4.0.

If a student's preparation for advanced graduate work is considered inadequate to meet the course prerequisites or other departmental requirements, it will be necessary to take the preparatory courses to meet these requirements. Such courses will not be counted as part of the master's degree program requirements.

The University requires that all graduate students complete the Graduation Writing Assessment Requirement (GWAR) as a condition for advancement to candidacy. Please refer to the SJSU catalog section entitled "Graduation Writing Assessment Requirement" for details. For graduate courses that meet the GWAR, refer to the GWAR Course List on the College of Graduate Studies website.

Students must have their advancement to candidacy approved before starting the first semester of their master's project or thesis classes (ME 295a or 299).

Requirements for Graduation

University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

Department Graduation Requirements

The MS program in Mechanical Engineering consists of 30 semester units of approved work as follows:

- 9 units of required core courses for the degree.
- 3 units of the 9-unit core satisfy the Graduate Writing Requirement (GWAR).
- 15 units of elective courses, which ordinarily must be 200-level courses in Mechanical Engineering. With approval by the Graduate Program Advisor, a student may apply up to 6 units of elective coursework from undergraduate (upper division) SJSU Mechanical Engineering electives or graduate courses from other departments, colleges, or universities.
- 6 units of thesis (Plan A) or project (Plan B).

Culminating Experience

Students choose a Plan A (Thesis) or Plan B (Project) as their program culminating experience.

Plan A (Thesis)

Plan A requires two semesters of ME 299 (Master's Thesis), 3 units each. The thesis will include original research on a topic approved by the thesis committee, and must meet university requirements as stipulated in this catalog and in the SJSU Master's Thesis and Doctoral Dissertation Guidelines. It will undergo a thorough review and revision process under the guidance of the candidate's thesis committee chair with the assistance of the thesis committee. In addition, an open examination (oral defense) will be conducted by the student's thesis committee.

Plan B (Project)

With Plan B, the master's project sequence of ME 295A for 3 units followed by ME 295B for 3 units is required. In addition, an open examination (oral defense) will be conducted by the student's project committee.

Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR). For information on the GWAR, please see http://info.sjsu.edu/gcw.html.

Requirements of the Masters — 30

Core Courses — 9

ME 230. Advanced Mechanical Engineering Analysis		3
ME 273. Finite Element Methods in Engineering		3

COMPLETE ONE FROM THE FOLLOWING:

ENGR 200W. Engineering Reports and Graduate Research	GWAR	3
ME 201. Project Planning	GWAR	3
ME 265. Computer-Aided Mechanical Engineering Design	GWAR	3

Students who have a GWAR waiver can replace these units with 3 elective units.

Electives — 15

Elective courses must be selected in consultation with the Graduate Program Advisor

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Culminating Experience	6

COMPLETE ONE OPTION (PLAN A OR PLAN B):

Plan A (Thesis)

ME 299. Master's Thesis 3
Complete six units of ME 299

Oral Defense

Plan B (Project)

ME 295A. Mechanical Engineering Project I 3
ME 295B. Mechanical Engineering Project II 3

Oral Defense

Total Units Required	30

Elective courses must be planned in consultation with the ME Graduate Program Advisor.

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU cumulative grade point averages of 3.0 in order to graduate.

Medical Product Development Management

College of Science

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Professors

Sulekha Anand, Statistics
Tonja Green, Director, Clinical Development
Sami Khuri, Bioinformatics
Arvinder Loomba, PMP, Business Management
Sheldon Mullins, Regulatory Affairs
Richard Steingart, Managerial Accounting and Finance

Curricula

MS, Medical Product Development Management

Introduction

The Masters of Science degree in Medical Product Development Management (MPDM) is offered by SJSU's College of Science, in collaboration with the College of International and Extended Studies and the Lucas Graduate School of Business. The MPDM M.S. program combines clinical research, regulatory affairs, bioinformatics and customized technical classes with MBA-level business and management courses. The industry-relevant curriculum was designed in collaboration with experts from biomedical companies in the greater San Francisco Bay area to prepare students for careers in the biopharmaceutical, medical devices and in-vitro diagnostics industries. To accommodate students who work full-time, courses are offered during evenings or weekends, and several classes are offered online for scheduling flexibility.

MS - Medical Product Development Management

Students in the Master of Science in Medical Product Development Management degree program develop proficiency in applying leadership, management and decision-making skills in a regulated environment; understanding and conversing with others in a multi-disciplinary field; and understanding ethical, business, financial, global, and strategic implications in medical product development. The MPDM program prepares students to enrich their communities as ethical and socially responsible graduates in a field in which the highest levels of integrity are a fundamental necessity. Please refer to the program website for more information http://www.medproddev.sjsu.edu

Requirements for Admission to Classified Standing

Applying for graduate school at San José State University is a two-step process. Apply to the university through Cal State Apply to obtain approval for university-level admission, and to the department to obtain admission into the MS, Medical Product Development Management program. Please visit the SJSU Admissions Requirements page for more information. Applicants may come from a wide variety of undergraduate (or postgraduate) areas of study including but not limited to nursing, pre-med, biology, chemistry, mathematics, science education, pharmacy, engineering, business, computer science, psychology, social sciences, and pre-law.

To be accepted into the program in classified standing, an applicant must:

1. Meet all University requirements;
2. Hold a baccalaureate degree from an accredited four-year college or university;
3. Have a grade point average (GPA) of at least 2.5 (3.0 or above preferred) in the last 60 semester or 90 quarter units of coursework;
4. Satisfactory completion of a 3-unit undergraduate course in introductory statistics and probability from an accredited college or university is recommended; and
5. Applicants from countries in which the native language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirement webpage at GAPE.

Applicants should note that a high degree of proficiency in both written and oral communications in English is a fundamental skill required both to complete the degree program and for success in the field.

The program does not accept students in conditionally classified standing.

Requirements for Advancement to Candidacy

Students must meet the university requirements for candidacy. General university requirements for advancement to candidacy for the master's degree are detailed in the Graduate Policies and Procedures section of this catalog. Candidacy includes successful completion of the Graduation Writing Assessment Requirement (GWAR). For graduate courses that meet the GWAR, refer to the GWAR Course List on the College of Graduate Studies website. The program GWAR course is SMPD 281A. Requirements for advancing to candidacy in the MS, Medical Product Development Management are successful completion of SMPD 281A and 9 units of overall program credits.

Requirements for Graduation

University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

Culminating Experience

Plan B (Project)

The culminating project challenges the student to demonstrate leadership, teamwork and decision-making skills. The student will write or prepare a publication-worthy paper or presentation for a biomedical professional journal, conference or event. The paper or presentation must demonstrate depth of knowledge of the processes, methods, and procedures used in clinical research and development or in the management of medical product development on a topic selected by the student (with advisor approval).

This degree is listed with the College of Science.

Click the above link to see the degree requirements (listed in the College of Science section).

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU Cumulative grade point averages of 3.0 in order to graduate.

Meteorology and Climate Science Department

College of Science

DUNCAN HALL 620
408-924-5200 (Voice)
408-924-5191 (Fax)
www.sjsu.edu/meteorology

Professors

Alison F. C. Bridger, Chair
Sen Chiao
Eugene C. Cordero

Associate Professors

Craig Clements
Elizabeth Walsh

Assistant Professors

Patrick Brown
Minghui Diao

Curricula

BS, Meteorology
BS, Meteorology, Concentration in Climate Science
Minor, Atmospheric and Seismic Hazards
Minor, Climate Change Strategies
Minor, Meteorology
MS, Meteorology

Introduction

The only one of its kind in the CSU system, the Department of Meteorology and Climate Science provides students with an in-depth knowledge of the atmosphere, preparing them for careers in the atmospheric sciences. Meteorology focuses on day-to-day weather; in climate science the focus is on the evolution of Earth's climate. We train students to measure, analyze, model and predict the state of the atmosphere into the next week and on into the next century, offering undergraduate and graduate programs that are strong in both theoretical and applied courses. Among our alumni are weather forecasters with both the National Weather Service and in the private sector, air pollution specialists, environmental consultants, science teachers, university professors, science writers and top scientists in the National Atmospheric and Oceanographic Administration (NOAA), the U.S. Armed Forces, and NASA. We are one of the most research-active departments on campus, enabling students at all levels to participate and benefit from supervised research activities.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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BS - Meteorology

The BS Meteorology degree program is designed to develop meteorologists who, upon graduation, are ready to begin professional practice in the private sector or in government, or are ready to enter graduate programs in atmospheric science.

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

Major Exceptions

This degree program meets certain University Requirements through approved major modifications. Please see the Major Exceptions area in the Policy and Procedures section of this catalog to identify the specific adjustments for this degree program or contact your major advisor for more details.

Major-Specific Graduation Requirements

All Preparation and Required in the Major courses must be completed with a "C- or better".

University Graduation Requirements 38

Core Lower Division General Education 15

Of the 39 units required by the university, 24 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

Upper Division General Education 9

Of the 9 units required by the university, 0 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 12

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

AMS 001A. American Cultures to 1877	M4	6
AMS 001B. American Cultures 1877 to present	M5	6

Physical Education 2

Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Preparation for the Major 27

A minimum grade of "C-" must be attained in all major and preparation courses.

CHEM 001A. General Chemistry	B1+B3	5
MATH 030. Calculus I	B4	3
MATH 031. Calculus II	B4	4
MATH 032. Calculus III	B4	3
PHYS 050. General Physics/Mechanics	B1+B3	4
PHYS 051. General Physics/Electricity and Magnetism	B1+B3	4
PHYS 052. General Physics/Waves, Light, Heat	B1+B3	4

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Requirements of the Major		54
Core Courses		**48**
METR 010. Weather and Climate	B1	3
METR 040. Weather Seminar		1
METR 050. Scientific Computing I		2
METR 051. Scientific Computing II		2
METR 060. Meteorology I		3
METR 061. Meteorology II		2
METR 100W. Writing Workshop: Meteorological Reports	Z	3
METR 121A. Dynamic Meteorology		4
METR 121B. Dynamic Meteorology		3
METR 123. Advanced Climatology		3
METR 125. Physical Meteorology		3
METR 136. Empirical Techniques in Meteorology		3
METR 150. Computers in Meteorology III		3
METR 163. Meteorological Instrumentation		3
METR 170A. Weather Briefing		1
METR 170B. Weather Briefing		1
METR 171A. Synoptic Weather Analysis and Forecasting		3
METR 172. Mesoscale Meteorology		3
METR 179. Topics in Senior Thesis		2
Major Electives		**6**
COMPLETE TWO COURSES FROM:		
METR 130. Boundary Layer Meteorology		3
METR 131. Air Pollution Meteorology		3
METR 155. Remote Sensing		3
METR 160. Tropical Meteorology		3
METR 164. Introduction to Fire Weather		3
METR 165. Mountain Meteorology		3
METR 166. Field Studies in Meteorology		3
METR 171B. Synoptic Weather Analysis and Forecasting		3
METR 173. Global Climate Modeling		3
METR 174. Climate Change Solutions		3
METR 185. Special Topics		1-3
University Electives		0-1
Total Units Required		**120**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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BS - Meteorology, Concentration in Climate Science

The BS Meteorology, concentration in Climate Science program is designed to prepare students for careers in emerging fields of climate change studies and mitigation, and related fields including energy and carbon management. Graduating students will be ready to begin careers in the private sector or in government, or will be ready to enter graduate programs in the atmospheric/climate sciences.

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

University Graduation Requirements 35

Core Lower Division General Education 21

Of the 39 units required by the university, 18 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

Upper Division General Education 6

Of the 9 units required by the university, 3 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 6

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

COMPLETE ONE SEQUENCE FROM:

African American Studies 6

AFAM 002A. African Americans and the Development of America's History and Government	D2	3
AFAM 002B. African Americans and the Development of America's History and Government	M7	3

Asian American Studies 6

AAS 033A. Asian Americans in U.S. History I	D2	3
AAS 033B. Asian Americans in U.S. History II	M7	3

U.S. History and Government 6

HIST 015. Essentials of U.S. History	M12	3
POLS 015. Essentials of U.S. & California Government	M11	3

Chicana and Chicano Studies 6

CCS 010A. Mexican Americans and the Development of U.S. History and Government	D2	3
CCS 010B. Mexican Americans and the Development of U.S. History and Government	M7	3

Physical Education 2

Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Preparation for the Major		**20**
BIOL 031. Principles of Biology II	B2+B3	4
CHEM 001A. General Chemistry	B1+B3	5
MATH 030. Calculus I	B4	3
PHYS 002A. Fundamentals of Physics	B1+B3	4
PHYS 002B. Fundamentals of Physics	B1+B3	4
Requirements of the Major		**62**
Core Courses		**53**
COMM 146F. Communication and the Environment		4
ENVS 001. Introduction to Environmental Issues	D1	3
ENVS 119. Energy and the Environment	R	3
ENVS 133. Sustainable Energy Strategies		3
GEOL 003. Planet Earth	B1	3
ISE 103. Life Cycle Engineering		3
METR 012. Global Warming: Science and Solutions	B1	3
METR 040. Weather Seminar		1
METR 050. Scientific Computing I		2
METR 051. Scientific Computing II		2
METR 060. Meteorology I		3
METR 071. Introduction to Climate Science		2
METR 100W. Writing Workshop: Meteorological Reports	Z	3
METR 123. Advanced Climatology		3
METR 135. The Global Carbon Cycle		3
METR 136. Empirical Techniques in Meteorology		3
METR 163. Meteorological Instrumentation		3
METR 173. Global Climate Modeling		3
METR 174. Climate Change Solutions		3
Electives		**9**
COMPLETE NINE UNITS FROM:		
ENVS 107. Introduction to Environmental Economics and Policy		3
ENVS 116. Solar Energy Analysis		3
ENVS 124. Introduction to Environmental Law		3
ENVS 128. Water Resource Management		3
ENVS 130. Energy Policy Analysis		3
ENVS 132. Solar Home Design		3
GEOG 120. Food Supply and Agricultural Systems		3
GEOG 124. Topics in Physical Geography		3
GEOG 130. Natural Resources		3
GEOG 170. Introduction to Mapping and Geographic Information Systems		3
GEOG 171. Advanced Geographic Information Systems		3
GEOG 181. Remote Sensing: Basic Theory and Image Interpretation		3
GEOG 182. Remote Sensing: Digital Analysis		3
METR 131. Air Pollution Meteorology		3
University Electives		**3**
Total Units Required		**120**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Minor - Atmospheric and Seismic Hazards

This non-mathematical minor is designed to increase student understanding of natural and man-made meteorological, geological and environmental hazards.

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Requirements of the Minor		13
Required Courses		**10**
METR 112. Global Climate Changes	R	3
METR 170A. Weather Briefing		1
Taken in the Fall Semester		
GEOL 003. Planet Earth	B1	3
COMPLETE ONE COURSE FROM:		
METR 010. Weather and Climate	B1	3
METR 012. Global Warming: Science and Solutions	B1	3
Electives		**3**
Please note: If a student is taking this minor as a requirement for their major, both courses may be required. Please see advisor for more details.		
METR 113. Atmospheric Pollution	R	3
GEOL 112. Hazards, Risks of Earthquakes and Volcanoes	R	3
Total Units Required		**13**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Minor - Climate Change Strategies

This minor is designed to increase students understanding of climate change, potential impacts, and strategies to deal with what's coming.

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Requirements of the Minor		18
Meteorology Courses		**9**
METR 012. Global Warming: Science and Solutions	B1	3
METR 112. Global Climate Changes	R	3
COMPLETE ONE COURSE FROM:		
METR 113. Atmospheric Pollution	R	3
METR 115. Wildfire in the Earth System	R	3
Environmental Studies Courses		**9**
ENVS 119. Energy and the Environment	R	3
ENVS 130. Energy Policy Analysis		3
COMPLETE ONE COURSE FROM:		
ENVS 116. Solar Energy Analysis		3
ENVS 133. Sustainable Energy Strategies		3
Total Units Required		**18**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Minor - Meteorology

This minor is designed to prepare science and engineering students to solve interdisciplinary problems involving the atmospheric sciences.

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Requirements of the Minor		13
Required Courses		**10**
METR 060. Meteorology I		3
METR 170A. Weather Briefing		1
Taken in the Fall semester		
COMPLETE ONE COURSE FROM:		
METR 010. Weather and Climate	B1	3
METR 012. Global Warming: Science and Solutions	B1	3
COMPLETE ONE COURSE FROM:		
METR 123. Advanced Climatology		3
METR 136. Empirical Techniques in Meteorology		3
METR 163. Meteorological Instrumentation		3
Electives		**3**
Please note: If a student is taking this minor as a requirement for their major, both courses may be required. Please see advisor for more details.		
METR 112. Global Climate Changes	R	3
METR 113. Atmospheric Pollution	R	3
Total Units Required		**13**

MS - Meteorology

The Master of Science in Meteorology prepares students for high-level professional responsibility, independent research, and continued graduate work in atmospheric science. Graduate-level theoretical and applied meteorology courses and a substantial research project lead to the preparation of the master's thesis, the culmination of the degree plan of study. Departmental opportunities for financial support include research and teaching assistantships.

The Department of Meteorology and Climate Science has one of the most active research programs at SJSU. The meteorology faculty has a wide range of expertise and supports a broad range of research activity. Their areas of specialization include Weather Analysis and Forecasting, Fire Weather, Urban Meteorology and Air Pollution, Atmospheres of Other Planets, Tropical Meteorology, Radar and Satellite Remote Sensing, Cloud and Aerosol Physics, Atmospheric Dynamics, Meteorological Data Processing, Data Communications, and Data Acquisition and Display.

Our graduates find employment in forecasting, research, consulting and media, and continue for the Ph.D. degree at top universities throughout the country. Department alumni include top scientists and forecasters in The National Oceanic and Atmospheric Administration (NOAA), the National Weather Service (NWS), the United States Air Force and Navy, NASA, various state and federal air pollution agencies, the aerospace industry, and aviation operations. Others of our alumni are university professors, high school and community college teachers, TV forecasters, meteorologists in the wind power, electric, gas and oil industries, science writers, and consultants for legal cases, air pollution problems and building design.

Admission Requirements

Applicants must submit a complete graduate application by applying through the CSU Cal State Apply system at calstate.edu/apply and meet all the university admission requirements. Applicants apply separately to the department to obtain admission into the MS, Meteorology program. See the GAPE Graduate Admissions website and this Catalog for general information about graduate admissions at SJSU.

Applicants from countries in which the native language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirements webpage at GAPE. For TOEFL Requirements, see the Policies and Procedures section, Graduate and Post-Baccalaureate Information in this Catalog.

Requirements for Admission to Classified Standing

Students are admitted to the MS, Meteorology program in Classified or Conditional Standing. Admission to classified standing requires the following. Applicants must:

- Possess the equivalent of an SJSU BS in Meteorology or, with the approval of the department graduate committee, a degree in a physical science or mathematics. Students entering with degrees in other areas may be admitted to conditionally classified standing, and will be required to make up deficiencies (e.g., in meteorology and math) before enrolling in the core graduate classes;
- Have earned minimum GPA of 2.75 (on a scale of 0-4) in their BS degrees; and
- Submit Graduate Record Examination (GRE) scores. More information about the GRE can be found on the Graduate Program Test Requirements webpage.

Requirements for Admission to Conditionally Classified Standing

Those applicants who meet minimum requirements for graduate admission, but do not meet departmental requirements, may be admitted to conditionally classified standing on the approval of the department graduate committee. The individual admission notification will explain required terms and conditions for attaining Classified standing. Resolving deficiencies usually involve successful completion of undergraduate courses in meteorology courses and math. Upon completion of these courses, the student advances from conditional to classified standing via petition to Graduate Studies.

Requirements for Advancement to Candidacy

University requirements for advancement to candidacy for the master's degree are outlined in the Graduate Policies and Procedures section of this catalog. Competence in the general areas covered by METR 121A (Dynamic Meteorology I), METR 125 (Physical Meteorology), either METR 060 or METR 171A (Synoptic Meteorology, to be decided in consultation with the department graduate committee), and METR 100W or METR 202 (Technical Writing), must be demonstrated to the Department Graduate Committee **prior** to admission to candidacy. This can be done by satisfactory completion of these courses (or their equivalent) with a minimum grade of "B" in each, or successful completion of a comprehensive written examination. Students should consult with the graduate advisor concerning these alternatives. A student admitted in classified standing may be admitted to candidacy after completion of the terms and conditions specified in the admission notification letter.

The University requires that all graduate students complete the Graduation Writing Assessment Requirement (GWAR) as a condition for advancement to candidacy. Please refer to the SJSU catalog section titled "Graduation Writing Assessment Requirement" for details. For graduate courses that meet the GWAR, refer to the GWAR Course List on the College of Graduate Studies website. MS, Meteorology students are currently required to take METR 202 to satisfy this University requirement.

Requirements for Graduation

University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures. Courses taken to meet the requirements for admission to candidacy will not be counted as part of the MS program. All students must complete the Graduation Writing Assessment Requirement.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Culminating Experience

Students complete the Plan A (Thesis) as their MS, Meteorology degree program culminating experience. The Plan B (Project) option is only offered under exceptional circumstances and students may not choose it themselves.

Plan A (Thesis)

This option requires an acceptable written research thesis and a successful oral presentation of the thesis. The thesis must meet university requirements as stipulated in this catalog and in the SJSU Master's Thesis and Doctoral Dissertation Guidelines. Students in the thesis option enroll in one unit of METR 285, Colloquium and two units of METR 299, Master's Thesis or Project in their final semester. Students who complete the METR 299 but not its associated thesis enroll in the 1290R until both are completed.

Plan B (Project)

The Project option is open to students who can demonstrate to the Departmental Graduate Committee that they possess adequate professional meteorological experience to substitute for the research thesis. It is only offered under exceptional circumstances and students may not choose it themselves. Students approved for the Plan B option will select a suitable topic in meteorology on which to prepare a carefully documented written report in consultation with the project advisor. They will enroll in one unit of METR 285, Colloquium and an additional two units of METR 298, Research in their final semester. Students who complete their final METR 298 but not its associated thesis enroll in the 1290R until both are completed.

Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR). For information on the GWAR, please see http://info.sjsu.edu/gcw.html.

Requirements of the Major — 30

Core Courses — 12

METR 202. Research Methods in Meteorology	GWAR	3
METR 205. Advanced Atmospheric and Climate Dynamics		3
METR 215. Advanced Physical Meteorology		3
METR 240. Numerical Modeling		3

Research — 6

METR 298. Research	1-4

At least 3 units of METR 298 in each of two semesters.

Advanced Courses — 3

COMPLETE 3 UNITS OF THE FOLLOWING SELECTED IN CONSULTATION WITH THE GRADUATE ADVISOR:

METR 225. Topics in Advanced Atmosphere Dynamics	3
METR 206. Advanced Synoptic Meteorology	3
METR 209. Adv Fire Behavior	3
METR 241. Parameterization in NWP	3
METR 245. Mesoscale Modeling	3
METR 280. Recent Developments in Meteorology	1-3

Electives — 6

6 UNITS OF THE FOLLOWING SELECTED IN CONSULTATION WITH THE GRADUATE ADVISOR:

METR 121B. Dynamic Meteorology	3
METR 123. Advanced Climatology	3
METR 125. Physical Meteorology	3
METR 130. Boundary Layer Meteorology	3
METR 131. Air Pollution Meteorology	3
METR 135. The Global Carbon Cycle	3
METR 150. Computers in Meteorology III	3
METR 155. Remote Sensing	3
METR 160. Tropical Meteorology	3
METR 163. Meteorological Instrumentation	3
METR 164. Introduction to Fire Weather	3
METR 165. Mountain Meteorology	3
METR 166. Field Studies in Meteorology	3

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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METR 171B. Synoptic Weather Analysis and Forecasting 3
METR 172. Mesoscale Meteorology 3
METR 173. Global Climate Modeling 3
METR 185. Special Topics 1-3

Students may take 3 additional units of Advanced Courses as an elective. Students may also take approved elective(s) in physics, computer science, and/or mathematics. Elective units cannot include METR 285, METR 298 or METR 299.

Culminating Experience **3**

Students in this program complete a Plan A (Thesis)

Plan A (Thesis)

METR 285. Colloquium 1
Minimum one unit

METR 299. Master's Thesis or Project 1-6
2 units METR 299 in the final semester

Plan B (Project)

METR 285. Colloquium 1
Minimum one unit

METR 298. Research 1-4
2 units METR 298 in the final semester

Total Units Required **30**

Elective courses must be planned in consultation with the Graduate Advisor.

The maximum number of upper-division undergraduate units that can be applied toward the master's degree is 15.

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU Cumulative grade point averages of 3.0 in order to graduate.

Military Science Department (Army ROTC)

College of Health and Human Sciences

DEPARTMENT OF MILITARY SCIENCE
VARSI HALL, ROOM 232
SANTA CLARA UNIVERSITY
500 EL CAMINO REAL
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408-554-4034(Voice)
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Professors

Jose A. Alfaro
Ernesto Alvarez
Coby E. Carpentier
Dan Fisher
Amin S. Henriquez
John Tiedeman

Curricula

Minor, Military Science

Introduction

Military Science offers an interdepartmental minor which consists of courses taught by active duty Army personnel. The purpose of the minor is to acquaint the university student with the fundamental principles of national security and military history, to introduce the techniques and principles of modern warfare, and to develop character and leadership skills. All undergraduate students are eligible for a minor in Military Science. Those wishing a career as an Army Officer after graduation should contact the Department of Military Science.

Basic Course

Fundamentals of Leadership and Management. The term Basic Course refers to first and second year courses (MILS 001A-B, and 002A-C), which are designed for beginning students who want to qualify for entry into the Advanced Course and for those students who may want to try Military Science without obligations. A number of popular or challenging extracurricular activities are associated with these courses. A student can also qualify for entry into the Advanced Course by completing only the summer encampment, Leader's Training Course (LTC)(MILS 002C). Outstanding students in this course may receive a two-year scholarship.

Advanced Course

Advanced Leadership and Management. The Advanced Course consists of the courses MILS 13OA-C, and 14OA-B. It is open to students who have completed the Basic Course or earned placement credit for it (various methods). The Advanced Course qualifies a student for a commission as an officer in the United States Army. Students must complete MILS 130C, a five week leadership evaluation camp during the summer, in sequence unless otherwise approved by the Professor of Military Science. Students receive a monthly stipend during the school year. Students who do not desire to compete for a commission as an officer in the Army may take these courses for academic credit with approval by the Professor of Military Science.

Labs and Field Exercises

During each semester of class work, weekly leadership lab participation is required. Two off-campus exercises involving adventure training, rappelling, rifle marksmanship, leadership training and survival skills are optional for non-scholarship basic course students. Two off-campus exercises for Advanced course students are mandatory with the focus on leadership and military skills.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Minor - Military Science

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Requirements of the Minor	**15**
Plan A	**24**
These courses are Without military obligation or basic camp.	
MILS 001A. Leadership & Personal Development	2
MILS 001B. Introduction to Tactical Leadership	2
MILS 002A. Innovative Team Leadership	2
MILS 002B. Foundations of Tactical Leadership	2
MILS 130A. Adaptive Team Leadership	4
MILS 130B. Applied Team Leadership	4
MILS 140A. Adaptive Leadership	4
MILS 140B. Leadership in a Complex World	4
Plan B	**16**
With military service or basic camp.	
MILS 130A. Adaptive Team Leadership	4
MILS 130B. Applied Team Leadership	4
MILS 140A. Adaptive Leadership	4
MILS 140B. Leadership in a Complex World	4
Total Units Required	**16-24**

Moss Landing Marine Laboratories

College of Science

MOSS LANDING MARINE LABORATORIES
MARINE SCIENCE GRADUATE PROGRAM
8272 MOSS LANDING ROAD
MOSS LANDING, CA 95039
831-771-4401
http://www.mlml.calstate.edu/

Professors

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Jonathan B. Geller
Michael H. Graham
James T. Harvey, Director
Nicholas A. Welschmeyer

Associate Professors

Scott Hamilton

Assistant Professors

Tom Connolly
Maxime Grand
Birgitte McDonald

Adjunct Professors

Colleen Durkin
David Ebert
Valerie J. Loeb
John S. Oliver
Iliana Ruiz-Cooley
G. Jason Smith
Richard M. Starr
Diana Steller
Alison Stimpert

Other Faculty

Katie Lage, Librarian

Curricula

MS, Marine Science

Introduction

The second oldest marine lab on Monterey Bay, Moss Landing Marine Laboratories, (MLML), established in 1966, has an international reputation for excellence in marine science research and education. MLML administers the interdisciplinary master's of science degree in marine science for seven California State University (CSU) campuses: East Bay, Fresno, Monterey Bay, Sacramento, San Francisco, San José and Stanislaus. MLML's hands-on, field-oriented approach places students, faculty, research and staff where discoveries are made: at the frontiers of marine science worldwide. The wealth of nearby marine resources, excellent marine facilities and operations, renowned faculty and research-based curriculum combine to make the MLML program one of the best graduate programs of its kind in the United States. MLML provides students with a cutting-edge education that prepares them for careers in science, education and outreach, conservation, policy and management, and for doctoral studies.

MS - Marine Science

Moss Landing Marine Laboratories (MLML) is the second oldest marine lab on Monterey Bay. Established in 1966, it has an international reputation for excellence in marine science research and education. MLML administers the interdisciplinary Master's of Science in marine science for seven California State University (CSU) campuses: East Bay, Fresno, Monterey Bay, Sacramento, San Francisco, San José and Stanislaus. The hands-on, field-oriented MLML approach places students, faculty, research and staff where discoveries are made: at the frontiers of marine science worldwide. The wealth of nearby marine resources, excellent marine facilities and operations, renowned faculty and research-based curriculum combine to make the MLML program one of the best graduate programs of its kind in the United States. MLML provides students with a cutting-edge education that prepares them for careers in science, education and outreach, conservation, policy and management, and for doctoral studies. See the program website at: http://www.mlml.calstate.edu/

For more information contact the graduate program coordinator at MLML at gradprog@mlml.calstate.edu.

Admissions Requirements

Applicants must submit a complete graduate application by applying through the CSU Cal State Apply system at calstate.edu/apply. All admitted applicants must satisfy all SJSU catalog admission requirements. The university-level graduate application is separate from the program application. Apply separately to the university to obtain approval for university-level admission and to the department to obtain admission into the program. Program application and admission requirements are available at http://gradprog.mlml.calstate.edu

Before applying to MLML, prospective students must select an MLML faculty advisor(s) before submitting application materials and schedule a visit to MLML. Discussing your application with a potential faculty advisor and visiting MLML will 1) provide you with a better understanding of what our program has to offer; 2) help you determine if the selected faculty advisor is the right academic mentor for you; 3) enable you to speak with the potential advisor about the application process; 4) allow you to speak with current students; and 5) strengthen your application and improve your chances of acceptance. More information can be found at www.mlml.calstate.edu/gradprog/how-to-apply/

After completing the online program application by February 1, applicants must submit the following supplemental application materials to MLML-emailed as a single PDF attachment to the MLML Graduate Program Coordinator-by February 15:

- Statement of Purpose - detailing (at a minimum) 1) why you want to study marine science, 2) why you want to attend MLML, 3) your background in marine science, 4) your specific research interests, and 5) what long-term goals you ultimately intend to pursue by attending MLML;
- CV/Resume - summarizing relevant academic and professional experience, including 1) academic background (degrees earned, GPA, relevant coursework), 2) research experience, and 3) relevant employment history, volunteer experience, and/or memberships;
- Unofficial Transcripts - from all post-secondary institutions attended; and
- Unofficial GRE scores - MLML does not require the GRE, but it is strongly recommended. Submit your unofficial GRE scores to MLML by either downloading your score report from the ETS website, or scanning the score report mailed to you by ETS, and including it in the PDF you email to the MLML Graduate Program Coordinator.

Please see SJSU's minimum score requirements listed on the Graduate Program Test Requirement webpage.

Applicants must also request to have three letters of recommendation sent to the program from people familiar with their academic and/or professional background. Letters of recommendation must be emailed directly from your recommenders as a .pdf attachment to the MLML Graduate Program Coordinator at gradprog@mlml.calstate.edu by February 15.

These application instructions can also be found at: www.mlml.calstate.edu/gradprog/step-by-step-application-instructions

Applicants may be admitted either as conditional or classified. Conditionally admitted applicants will have some condition(s), such as completion of additional coursework, placed upon their admission into the MLML program; classified students are admitted into the program without any such condition(s).

Applicants from countries in which the native language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirement webpage at SJSU GAPE.

Requirements for Advancement to Candidacy

SJSU university requirements for advancement to candidacy for the master's degree are outlined in the Graduate Policies and Procedures section of this catalog.

Candidacy includes successful completion of the Graduation Writing Assessment Requirement (GWAR). For graduate courses that meet the GWAR, refer to the GWAR Course List on the College of Graduate Studies website.

Program requirements for Advancing to Candidacy are as follows:

- Completed the majority of coursework with the exception of the Culminating Experience course MS 299 Thesis
- Acquired thesis proposal approval from entire thesis committee, fulfilling the GGraduation Writing Assessment Requirement (GWAR)
- Acquired research permitting approval (if applicable)

CSU policy requires that English competency shall be a requirement of classified graduate students as a condition necessary for advancement to candidacy for the award of a master's degree. MLML students satisfy this requirement by successfully completing a Thesis Proposal before they advance to candidacy. The student's thesis committee determines successful completion of this requirement.

Requirements for Graduation

University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

MS - Marine Science Graduation Requirements

Graduate students shall successfully complete 30 units of course work with a grade of "B" or better in each course, a thesis project, and an oral research defense to qualify for the M.S. degree in Marine Science at Moss Landing Marine Laboratories. MLML program requirements are the same regardless of the student's home campus affiliation; however, admission, graduation and department requirements may vary from campus to campus.

Degree requirements for the M.S. degree in Marine Science are:

- MS 104: Quantitative Marine Science with a grade of "B" or better, or transfer in with equivalent mathematical background. MS 104 course cannot be counted toward the 30-unit degree requirement.
- Three of the following five Core Courses: MS 103: Marine Ecology, MS 141: Geological Oceanography, MS 142: Physical Oceanography, MS 143: Chemical Oceanography, and MS 144: Biological Oceanography. (Courses from accredited institutions may be transferred with approval from MLML faculty). A minimum of fifteen graduate units (200 level) Advanced Coursework including MS 285: Graduate Seminar (2 unit minimum and 4 unit maximum), MS 298: Research in Marine Science (2 unit maximum), and MS 299: Master's Thesis (Culminating Experience Plan A) (4 units).
- Fulfillment of Classification, Graduation Writing Assessment Requirement and Advancement to Candidacy.
- A thesis approved by the student's thesis committee. The thesis must conform to the rules set forth by the home campus graduate office and meet the academic standards of the MLML graduate program.
- An oral thesis defense in the form of a seminar open to the general public. The student's thesis committee must be present, may request further oral questioning after the seminar, and will evaluate the success of the presentation.

All students shall maintain continuous enrollment in the MLML graduate program until all degree requirements are met. All students shall complete core courses by their third semester to qualify for Classified standing. If a student receives lower than a "B" in a core course, the student may either retake this course or take another core course to fulfill the Classification requirement. If a student receives lower than a "B" in a non-core class, the student may either retake the course or take another course to use towards the 30-unit requirement. Students may enroll in MS 298: Research in Marine Science, while they are conducting their research. Students are eligible to use 2-units of MS 298 toward their Advanced Coursework requirement. Students are encouraged to complete their degree requirements within three years.

Culminating Experience

Plan A (Thesis)

The thesis must meet university requirements as stipulated in this catalog and in the SJSU Master's Thesis and Doctoral Dissertation Guidelines. It will be written under the guidance of the candidate's thesis committee chair with the assistance of the thesis committee, and must meet the academic standards of the MLML program. The candidate for the MS in Marine Science at MLML must also successfully pass a final oral defense of the thesis, in the form of a seminar open to the general public, with the thesis committee evaluating the success of the presentation.

Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR). For information on the GWAR, please see http://info.sjsu.edu/gcw.html.

Preparation for the Masters

MS 104. Quantitative Marine Science 4

Must be passed with a "B" or better, or transfer in with equivalent mathematical background

Requirements of the Masters 30

Core 12

COMPLETE THREE COURSES FROM:

MS 103. Marine Ecology 4
MS 141. Geological Oceanography 4
MS 142. Physical Oceanography 4
MS 143. Chemical Oceanography 4
MS 144. Biological Oceanography 4

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Advanced Coursework	**14**
Complete a minimum of fourteen graduate units (200 level), selected with advisor%u2019s approval	
MS 285. Graduate Seminar in Marine Science	2
Variable topic seminar may be taken up to two times	
MS 298. Research in the Marine Science	4
Culminating Experience	**4**
Plan A (Thesis)	
MS 299. Master's Thesis	4
Thesis Defense	0
Total Units Required	**30**

Advanced Coursework must be planned in consultation with the Graduate Advisor.

The maximum number of upper-division undergraduate units that can be applied toward the master's degree is 15.

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU Cumulative grade point averages of 3.0 in order to graduate.

Music and Dance, School of

College of Humanities and the Arts

MUSIC BUILDING 178
408-924-4673

Professors

Janet M. Averett
Brian Belet
Fred S. Cohen, Director
Pablo E. Furman, Associate Director
Diana M. Hollinger
Aaron J. Lington
Gwendolyn Mok

Associate Professors

Jeffrey Benson
Heather Cooper, Associate Director
Gordon Haramaki

Assistant Professors

Erica Buurman
Sarah Jones

Curricula

BA, Dance
BFA, Dance
BA, Music
BM, Music, Concentration in Composition
BM, Music, Concentration in Jazz Studies
BM, Music, Concentration in Music Education
BM, Music, Concentration in Performance
Minor, Music
Minor, Dance
MA, Music, Music Education (Special Session Program)
MM, Music

Introduction

Located in the heart of Silicon Valley, SJSU's School of Music and Dance is a recognized leader in the performing arts. Accredited by the National Association of Schools of Music (NASM), the National Association of Schools of Dance (NASD), the National Council of Accreditation of Teacher Education (NCATE), and the California Commission on Teacher Credentialing (CCTC), the School produces some of the finest music teachers, composers, performers, and scholars in the world. Our curriculum includes courses in composition, performance, music skills, choreography (for dancers), technology, pedagogy, and improvisation. Student performance organizations include, among others, Concert Choir, Choraliers, Jazz Orchestra, Opera Theater, Wind Ensemble, Symphony Orchestra, and the Spartan Marching Band. Our dance program features a student performing company, UDT, directed by faculty and distinguished guest choreographers. Our music education program produces some of California's leading educators, scholars, and administrators, and our certified music teacher graduates are in particularly high demand.

Music Honors Program

The Music Honors Program is designed for the superior student who has outstanding talent and scholastic ability. The program is open to senior music majors with a 3.5 average in the major and an overall university grade point average of 3.0. Approval by the student's major advisor and the director is required prior to registering for honors courses. The proposed program may follow one of three general plans: a senior recital with an accompanying project paper (a historical-programmatic essay on the recital content); a major written project on some aspect of history, literature, or music education; or a major project in the field of music composition. Following official school approval, the student will register for three units of directed study in MUSC 190A (1 unit) and 190B (2 units) under a designated faculty member. The student must maintain a grade point average of 3.5 in the school and a 3.0 overall university grade point average throughout the senior year, and complete 190A and 190B to receive departmental honors at the awarding of the baccalaureate degree.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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BA - Dance

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

Major-Specific Graduation Requirements

All courses in the preparation and major (all courses in preparation, and core) must be completed with a grade of "C- or better".

University Graduation Requirements 42

Core Lower Division General Education 30

Of the 39 units required by the university, 9 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

Upper Division General Education 6

Of the 9 units required by the university, 3 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 6

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

COMPLETE ONE SEQUENCE FROM:

African American Studies 6

AFAM 002A. African Americans and the Development of America's History and Government	D2	3
AFAM 002B. African Americans and the Development of America's History and Government	M7	3

Asian American Studies 6

AAS 033A. Asian Americans in U.S. History I	D2	3
AAS 033B. Asian Americans in U.S. History II	M7	3

U.S. History and Government 6

HIST 015. Essentials of U.S. History	M12	3
POLS 015. Essentials of U.S. & California Government	M11	3

Chicana and Chicano Studies 6

CCS 010A. Mexican Americans and the Development of U.S. History and Government	D2	3
CCS 010B. Mexican Americans and the Development of U.S. History and Government	M7	3

Physical Education

Met within the major.

Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Preparation for the Major 9

DANC 102. Dance in World Cultures ..... V 3

COMPLETE ONE COURSE FROM:

MUSC 100W. Written Communication II ..... Z 3
TA 100W. Writing Workshop: Theatre Arts ..... Z 3

COMPLETE ONE COURSE FROM:

ARTH 015. Intro to Visual Culture C1 3
MUSC 010A. Music Appreciation C1 3

Requirements of the Major 53

Dance Technique, Performance and Choreography 36

Dance Technique 18

At least nine units must be at level III or IV. All Dance technique classes are repeatable for credit.

DANC 054. Topics in Dance Technique II ..... PE 3
DANC 154A. Topics in Dance Technique III ..... PE 3
DANC 154B. Topics in Dance Technique IV ..... PE 3

Culminating Experience 2

DANC 198. Internship in Dance 1-3

Choreography 10

DANC 043. Dance Improvisation 1
DANC 145A. Choreography I 3
DANC 145B. Choreography II 3
DANC 145C. Choreography III 3

Performance 6

DANC 012. Ensemble Dance Rehearsal and Performance 2
DANC 112. ENS: Dance Rehearsal and Performance 2
DANC 194. Dance Repertory Activity 1
Take DANC 194 twice

Theory 17

DANC 051A. Dance Production 3
DANC 051B. Topics in Dance Crewing 0.5
Students enroll in DANC 051B twice

DANC 075. Rhythm and Dynamics in Dance 1
DANC 144A. Dance History and Repertory 3
DANC 147A. Dance Seminar 3
DANC 150A. Kinesiology I 3
DANC 150B. Kinesiology II 3

University Electives 16

By advisement: 9 units must be outside of the dance area.

Total Units Required 120

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

For Legend please see page 2

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BFA - Dance

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

University Graduation Requirements 42

Core Lower Division General Education 30

Of the 39 units required by the university, 9 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

Upper Division General Education 6

Of the 9 units required by the university, 3 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 6

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

COMPLETE ONE SEQUENCE FROM:

African American Studies 6

AFAM 002A. African Americans and the Development of America's History and Government	D2	3
AFAM 002B. African Americans and the Development of America's History and Government	M7	3

Asian American Studies 6

AAS 033A. Asian Americans in U.S. History I	D2	3
AAS 033B. Asian Americans in U.S. History II	M7	3

U.S. History and Government 6

HIST 015. Essentials of U.S. History	M12	3
POLS 015. Essentials of U.S. & California Government	M11	3

Chicana and Chicano Studies 6

CCS 010A. Mexican Americans and the Development of U.S. History and Government	D2	3
CCS 010B. Mexican Americans and the Development of U.S. History and Government	M7	3

Physical Education

Met within the major.

Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Preparation for the Major 11

DANC 043. Dance Improvisation		1
DANC 075. Rhythm and Dynamics in Dance		1
MUSC 010A. Music Appreciation	C1	3
MUSC 100W. Written Communication II	Z	3
TA 100W also accepted		
DANC 102. Dance in World Cultures	V	3

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

For Legend please see page 2

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Requirements of the Major 64

Dance Technique, Performance and Choreography 53

Freshmen must perform at level II in area of option. Minimum of one technique class daily required each semester at SJSU. Level I is prerequisite if unable to perform at level II or higher in Modern, Jazz, Ballet or Tap.

At least 9 units must be level IV

Dance Technique 24

DANC 054. Topics in Dance Technique II ..... PE 3
DANC 154A. Topics in Dance Technique III ..... PE 3
DANC 154B. Topics in Dance Technique IV ..... PE 3

Performance Requirements 13

DANC 012. Ensemble Dance Rehearsal and Performance 2
DANC 112. ENS: Dance Rehearsal and Performance 2
DANC 194. Dance Repertory Activity 1

Any combination of DANC 12, DANC 112 or DANC 194, 4 units must be DANC 112

Choreography 9

DANC 145A. Choreography I 3
DANC 145B. Choreography II 3
DANC 145C. Choreography III 3

Senior Project 3

DANC 147A. Dance Seminar 3

Production 4

DANC 051A. Dance Production 3
DANC 051B. Topics in Dance Crewing 0.5

Students will enroll in DANC 051B twice

Theory 11

DANC 144A. Dance History and Repertory 3
DANC 150A. Kinesiology I 3
DANC 150B. Kinesiology II 3
DANC 151. Introduction to Dance Pedagogy 2

University Electives 3

COMPLETE 3 UNITS FROM UNIVERSITY ELECTIVES OR FROM:

DANC 049A. Topics in Tap Dance I 1
DANC 049B. Topics in Tap Dance II 1
DANC 053. Techniques in World Dance 1
DANC 054. Topics in Dance Technique II ..... PE 3
DANC 112. ENS: Dance Rehearsal and Performance 2
DANC 140B. Topics in Modern Dance IV 2
DANC 141B. Topics in Ballet IV 2
DANC 142B. Topics in Jazz Dance IV 2
DANC 148. Children's Dance 3
DANC 154A. Topics in Dance Technique III ..... PE 3
DANC 154B. Topics in Dance Technique IV ..... PE 3
DANC 186. Choreographing the Musical 3
DANC 194. Dance Repertory Activity 1
DANC 198. Internship in Dance 1-3

Total Units Required 120

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

For Legend please see page 2

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BA - Music

The Bachelor of Arts in Music is designed for the student who seeks a liberal arts education with a major in music. The degree can be tailored to each student. A senior project is required.

An entrance audition is required. All students must complete the core classes and then select electives from at least two categories, in consultation with the BA_Music Advisor, and directed toward a specific Capstone project. Four lower-division semesters of applied lessons are required. Ensemble participation is a co-requisite of applied lessons at all times.

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

Major-Specific Graduation Requirements

All courses in the preparation and major (all courses in preparation, and core) must be completed with a grade of "C or better".

University Graduation Requirements 38

Core Lower Division General Education 24

Of the 39 units required by the university, 15 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

NOTE: STUDENTS WHO HAVE COMPLETED THE ADT TRANSFER DEGREE (UNDER SB 1440) FOR THIS MAJOR WILL HAVE COMPLETED ALL LOWER DIVISION GE REQUIREMENTS AND SHOULD FOLLOW THE 60 UNIT GUARANTEE ROADMAP. MEET WITH AN ADVISOR PRIOR TO REGISTERING FOR YOUR FIRST SEMESTER FOR THE 60 UNIT ROADMAP OR SPECIFIC QUESTIONS.

Upper Division General Education 3

Of the 9 units required by the university, 6 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 6

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

COMPLETE ONE SEQUENCE FROM:

African American Studies 6

AFAM 002A. African Americans and the Development of America's History and Government	D2	3
AFAM 002B. African Americans and the Development of America's History and Government	M7	3

Asian American Studies 6

AAS 033A. Asian Americans in U.S. History I	D2	3
AAS 033B. Asian Americans in U.S. History II	M7	3

U.S. History and Government 6

HIST 015. Essentials of U.S. History	M12	3
POLS 015. Essentials of U.S. & California Government	M11	3

Chicana and Chicano Studies 6

CCS 010A. Mexican Americans and the Development of U.S. History and Government	D2	3
CCS 010B. Mexican Americans and the Development of U.S. History and Government	M7	3

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

For Legend please see page 2

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Physical Education 2

Graduation Writing Assessment Requirement 3

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

MUSC 100W. Written Communication II	Z	3

Requirements of the Major 59

Core Courses 43

Lower Division 31

MUSC 001A. Music Systems IA		2
MUSC 001B. Music Systems IB		1
MUSC 002A. Music Systems IIA		2
MUSC 002B. Music Systems IIB		1
MUSC 003A. Music Systems IIIA		2
MUSC 003B. Music Systems IIIB		1
MUSC 004A. Music Systems IVA	C1	2
MUSC 004B. Music Systems IVB	C1	1
MUSC 012. Medieval and Renaissance Music	C2	3
MUSC 013. Music Technology		1
MUSC 019. Music in World Cultures	C1	3
MUSC 025A. Piano Proficiency I		1
MUSC 025B. Piano Proficiency II		1
MUSC 040A. Jazz Improvisation - I		2

COMPLETE FOUR UNITS FROM:

MUSC 029X. Electro-Acoustics	1
MUSC 029AX. Applied Electro-Acoustic 1	1
MUSC 029BX. Applied Electro-Acoustic 2	1
MUSC 029CX. Applied Electro-Acoustic 3	1
MUSC 029DX. Applied Electro-Acoustic 4	1
MUSC 030X. Applied Piano	1
MUSC 030AX. Applied Piano 1	1
MUSC 030BX. Applied Piano 2	1
MUSC 030CX. Applied Piano 3	1
MUSC 030DX. Applied Piano 3	1
MUSC 031X. Harpsichord or Organ	1
MUSC 031AX. Harpsichord or Organ 1	1
MUSC 031BX. Harpsichord or Organ 2	1
MUSC 031CX. Harpsichord or Organ 3	1
MUSC 031DX. Harpsichord or Organ 4	1
MUSC 033X. Applied Voice	1
MUSC 033AX. Applied Voice 1	1
MUSC 033BX. Applied Voice 2	1
MUSC 033CX. Applied Voice 3	1
MUSC 033DX. Applied Voice 4	1
MUSC 034X. Strings	1
MUSC 034AX. Strings 1	1
MUSC 034BX. Strings 2	1

MUSC 034CX. Strings 3 1
MUSC 034DX. Strings 4 1
MUSC 035X. Woodwinds 1 1
MUSC 035AX. Woodwinds 1 1
MUSC 035BX. Woodwinds 2 1
MUSC 035CX. Woodwinds 3 1
MUSC 035DX. Woodwinds 4 1
MUSC 036X. Applied Brass 1
MUSC 036BX. Brass 1 1
MUSC 036CX. Brass 2 1
MUSC 036DX. Brass 3 1
MUSC 036EX. Brass 4 1
MUSC 037X. Applied Percussion 1
MUSC 037AX. Applied Percussion 1 1
MUSC 037BX. Applied Percussion 2 1
MUSC 037CX. Applied Percussion 3 1
MUSC 037DX. Applied Percussion 4 1

COMPLETE FOUR UNITS FROM:

MUSC 050A. ENS: Concert Choir 1
MUSC 051. ENS: University Chorales 1
MUSC 052. ENS: Opera Theater 1
MUSC 053. ENS: University Symphony Orchestra 1
MUSC 054. ENS: Symphonic Band 1
MUSC 055. ENS: Wind Ensemble 1
MUSC 057. ENS: Jazz Orchestra 1
MUSC 059. ENS: Afro-Latin Jazz Ensemble 1
MUSC 060A. ENS: Choraliers 1
MUSC 060B. ENS: Chamber Orchestra 1
MUSC 060C. ENS: Chamber Music 1
MUSC 060D. ENS: Collegium Musicum 1
MUSC 060E. ENS: Jazz Singers 1
MUSC 060F. ENS: Small Jazz Ensembles 1
MUSC 060G. ENS: Pep Band 1
MUSC 060H. ENS: Percussion Ensemble 1
MUSC 060I. ENS: Jazz Ensemble 1

Upper Division Courses 12

MUSC 110. Baroque and Classical Music History 3
MUSC 111. Romantic and Modern Music History 3
MUSC 117. Music and Culture in Latin America ..... V 3
MUSC 120. Worlds of Jazz ..... S 3

Music Electives **15**

Take 15 units from at least two of the following categories. Five units must be upper division. Select courses in consultation with an advisor directed towards one of the capstone projects described below. All students must complete the capstone project under MUSC 182, listed above.

Theory, Arranging and Composition

MUSC 102. Orchestration 3
MUSC 103. Form and Analysis 3
MUSC 104. Counterpoint 3
MUSC 109. Film Scoring Techniques 3

History and Literature

CA 172. The Arts in U.S. Society	S	3
CA 173. Thinking About Contemporary World Arts	V	3
MUSC 116. Aspects of Twentieth Century Music		3
MUSC 117. Music and Culture in Latin America	V	3
MUSC 142. REP: Art Song Repertoire		1
MUSC 144. REP: Solo Lit., Performance, Pedagogy		1
MUSC 145. REP: Performance Concepts		2
MUSC 181. Concert Listening II		1

Conducting

MUSC 147A. Beginning Conducting	2
MUSC 147B. Advanced Conducting: Instrumental	2
MUSC 147C. Advanced Conducting: Choral	2

Improvisation

MUSC 140B. Jazz Improvisation-II	2
MUSC 140C. Jazz Improvisation-III	2

Music Technology

MUSC 167. Electro-Acoustic Music I	3
MUSC 168. Electro-Acoustic Music II	3
MUSC 170A. Fundamentals of Sound Recording	3
MUSC 170B. Intermediate Sound Recording	3
MUSC 180. Individual Studies	1

Beginning Methods and Techniques

MUSC 025C. Piano Proficiency III	1
MUSC 026A. Voice Fundamentals	1
MUSC 041A. Applied Lyric Diction	1
MUSC 041B. Applied Lyric Diction	1
MUSC 122A. Fundamental Techniques and Literature: Instrumental	1
MUSC 122B. Fundamental Techniques and Literature: Instrumental	1
MUSC 123A. Fundamental Techniques and Literature: Instrumental	1
MUSC 123B. Fundamental Techniques and Literature: Instrumental	1
MUSC 125D. Fundamental Techniques and Literature: Instrumental	1
MUSC 127A. Fundamental Techniques and Literature: Instrumental	1
MUSC 127B. Fundamental Techniques and Literature: Instrumental	1

Applied Lessons

By audition and special permission from Director.

MUSC 129. Electro-Acoustics	1-2
MUSC 129A. Electro-Acoustics 5	1-2
MUSC 129B. Electro-Acoustics 6	1-2
MUSC 129C. Electro-Acoustics 7	1-2
MUSC 129D. Electro-Acoustics 8	1-2
MUSC 130. Piano	1-2
MUSC 130A. Piano 5	1-2
MUSC 130B. Piano 6	1-2
MUSC 130C. Piano 7	1-2
MUSC 130D. Piano 8	1-2
MUSC 131. Keyboard	1-2
MUSC 131A. Harpsichord or Organ 5	1-2
MUSC 131B. Harpsichord or Organ 6	1-2
MUSC 131C. Harpsichord or Organ 7	1-2

MUSC 131D. Harpsichord or Organ 8 1-2
MUSC 133. Voice 1-2
MUSC 133A. Voice 5 1-2
MUSC 133B. Voice 6 1-2
MUSC 133C. Voice 7 1-2
MUSC 133D. Voice 8 1-2
MUSC 134. Strings 1-2
MUSC 134A. Strings 5 1-2
MUSC 134B. Strings 6 1-2
MUSC 134C. Strings 7 1-2
MUSC 134D. Strings 8 1-2
MUSC 135. Woodwinds 1-2
MUSC 135A. Woodwinds 5 1-2
MUSC 135B. Woodwinds 6 1-2
MUSC 135C. Woodwinds 7 1-2
MUSC 135D. Woodwinds 8 1-2
MUSC 136. Brass 1-2
MUSC 136B. Brass 5 1-2
MUSC 136C. Brass 6 1-2
MUSC 136D. Brass 7 1-2
MUSC 136E. Brass 8 1-2
MUSC 137. Percussion 1-2
MUSC 137A. Percussion 5 1-2
MUSC 137B. Percussion 6 1-2
MUSC 137C. Percussion 7 1-2
MUSC 137D. Percussion 8 1-2
MUSC 139A. Jazz Studies 5 1-2
MUSC 139B. Jazz Studies 6 1-2
MUSC 139C. Jazz Studies 7 1-2
MUSC 139D. Jazz Studies 8 1-2

Chamber Music

Maximum of two units can be counted towards major

MUSC 060A. ENS: Choraliers 1
MUSC 060D. ENS: Collegium Musicum 1
MUSC 060F. ENS: Small Jazz Ensembles 1
MUSC 060H. ENS: Percussion Ensemble 1
MUSC 060J. ENS: String Ensemble 1
MUSC 060K. ENS: Brass Ensemble 1
MUSC 060L. ENS: Woodwind Ensemble 1
MUSC 060M. ENS: Saxophone Ensemble 1
MUSC 060O. ENS: Trombone Ensemble 1
MUSC 160A. ENS: Choraliers 1
MUSC 160D. ENS: Collegium Musicum 1
MUSC 160F. ENS: Small Jazz Ensembles 1
MUSC 160H. ENS: Percussion Ensemble 1
MUSC 160J. ENS: String Ensemble 1
MUSC 160K. ENS: Brass Ensemble 1
MUSC 160L. Woodwind Ensemble 1
MUSC 160M. ENS: Saxophone Ensemble 1
MUSC 160O. Trombone Ensemble 1

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

For Legend please see page 2

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CATALOG CONTENTS

Ensembles

Maximum of four units. Ensembles required as co-requisite for those receiving applied lessons.

MUSC 150A. ENS: Concert Choir	1
MUSC 153. ENS: University Symphony Orchestra	1
MUSC 154. ENS: Symphonic Band	1
MUSC 155. Wind Ensemble	1
MUSC 157. ENS: Jazz Orchestra	1
MUSC 159. ENS: Afro-Latin Jazz Ensemble	1
MUSC 160F. ENS: Small Jazz Ensembles	1
MUSC 160I. ENS: Jazz Ensemble	1

Capstone Experience **1**

One of the following: undergraduate thesis, lecture/demonstration, or an appropriate project approved by the Director and area coordinator.

MUSC 182. Senior Project	1

University Electives or Minor **23**

All university electives must be taken outside of music.

Total Units Required **120**

BM - Bachelor of Music, Concentration in Composition

SJSU's composition program provides a thorough and diverse exposure to the art of music composition and includes studies in electro-acoustics, recording technology and scoring for film. Private composition lessons are at the heart of this degree program, with many opportunities for students to hear their works performed by students, faculty, and professional musicians. Composition students also meet regularly as a group with faculty and guest composers to hear and discuss their compositions. Students in this program complete both junior and senior projects in addition to the regular course of study.

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

Major Exceptions

This degree program meets certain University Requirements through approved major modifications. Please see the Major Exceptions area in the Policy and Procedures section of this catalog to identify the specific adjustments for this degree program or contact your major advisor for more details.

Major-Specific Graduation Requirements

All courses in the preparation and major (all courses in preparation, and core) must be completed with a grade of "C or better".

University Graduation Requirements 36

Core Lower Division General Education 24

Of the 39 units required by the university, 15 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

Upper Division General Education 6

Of the 9 units required by the university, 3 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 6

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

COMPLETE ONE SEQUENCE FROM:

African American Studies 6

AFAM 002A. African Americans and the Development of America's History and Government	D2	3
AFAM 002B. African Americans and the Development of America's History and Government	M7	3

Asian American Studies 6

AAS 033A. Asian Americans in U.S. History I	D2	3
AAS 033B. Asian Americans in U.S. History II	M7	3

U.S. History and Government 6

HIST 015. Essentials of U.S. History	M12	3
POLS 015. Essentials of U.S. & California Government	M11	3

Chicana and Chicano Studies 6

CCS 010A. Mexican Americans and the Development of U.S. History and Government	D2	3
CCS 010B. Mexican Americans and the Development of U.S. History and Government	M7	3

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

For Legend please see page 2

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CATALOG CONTENTS

Physical Education

Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Preparation for the Major 11-14

MUSC 001A. Music Systems IA		2
MUSC 019. Music in World Cultures	C1	3
MUSC 100W. Written Communication II	Z	3
MUSC 120. Worlds of Jazz	S	3
Students must also satisfy piano proficiency; this requirement may be satisfied with completion of MUSC 025A, MUSC 025B, and MUSC 025C		0-3

Requirements of the Major 70

Core Courses 46

MUSC 001B. Music Systems IB		1
MUSC 002A. Music Systems IIA		2
MUSC 002B. Music Systems IIB		1
MUSC 003A. Music Systems IIIA		2
MUSC 003B. Music Systems IIIB		1
MUSC 004A. Music Systems IVA	C1	2
MUSC 004B. Music Systems IVB	C1	1
MUSC 012. Medieval and Renaissance Music	C2	3
MUSC 110. Baroque and Classical Music History		3
MUSC 111. Romantic and Modern Music History		3
MUSC 182. Senior Project		1

COMPLETE EIGHT UNITS FROM:

MUSC 030X. Applied Piano		1
MUSC 030AX. Applied Piano 1		1
MUSC 030BX. Applied Piano 2		1
MUSC 030CX. Applied Piano 3		1
MUSC 030DX. Applied Piano 3		1
MUSC 031X. Harpsichord or Organ		1
MUSC 031AX. Harpsichord or Organ 1		1
MUSC 031BX. Harpsichord or Organ 2		1
MUSC 031CX. Harpsichord or Organ 3		1
MUSC 031DX. Harpsichord or Organ 4		1
MUSC 033X. Applied Voice		1
MUSC 033AX. Applied Voice 1		1
MUSC 033BX. Applied Voice 2		1
MUSC 033CX. Applied Voice 3		1
MUSC 033DX. Applied Voice 4		1
MUSC 034X. Strings		1
MUSC 034AX. Strings 1		1
MUSC 034BX. Strings 2		1
MUSC 034CX. Strings 3		1
MUSC 034DX. Strings 4		1
MUSC 035X. Woodwinds 1		1
MUSC 035AX. Woodwinds 1		1

MUSC 035BX. Woodwinds 2 1
MUSC 035CX. Woodwinds 3 1
MUSC 035DX. Woodwinds 4 1
MUSC 036X. Applied Brass 1
MUSC 036BX. Brass 1 1
MUSC 036CX. Brass 2 1
MUSC 036DX. Brass 3 1
MUSC 036EX. Brass 4 1
MUSC 037X. Applied Percussion 1
MUSC 037AX. Applied Percussion 1 1
MUSC 037BX. Applied Percussion 2 1
MUSC 037CX. Applied Percussion 3 1
MUSC 037DX. Applied Percussion 4 1
MUSC 038X. Applied Instruction in Music Composition 1
MUSC 038BX. Applied Instruction in Music Composition 1 1
MUSC 038CX. Applied Instruction in Music Composition 2 1
MUSC 038DX. Applied Instruction in Music Composition 3 1
MUSC 038EX. Applied Instruction in Music Composition 4 1
MUSC 039AX. Jazz: Improvisation, Composition or Arranging 1 1
MUSC 039BX. Jazz: Improvisation, Composition or Arranging 2 1
MUSC 039CX. Jazz: Improvisation, Composition or Arranging 3 1
MUSC 039DX. Jazz: Improvisation, Composition or Arranging 4 1

COMPLETE EIGHT UNITS FROM:

MUSC 138B. Composition 5 1-2
MUSC 138C. Composition 6 1-2
MUSC 138D. Composition 7 1-2
MUSC 138E. Composition 8 1-2

COMPLETE FOUR UNITS FROM:

MUSC 050A. ENS: Concert Choir 1
MUSC 052. ENS: Opera Theater 1
MUSC 053. ENS: University Symphony Orchestra 1
MUSC 054. ENS: Symphonic Band 1
MUSC 055. ENS: Wind Ensemble 1

COMPLETE FOUR UNITS FROM:

MUSC 150A. ENS: Concert Choir 1
MUSC 152. ENS: Opera Theater 1
MUSC 153. ENS: University Symphony Orchestra 1
MUSC 154. ENS: Symphonic Band 1
MUSC 155. Wind Ensemble 1

COMPLETE TWO UNITS FROM:

MUSC 040A. Jazz Improvisation - I 2
MUSC 140B. Jazz Improvisation-II 2
MUSC 140C. Jazz Improvisation-III 2
MUSC 148A. Improvisational Traditions of the World - Africa and Diaspora 2
MUSC 148B. Improvisational Traditions of the World - Asia 2

Composition Concentration **20**

MUSC 102. Orchestration 3
MUSC 103. Form and Analysis 3
MUSC 104. Counterpoint 3
MUSC 147A. Beginning Conducting 2
MUSC 167. Electro-Acoustic Music I 3
MUSC 168. Electro-Acoustic Music II 3
MUSC 170A. Fundamentals of Sound Recording 3

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

For Legend please see page 2

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Composition Electives	4
COMPLETE FOUR UNITS FROM:	
MUSC 109. Film Scoring Techniques	3
MUSC 116. Aspects of Twentieth Century Music	3
MUSC 122A. Fundamental Techniques and Literature: Instrumental	1
MUSC 122B. Fundamental Techniques and Literature: Instrumental	1
MUSC 123A. Fundamental Techniques and Literature: Instrumental	1
MUSC 123B. Fundamental Techniques and Literature: Instrumental	1
MUSC 125D. Fundamental Techniques and Literature: Instrumental	1
MUSC 127A. Fundamental Techniques and Literature: Instrumental	1
MUSC 127B. Fundamental Techniques and Literature: Instrumental	1
MUSC 160A. ENS: Choraliers	1
MUSC 160B. ENS: Chamber Orchestra	1
MUSC 160D. ENS: Collegium Musicum	1
MUSC 160F. ENS: Small Jazz Ensembles	1
MUSC 160J. ENS: String Ensemble	1
MUSC 160K. ENS: Brass Ensemble	1
MUSC 160L. Woodwind Ensemble	1
MUSC 160M. ENS: Saxophone Ensemble	1
MUSC 160O. Trombone Ensemble	1
MUSC 166. Physics of Music R	3
MUSC 169. Digital Synthesis	3
MUSC 170B. Intermediate Sound Recording	3
MUSC 170C. Advanced Sound Recording Production	3
University Electives	0-3
Total Units Required	**120**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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BM - Music, Concentration in Jazz Studies

The Bachelor of Music, Concentration in Jazz Studies, is tailored for students intending to pursue careers as professional jazz performers and composers. Emphasis is placed on jazz improvisation, jazz performance styles, jazz arranging/composition, and jazz pedagogy. Students receive in-depth private instruction and many ensembles develop students' abilities as improvising musicians. Additionally, the university's location allows almost limitless opportunities to secure performances in any of the Bay Area's numerous nightspots. Students are required to complete a senior recital in addition to the regular course of study.

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

Major Exceptions

This degree program meets certain University Requirements through approved major modifications. Please see the Major Exceptions area in the Policy and Procedures section of this catalog to identify the specific adjustments for this degree program or contact your major advisor for more details.

Major-Specific Graduation Requirements

All courses in the preparation and major (all courses in preparation, and core) must be completed with a grade of "C or better".

University Graduation Requirements 36

Core Lower Division General Education 24

Of the 39 units required by the university, 15 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

Upper Division General Education 6

Of the 9 units required by the university, 3 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 6

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

COMPLETE ONE SEQUENCE FROM:

African American Studies 6

AFAM 002A. African Americans and the Development of America's History and Government	D2	3
AFAM 002B. African Americans and the Development of America's History and Government	M7	3

Asian American Studies 6

AAS 033A. Asian Americans in U.S. History I	D2	3
AAS 033B. Asian Americans in U.S. History II	M7	3

U.S. History and Government 6

HIST 015. Essentials of U.S. History	M12	3
POLS 015. Essentials of U.S. & California Government	M11	3

Chicana and Chicano Studies 6

CCS 010A. Mexican Americans and the Development of U.S. History and Government	D2	3
CCS 010B. Mexican Americans and the Development of U.S. History and Government	M7	3

Physical Education

Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Preparation for the Major		11-14
MUSC 001A. Music Systems IA		2
MUSC 019. Music in World Cultures	C1	3
MUSC 100W. Written Communication II	Z	3
MUSC 120. Worlds of Jazz	S	3
Students must also satisfy piano proficiency; this requirement may be satisfied with completion of MUSC 025A, MUSC 025B, and MUSC 025C		0-3

Requirements of the Major		70
Core Courses		**49**
MUSC 001B. Music Systems IB		1
MUSC 002A. Music Systems IIA		2
MUSC 002B. Music Systems IIB		1
MUSC 003A. Music Systems IIIA		2
MUSC 003B. Music Systems IIIB		1
MUSC 004A. Music Systems IVA	C1	2
MUSC 004B. Music Systems IVB	C1	1
MUSC 006. Jazz Theory		2
MUSC 012. Medieval and Renaissance Music	C2	3
MUSC 013. Music Technology		1
MUSC 027A. Fundamentals of Jazz Keyboard I		1
MUSC 027B. Fundamentals of Jazz Keyboard II		1
MUSC 040A. Jazz Improvisation - I		2
MUSC 110. Baroque and Classical Music History		3
MUSC 111. Romantic and Modern Music History		3
MUSC 148A. Improvisational Traditions of the World - Africa and Diaspora		2
MUSC 182. Senior Project		1
COMPLETE FOUR UNITS FROM:		
MUSC 030X. Applied Piano		1
MUSC 030AX. Applied Piano 1		1
MUSC 030BX. Applied Piano 2		1
MUSC 030CX. Applied Piano 3		1
MUSC 030DX. Applied Piano 3		1
MUSC 033X. Applied Voice		1
MUSC 033AX. Applied Voice 1		1
MUSC 033BX. Applied Voice 2		1
MUSC 033CX. Applied Voice 3		1
MUSC 033DX. Applied Voice 4		1
MUSC 034X. Strings		1
MUSC 034AX. Strings 1		1
MUSC 034BX. Strings 2		1
MUSC 034CX. Strings 3		1
MUSC 034DX. Strings 4		1
MUSC 035X. Woodwinds 1		1
MUSC 035AX. Woodwinds 1		1
MUSC 035BX. Woodwinds 2		1
MUSC 035CX. Woodwinds 3		1
MUSC 035DX. Woodwinds 4		1
MUSC 036X. Applied Brass		1
MUSC 036BX. Brass 1		1
MUSC 036CX. Brass 2		1
MUSC 036DX. Brass 3		1
MUSC 036EX. Brass 4		1
MUSC 037X. Applied Percussion		1
MUSC 037AX. Applied Percussion 1		1

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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MUSC 037BX. Applied Percussion 2 1
MUSC 037CX. Applied Percussion 3 1
MUSC 037DX. Applied Percussion 4 1
MUSC 038X. Applied Instruction in Music Composition 1
MUSC 038BX. Applied Instruction in Music Composition 1 1
MUSC 038CX. Applied Instruction in Music Composition 2 1
MUSC 038DX. Applied Instruction in Music Composition 3 1
MUSC 038EX. Applied Instruction in Music Composition 4 1
MUSC 039AX. Jazz: Improvisation, Composition or Arranging 1 1
MUSC 039BX. Jazz: Improvisation, Composition or Arranging 2 1
MUSC 039CX. Jazz: Improvisation, Composition or Arranging 3 1
MUSC 039DX. Jazz: Improvisation, Composition or Arranging 4 1

COMPLETE FOUR UNITS FROM:

MUSC 050A. ENS: Concert Choir 1
MUSC 051. ENS: University Chorales 1
MUSC 053. ENS: University Symphony Orchestra 1
MUSC 054. ENS: Symphonic Band 1
MUSC 055. ENS: Wind Ensemble 1
MUSC 057. ENS: Jazz Orchestra 1
MUSC 059. ENS: Afro-Latin Jazz Ensemble 1
MUSC 060F. ENS: Small Jazz Ensembles 1
MUSC 060I. ENS: Jazz Ensemble 1

COMPLETE FOUR UNITS FROM:

MUSC 153. ENS: University Symphony Orchestra 1
MUSC 154. ENS: Symphonic Band 1
MUSC 155. Wind Ensemble 1
MUSC 157. ENS: Jazz Orchestra 1
MUSC 159. ENS: Afro-Latin Jazz Ensemble 1
MUSC 160F. ENS: Small Jazz Ensembles 1
MUSC 160I. ENS: Jazz Ensemble 1

COMPLETE EIGHT UNITS FROM:

MUSC 139A. Jazz Studies 5 1-2
MUSC 139B. Jazz Studies 6 1-2
MUSC 139C. Jazz Studies 7 1-2
MUSC 139D. Jazz Studies 8 1-2

Jazz Studies Concentration **21**

MUSC 102. Orchestration 3
MUSC 104. Counterpoint 3
MUSC 106A. Jazz Arranging I 2
MUSC 106B. Jazz Arranging II 2
MUSC 140B. Jazz Improvisation-II 2
MUSC 140C. Jazz Improvisation-III 2
MUSC 167. Electro-Acoustic Music I 3
MUSC 170A. Fundamentals of Sound Recording 3

COMPLETE ONE UNIT FROM:

MUSC 060F. ENS: Small Jazz Ensembles 1
MUSC 060I. ENS: Jazz Ensemble 1
MUSC 160F. ENS: Small Jazz Ensembles 1
MUSC 160I. ENS: Jazz Ensemble 1

University Electives 0-3

Total Units Required **120**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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BM - Bachelor of Music, Concentration in Music Education

Students in the Music Education program complete the subject matter preparation for the California Teaching Credential in Music, K-12.

The BM-Bachelor of Music in Music Education is approved as subject matter preparation for a single subject credential by the California Commission on Teacher Credentialing (CCTC). Individuals who do not wish to complete one of the degree programs, or individuals seeking a single subject credential in subject areas not listed, must pass all portions of the appropriate Commission-approved subject matter examination(s).

Students receive 60-minute weekly lessons every semester in their area of specialty and must participate in the major ensemble of their respective applied area as a co-requisite. In the final semester of applied study, a solo recital of a minimum of 30 minutes of music is required.

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

Major Exceptions

This degree program meets certain University Requirements through approved major modifications. Please see the Major Exceptions area in the Policy and Procedures section of this catalog to identify the specific adjustments for this degree program or contact your major advisor for more details.

Major-Specific Graduation Requirements

All courses in the preparation and major (all courses in preparation, and core) must be completed with a grade of "C or better".

University Graduation Requirements 38

Core Lower Division General Education 24

Of the 39 units required by the university, 15 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

Upper Division General Education 6

Of the 9 units required by the university, 3 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 6

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

COMPLETE ONE SEQUENCE FROM:

African American Studies 6

AFAM 002A. African Americans and the Development of America's History and Government	D2	3
AFAM 002B. African Americans and the Development of America's History and Government	M7	3

Asian American Studies 6

AAS 033A. Asian Americans in U.S. History I	D2	3
AAS 033B. Asian Americans in U.S. History II	M7	3

U.S. History and Government 6

HIST 015. Essentials of U.S. History	M12	3
POLS 015. Essentials of U.S. & California Government	M11	3

Chicana and Chicano Studies 6

CCS 010A. Mexican Americans and the Development of U.S. History and Government	D2	3
CCS 010B. Mexican Americans and the Development of U.S. History and Government	M7	3

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Physical Education 2

Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Preparation for the Major 15-18

MUSC 001A. Music Systems IA		2
MUSC 001B. Music Systems IB		1
MUSC 002A. Music Systems IIA		2
MUSC 019. Music in World Cultures	C1	3
MUSC 028. Guitar Fundamentals		1
MUSC 100W. Written Communication II	Z	3
MUSC 120. Worlds of Jazz	S	3
Students must also satisfy piano proficiency; this requirement may be satisfied with completion of MUSC 025A, MUSC 025B, and MUSC 025C		0-3

Requirements of the Major 73-74

Core Courses 44

MUSC 002B. Music Systems IIB		1
MUSC 003A. Music Systems IIIA		2
MUSC 003B. Music Systems IIIB		1
MUSC 004A. Music Systems IVA	C1	2
MUSC 004B. Music Systems IVB	C1	1
MUSC 012. Medieval and Renaissance Music	C2	3
MUSC 013. Music Technology		1
MUSC 110. Baroque and Classical Music History		3
MUSC 111. Romantic and Modern Music History		3
MUSC 182. Senior Project		1

COMPLETE EIGHT UNITS FROM:

MUSC 030. Piano	1-2
MUSC 030A. Piano 1	1-2
MUSC 030B. Piano 2	1-2
MUSC 030C. Piano 3	1-2
MUSC 030D. Piano 4	1-2
MUSC 031. Harpsichord or Organ	1-2
MUSC 031A. Harpsichord or Organ 1	1-2
MUSC 031B. Harpsichord or Organ 2	1-2
MUSC 031C. Harpsichord or Organ 3	1-2
MUSC 031D. Harpsichord or Organ 4	1-2
MUSC 033. Voice	1-2
MUSC 033A. Voice 1	1-2
MUSC 033B. Voice 2	1-2
MUSC 033C. Voice 3	1-2
MUSC 033D. Voice 4	1-2
MUSC 034. Strings	1-2
MUSC 034A. Strings 1	1-2
MUSC 034B. Strings 2	1-2
MUSC 034C. Strings 3	1-2
MUSC 034D. Strings 4	1-2
MUSC 035. Woodwinds	1-2
MUSC 035A. Woodwinds 1	1-2
MUSC 035B. Woodwinds 2	1-2
MUSC 035C. Woodwinds 3	1-2

MUSC 035D. Woodwinds 4 1-2
MUSC 036. Brass 1-2
MUSC 036B. Brass 1 1-2
MUSC 036C. Brass 2 1-2
MUSC 036D. Brass 3 1-2
MUSC 036E. Brass 4 1-2
MUSC 037. Percussion 1-2
MUSC 037A. Percussion 1 1-2
MUSC 037B. Percussion 2 1-2
MUSC 037C. Percussion 3 1-2
MUSC 037D. Percussion 4 1-2
MUSC 038. Composition 1-2
MUSC 038B. Composition 1 1-2
MUSC 038C. Composition 2 1-2
MUSC 038D. Composition 3 1-2
MUSC 038E. Composition 4 1-2
MUSC 039A. Jazz: Improvisation, Composition or Arranging 1 1-2
MUSC 039B. Jazz: Improvisation, Composition or Arranging 2 1-2
MUSC 039C. Jazz: Improvisation, Composition or Arranging 3 1-2
MUSC 039D. Jazz: Improvisation, Composition and Arranging 4 1-2

COMPLETE EIGHT UNITS FROM:

MUSC 130. Piano 1-2
MUSC 130A. Piano 5 1-2
MUSC 130B. Piano 6 1-2
MUSC 130C. Piano 7 1-2
MUSC 130D. Piano 8 1-2
MUSC 131. Keyboard 1-2
MUSC 131A. Harpsichord or Organ 5 1-2
MUSC 131B. Harpsichord or Organ 6 1-2
MUSC 131C. Harpsichord or Organ 7 1-2
MUSC 131D. Harpsichord or Organ 8 1-2
MUSC 133. Voice 1-2
MUSC 133A. Voice 5 1-2
MUSC 133B. Voice 6 1-2
MUSC 133C. Voice 7 1-2
MUSC 133D. Voice 8 1-2
MUSC 134. Strings 1-2
MUSC 134A. Strings 5 1-2
MUSC 134B. Strings 6 1-2
MUSC 134C. Strings 7 1-2
MUSC 134D. Strings 8 1-2
MUSC 135. Woodwinds 1-2
MUSC 135A. Woodwinds 5 1-2
MUSC 135B. Woodwinds 6 1-2
MUSC 135C. Woodwinds 7 1-2
MUSC 135D. Woodwinds 8 1-2
MUSC 136. Brass 1-2
MUSC 136B. Brass 5 1-2
MUSC 136C. Brass 6 1-2
MUSC 136D. Brass 7 1-2
MUSC 136E. Brass 8 1-2
MUSC 137. Percussion 1-2
MUSC 137A. Percussion 5 1-2
MUSC 137B. Percussion 6 1-2
MUSC 137C. Percussion 7 1-2
MUSC 137D. Percussion 8 1-2

MUSC 138B. Composition 5 1-2
MUSC 138C. Composition 6 1-2
MUSC 138D. Composition 7 1-2
MUSC 138E. Composition 8 1-2
MUSC 139A. Jazz Studies 5 1-2
MUSC 139B. Jazz Studies 6 1-2
MUSC 139C. Jazz Studies 7 1-2
MUSC 139D. Jazz Studies 8 1-2

COMPLETE FOUR UNITS FROM:

MUSC 050A. ENS: Concert Choir 1
MUSC 053. ENS: University Symphony Orchestra 1
MUSC 054. ENS: Symphonic Band 1
MUSC 055. ENS: Wind Ensemble 1

COMPLETE FOUR UNITS FROM:

MUSC 150A. ENS: Concert Choir 1
MUSC 153. ENS: University Symphony Orchestra 1
MUSC 154. ENS: Symphonic Band 1
MUSC 155. Wind Ensemble 1

COMPLETE TWO UNITS FROM:

MUSC 040A. Jazz Improvisation - I 2
MUSC 140B. Jazz Improvisation-II 2
MUSC 140C. Jazz Improvisation-III 2
MUSC 148A. Improvisational Traditions of the World - Africa and Diaspora 2
MUSC 148B. Improvisational Traditions of the World - Asia 2

Music Education Concentration 29-30

Select an area specialization from either the Instrumental or the Choral/General below. All students must take the Common Courses below.

Common Courses 15-16

MUSC 103. Form and Analysis 3
MUSC 147A. Beginning Conducting 2
MUED 140. Foundations of Music Education 3
MUED 142. Introduction to Music Education: Early Field Experience 1

COMPLETE ONE COURSE FROM:

MUSC 147B. Advanced Conducting: Instrumental 2
MUSC 147C. Advanced Conducting: Choral 2

By advisement select two units of large or chamber ensemble outside of major performing area to satisfy breadth requirement 2

COMPLETE ONE COURSE FROM:

MUSC 102. Orchestration 3
MUSC 106A. Jazz Arranging I 2
MUSC 106B. Jazz Arranging II 2

Instrumental 14

MUSC 026A. Voice Fundamentals 1
MUSC 122A. Fundamental Techniques and Literature: Instrumental 1
MUSC 122B. Fundamental Techniques and Literature: Instrumental 1
MUSC 123A. Fundamental Techniques and Literature: Instrumental 1
MUSC 123B. Fundamental Techniques and Literature: Instrumental 1
MUSC 125D. Fundamental Techniques and Literature: Instrumental 1
MUSC 126. Marching Band Techniques 1
MUSC 127A. Fundamental Techniques and Literature: Instrumental 1
MUSC 127B. Fundamental Techniques and Literature: Instrumental 1
MUED 170A. Teaching Instrumental Music 2
MUED 175. Practicum in Music Education 3

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Choral/General	**14**
MUSC 041A. Applied Lyric Diction	1
MUSC 041B. Applied Lyric Diction	1
MUSC 122A. Fundamental Techniques and Literature: Instrumental	1
MUSC 123A. Fundamental Techniques and Literature: Instrumental	1
MUSC 125D. Fundamental Techniques and Literature: Instrumental	1
MUSC 185A. Music for Children	3
MUED 170B. Teaching Choral Music	2
MUED 175. Practicum in Music Education	3
COMPLETE ONE COURSE FROM:	
MUSC 127A. Fundamental Techniques and Literature: Instrumental	1
MUSC 127B. Fundamental Techniques and Literature: Instrumental	1
University Electives	2-6
Total Units Required	**132**

BM - Bachelor of Music, Concentration in Performance

The Bachelor of Music, Concentration in Performance, is designed for students intending to pursue careers as professional singers or instrumentalists. In addition to the core music courses, the program includes weekly 60-minute private lessons and participation in large ensembles such as choirs, bands, symphony orchestra, and opera theater. Students also perform regularly as soloists and as chamber musicians, both in closed studio classes and in public recitals. In addition to their regular course of study, students are required to present both junior and senior recitals.

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

Major Exceptions

This degree program meets certain University Requirements through approved major modifications. Please see the Major Exceptions area in the Policy and Procedures section of this catalog to identify the specific adjustments for this degree program or contact your major advisor for more details.

Major-Specific Graduation Requirements

All courses in the preparation and major (all courses in preparation, and core) must be completed with a grade of "C or better".

University Graduation Requirements 36

Core Lower Division General Education 24

Of the 39 units required by the university, 15 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

Upper Division General Education 6

Of the 9 units required by the university, 3 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 6

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

COMPLETE ONE SEQUENCE FROM:

African American Studies 6

AFAM 002A. African Americans and the Development of America's History and Government	D2	3
AFAM 002B. African Americans and the Development of America's History and Government	M7	3

Asian American Studies 6

AAS 033A. Asian Americans in U.S. History I	D2	3
AAS 033B. Asian Americans in U.S. History II	M7	3

U.S. History and Government 6

HIST 015. Essentials of U.S. History	M12	3
POLS 015. Essentials of U.S. & California Government	M11	3

Chicana and Chicano Studies 6

CCS 010A. Mexican Americans and the Development of U.S. History and Government	D2	3
CCS 010B. Mexican Americans and the Development of U.S. History and Government	M7	3

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

For Legend please see page 2

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Physical Education

Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Preparation for the Major 11-14

MUSC 001A. Music Systems IA		2
MUSC 019. Music in World Cultures	C1	3
MUSC 100W. Written Communication II	Z	3
MUSC 120. Worlds of Jazz	S	3
Students must also satisfy piano proficiency; this requirement may be satisfied with completion of MUSC 025A, MUSC 025B, and MUSC 025C		0-3

Requirements of the Major 70

Core Courses 53

MUSC 001B. Music Systems IB		1
MUSC 002A. Music Systems IIA		2
MUSC 002B. Music Systems IIB		1
MUSC 003A. Music Systems IIIA		2
MUSC 003B. Music Systems IIIB		1
MUSC 004A. Music Systems IVA	C1	2
MUSC 004B. Music Systems IVB	C1	1
MUSC 012. Medieval and Renaissance Music	C2	3
MUSC 013. Music Technology		1
MUSC 040A. Jazz Improvisation - I		2
MUSC 110. Baroque and Classical Music History		3
MUSC 111. Romantic and Modern Music History		3
MUSC 182. Senior Project		1

COMPLETE SIX UNITS FROM:

MUSC 102. Orchestration		3
MUSC 103. Form and Analysis		3
MUSC 104. Counterpoint		3

COMPLETE EIGHT UNITS FROM:

MUSC 030. Piano		1-2
MUSC 030A. Piano 1		1-2
MUSC 030B. Piano 2		1-2
MUSC 030C. Piano 3		1-2
MUSC 030D. Piano 4		1-2
MUSC 031. Harpsichord or Organ		1-2
MUSC 031A. Harpsichord or Organ 1		1-2
MUSC 031B. Harpsichord or Organ 2		1-2
MUSC 031C. Harpsichord or Organ 3		1-2
MUSC 031D. Harpsichord or Organ 4		1-2
MUSC 033. Voice		1-2
MUSC 033A. Voice 1		1-2
MUSC 033B. Voice 2		1-2
MUSC 033C. Voice 3		1-2
MUSC 033D. Voice 4		1-2
MUSC 034. Strings		1-2
MUSC 034A. Strings 1		1-2
MUSC 034B. Strings 2		1-2

MUSC 034C. Strings 3 1-2
MUSC 034D. Strings 4 1-2
MUSC 035. Woodwinds 1-2
MUSC 035A. Woodwinds 1 1-2
MUSC 035B. Woodwinds 2 1-2
MUSC 035C. Woodwinds 3 1-2
MUSC 035D. Woodwinds 4 1-2
MUSC 036. Brass 1-2
MUSC 036B. Brass 1 1-2
MUSC 036C. Brass 2 1-2
MUSC 036D. Brass 3 1-2
MUSC 036E. Brass 4 1-2
MUSC 037. Percussion 1-2
MUSC 037A. Percussion 1 1-2
MUSC 037B. Percussion 2 1-2
MUSC 037C. Percussion 3 1-2
MUSC 037D. Percussion 4 1-2

COMPLETE EIGHT UNITS FROM:

MUSC 130. Piano 1-2
MUSC 130A. Piano 5 1-2
MUSC 130B. Piano 6 1-2
MUSC 130C. Piano 7 1-2
MUSC 130D. Piano 8 1-2
MUSC 131. Keyboard 1-2
MUSC 131A. Harpsichord or Organ 5 1-2
MUSC 131B. Harpsichord or Organ 6 1-2
MUSC 131C. Harpsichord or Organ 7 1-2
MUSC 131D. Harpsichord or Organ 8 1-2
MUSC 133. Voice 1-2
MUSC 133A. Voice 5 1-2
MUSC 133B. Voice 6 1-2
MUSC 133C. Voice 7 1-2
MUSC 133D. Voice 8 1-2
MUSC 134. Strings 1-2
MUSC 134A. Strings 5 1-2
MUSC 134B. Strings 6 1-2
MUSC 134C. Strings 7 1-2
MUSC 134D. Strings 8 1-2
MUSC 135. Woodwinds 1-2
MUSC 135A. Woodwinds 5 1-2
MUSC 135B. Woodwinds 6 1-2
MUSC 135C. Woodwinds 7 1-2
MUSC 135D. Woodwinds 8 1-2
MUSC 136. Brass 1-2
MUSC 136B. Brass 5 1-2
MUSC 136C. Brass 6 1-2
MUSC 136D. Brass 7 1-2
MUSC 136E. Brass 8 1-2
MUSC 137. Percussion 1-2
MUSC 137A. Percussion 5 1-2
MUSC 137B. Percussion 6 1-2
MUSC 137C. Percussion 7 1-2
MUSC 137D. Percussion 8 1-2

COMPLETE FOUR UNITS FROM:

MUSC 050A. ENS: Concert Choir 1
MUSC 052. ENS: Opera Theater 1
MUSC 053. ENS: University Symphony Orchestra 1
MUSC 054. ENS: Symphonic Band 1
MUSC 055. ENS: Wind Ensemble 1

COMPLETE FOUR UNITS FROM:

MUSC 150A. ENS: Concert Choir 1
MUSC 152. ENS: Opera Theater 1
MUSC 153. ENS: University Symphony Orchestra 1
MUSC 154. ENS: Symphonic Band 1
MUSC 155. Wind Ensemble 1

Applied Area 17

Choose an area of specialization below. Area specializations are a cluster of courses departments use for advising purposes, they will not appear on transcripts or diplomas. See Advisor for more details.

Voice

Voice students must complete a language proficiency in either Italian or French. This may be satisfied with four years of secondary study, a proficiency exam, or one year of college study

MUSC 041A. Applied Lyric Diction 1
MUSC 041B. Applied Lyric Diction 1
MUSC 142. REP: Art Song Repertoire 1
Students must take MUSC 142 twice for a total of 2 units.

MUSC 144. REP: Solo Lit., Performance, Pedagogy 1
Students must take MUSC 144 two times for a total of 2 units.

MUSC 146. Introduction to Applied Music Pedagogy 2
MUSC 147A. Beginning Conducting 2

COMPLETE SEVEN UNITS BY ADVISEMENT FROM:

FREN 001X. Elementary French Individualized 1-5
ITAL 001X. Elementary Italian - Individualized Learning 1-5
MUSC 052. ENS: Opera Theater 2
MUSC 060A. ENS: Choraliers 1
MUSC 060D. ENS: Collegium Musicum 1
MUSC 061. REP: Styles and Interpretation of Opera I 1
MUSC 063. REP:Styles and Interpretation of Opera II 1
MUSC 102. Orchestration 3
MUSC 103. Form and Analysis 3
MUSC 104. Counterpoint 3
MUSC 116. Aspects of Twentieth Century Music 3
MUSC 124. Special Topics in Music History/Literature 1-3
MUSC 147B. Advanced Conducting: Instrumental 2
MUSC 147C. Advanced Conducting: Choral 2
MUSC 152. ENS: Opera Theater 1
MUSC 160A. ENS: Choraliers 1
MUSC 160D. ENS: Collegium Musicum 1
MUSC 161. REP: Styles and Interpretation of Opera I 1
MUSC 163. REP: Styles and Interpretation of Opera II 1-2
MUSC 180. Individual Studies 1-2
MUSC 190A. Honors Project 1
MUSC 190B. Honors Project 2

Keyboard **17**

MUSC 144. REP: Solo Lit., Performance, Pedagogy 1

Students must take MUSC 144 four times for a total of 4 units.

Junior and senior piano majors may use MUSC160C or MUSC143 as a substitution for the major ensemble requirement.

MUSC 145. REP: Performance Concepts 2

Students must take MUSC 145 twice for a total of 4 units.

MUSC 146. Introduction to Applied Music Pedagogy 2
MUSC 146A. Pedagogy - Piano 2
MUSC 147A. Beginning Conducting 2

COMPLETE THREE UNITS BY ADVISEMENT FROM:

MUSC 060C. ENS: Chamber Music 1
MUSC 060D. ENS: Collegium Musicum 1
MUSC 102. Orchestration 3
MUSC 103. Form and Analysis 3
MUSC 104. Counterpoint 3
MUSC 116. Aspects of Twentieth Century Music 3
MUSC 124. Special Topics in Music History/Literature 1-3
MUSC 143. REP: Collaborative Keyboard Performance 1
MUSC 144. REP: Solo Lit., Performance, Pedagogy 1
MUSC 145. REP: Performance Concepts 2
MUSC 147B. Advanced Conducting: Instrumental 2
MUSC 160C. ENS: Chamber Music 1
MUSC 160D. ENS: Collegium Musicum 1
MUSC 180. Individual Studies 1-2
MUSC 190A. Honors Project 1
MUSC 190B. Honors Project 2

Symphonic Instrumental

MUSC 146. Introduction to Applied Music Pedagogy 2
MUSC 147A. Beginning Conducting 2

COMPLETE SIX UNITS BY ADVISEMENT FROM:

MUSC 060B. ENS: Chamber Orchestra 1
MUSC 060C. ENS: Chamber Music 1
MUSC 060D. ENS: Collegium Musicum 1
MUSC 060H. ENS: Percussion Ensemble 1
MUSC 060J. ENS: String Ensemble 1
MUSC 060K. ENS: Brass Ensemble 1
MUSC 060L. ENS: Woodwind Ensemble 1
MUSC 060M. ENS: Saxophone Ensemble 1
MUSC 160B. ENS: Chamber Orchestra 1
MUSC 160C. ENS: Chamber Music 1
MUSC 160D. ENS: Collegium Musicum 1
MUSC 160H. ENS: Percussion Ensemble 1
MUSC 160J. ENS: String Ensemble 1
MUSC 160K. ENS: Brass Ensemble 1
MUSC 160L. Woodwind Ensemble 1
MUSC 160M. ENS: Saxophone Ensemble 1

COMPLETE SEVEN UNITS BY ADVISEMENT FROM:

MUSC 102. Orchestration 3
MUSC 103. Form and Analysis 3
MUSC 104. Counterpoint 3

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

For Legend please see page 2

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MUSC 116. Aspects of Twentieth Century Music	3
MUSC 117. Music and Culture in Latin America V	3
MUSC 124. Special Topics in Music History/Literature	1-3
MUSC 140B. Jazz Improvisation-II	2
MUSC 140C. Jazz Improvisation-III	2
MUSC 147B. Advanced Conducting: Instrumental	2
MUSC 147C. Advanced Conducting: Choral	2
MUSC 153. ENS: University Symphony Orchestra	1
MUSC 154. ENS: Symphonic Band	1
MUSC 155. Wind Ensemble	1
MUSC 157. ENS: Jazz Orchestra	1
MUSC 159. ENS: Afro-Latin Jazz Ensemble	1
MUSC 160C. ENS: Chamber Music	1
MUSC 160D. ENS: Collegium Musicum	1
MUSC 160F. ENS: Small Jazz Ensembles	1
MUSC 160J. ENS: String Ensemble	1
MUSC 160L. Woodwind Ensemble	1
MUSC 160M. ENS: Saxophone Ensemble	1
MUSC 160O. Trombone Ensemble	1
MUSC 170A. Fundamentals of Sound Recording	3
MUSC 180. Individual Studies	1-2
MUSC 190A. Honors Project	1
MUSC 190B. Honors Project	2
University Electives	**0-3**
Total Units Required	**120**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

For Legend please see page 2

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CATALOG CONTENTS

Minor - Dance

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Requirements of the Minor		20
Core		**3**
COMPLETE ONE COURSE FROM:		
ARTH 015. Intro to Visual Culture	C1	3
DANC 010. Dance Appreciation	C1	3
MUSC 010A. Music Appreciation	C1	3
Technique Paths		**9**
Complete nine units of any combination of Level I, II, III, IV courses in Ballet, Jazz or Modern.		
Electives		**8**
COMPLETE EIGHT UNITS FROM:		
DANC 040A. Topics in Modern Dance I	PE	2
DANC 041A. Topics in Ballet I	PE	2
DANC 042A. Topics in Jazz Dance I	PE	2
DANC 043. Dance Improvisation		1
DANC 049A. Topics in Tap Dance I		1
DANC 049B. Topics in Tap Dance II		1
DANC 051A. Dance Production		3
DANC 051B. Topics in Dance Crewing		0.5
Students will enroll in DANC 051B twice		
DANC 053. Techniques in World Dance		1
DANC 075. Rhythm and Dynamics in Dance		1
DANC 102. Dance in World Cultures	V	3
DANC 112. ENS: Dance Rehearsal and Performance		2
DANC 145A. Choreography I		3
DANC 145B. Choreography II		3
DANC 145C. Choreography III		3
DANC 148. Children's Dance		3
DANC 150A. Kinesiology I		3
DANC 150B. Kinesiology II		3
DANC 186. Choreographing the Musical		3
DANC 194. Dance Repertory Activity		1
Total Units Required		**20**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

For Legend please see page 2

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CATALOG CONTENTS

Minor - Music

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Requirements of the Minor 18

Music Fundamentals 3

COMPLETE ONE SEQUENCE FROM:

Sequence One
MUSC 009. Music Fundamentals 3

Sequence Two
MUSC 001A. Music Systems IA 2
MUSC 001B. Music Systems IB 1

Sequence Three
MUSC 002A. Music Systems IIA 2
MUSC 002B. Music Systems IIB 1

Music Recitals 2

COMPLETE 2 UNITS FROM:

MUSC 081. Concert Listening I 1
MUSC 181. Concert Listening II 1

Performance Skills 2

COMPLETE 2 UNITS FROM:

MUSC 025A. Piano Proficiency I 1
MUSC 025B. Piano Proficiency II 1
MUSC 026A. Voice Fundamentals 1
MUSC 028. Guitar Fundamentals 1
MUSC 040A. Jazz Improvisation - I 2

Ensemble Performance 2

COMPLETE 2 UNITS FROM:

MUSC 050A. ENS: Concert Choir 1
MUSC 051. ENS: University Chorales 1
MUSC 052. ENS: Opera Theater 1
MUSC 053. ENS: University Symphony Orchestra 1
MUSC 054. ENS: Symphonic Band 1
MUSC 055. ENS: Wind Ensemble 1
MUSC 057. ENS: Jazz Orchestra 1
MUSC 059. ENS: Afro-Latin Jazz Ensemble 1
MUSC 060A. ENS: Choraliers 1
MUSC 060D. ENS: Collegium Musicum 1
MUSC 060E. ENS: Jazz Singers 1
MUSC 060F. ENS: Small Jazz Ensembles 1
MUSC 060H. ENS: Percussion Ensemble 1
MUSC 060J. ENS: String Ensemble 1
MUSC 060K. ENS: Brass Ensemble 1
MUSC 060L. ENS: Woodwind Ensemble 1
MUSC 060M. ENS: Saxophone Ensemble 1
MUSC 060O. ENS: Trombone Ensemble 1
MUSC 150A. ENS: Concert Choir 1
MUSC 151. ENS: University Chorales 1

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

For Legend please see page 2

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MUSC 152. ENS: Opera Theater		1
MUSC 153. ENS: University Symphony Orchestra		1
MUSC 154. ENS: Symphonic Band		1
MUSC 155. Wind Ensemble		1
MUSC 157. ENS: Jazz Orchestra		1
MUSC 159. ENS: Afro-Latin Jazz Ensemble		1
MUSC 160A. ENS: Choraliers		1
MUSC 160D. ENS: Collegium Musicum		1
MUSC 160E. ENS: Jazz Singers		1
MUSC 160F. ENS: Small Jazz Ensembles		1
MUSC 160H. ENS: Percussion Ensemble		1
MUSC 160J. ENS: String Ensemble		1
MUSC 160K. ENS: Brass Ensemble		1
MUSC 160L. Woodwind Ensemble		1
MUSC 160M. ENS: Saxophone Ensemble		1
Music Electives		**9**
COMPLETE NINE UNITS FROM:		
MUSC 010A. Music Appreciation	C1	3
MUSC 010B. Introduction to Music	C1	3
MUSC 012. Medieval and Renaissance Music	C2	3
MUSC 013. Music Technology		3
MUSC 019. Music in World Cultures	C1	3
MUSC 110. Baroque and Classical Music History		3
MUSC 111. Romantic and Modern Music History		3
MUSC 117. Music and Culture in Latin America	V	3
MUSC 120. Worlds of Jazz	S	3
MUSC 122A. Fundamental Techniques and Literature: Instrumental		1
MUSC 123A. Fundamental Techniques and Literature: Instrumental		1
MUSC 125D. Fundamental Techniques and Literature: Instrumental		1
MUSC 127A. Fundamental Techniques and Literature: Instrumental		1
MUSC 167. Electro-Acoustic Music I		3
MUSC 168. Electro-Acoustic Music II		3
MUSC 169. Digital Synthesis		3
MUSC 170A. Fundamentals of Sound Recording		3
MUSC 170B. Intermediate Sound Recording		3
MUSC 170C. Advanced Sound Recording Production		3
MUSC 185A. Music for Children		3
Total Units Required		**18**

MA - Music Education (Special Session Program)

Advisor: Diana Hollinger

The Master of Arts in Music Education is designed for the student with a career goal in music education. It provides a broad foundation in educational philosophy, theory, and history in research and practice for a solid grounding for continuing work in K-12 education, community music and other pursuits, and as preparation for further advanced study. The MA in Music Education is a two-year, 30- unit program focusing on one-on-one study with an advisor, courses and practicums in education theory, issues and research in conjunction with seminars in music research and writing, music history, and music theory. The degree culminates with the Written Culminating Exams (WCE), and the completion of a music education thesis (Plan A) or project (Plan B).

Special Session Program Information

Academic Programs offered through Special Session are operated by the College of Professional and Global Education (CPGE). Registration and enrollment in a Special Session course or program must use the special session application form and will follow special session fee and course schedules. Note that regular session students seeking to enroll simultaneously in a special session course or program will trigger a separate and additional set of fees. This may require an additional enrollment appointment from the Registrar and it may have implications for financial aid status or requirements. Please visit the CPGE website for more information.

Additional information is available in the School of Music & Dance Office and at the department website: www.sjsu.edu/music/.

Admissions Requirements

You will need to apply separately to the university to obtain approval for graduate admissions and to the department to obtain admission into the Master of Arts - Music Education. The School of Music and Dance graduate program requires applicants to have a bachelor's degree in Music from a regionally accredited institution and to be in good academic standing at the last college or university attended. In rare circumstances, students with degrees in non-music areas who demonstrate artistic potential for graduate study in Music may be admitted to the program. The School of Music and Dance requires a minimum GPA of 3.00 in the last 60 units of undergraduate coursework. All required transcripts and supporting documents should be sent directly to the university.

Students from a country where the official language was not English are required to submit a TOEFL (Test of English as a Foreign Language), PTE (Pearson Test of English), or International English Language Testing System (IELTS) score. The minimum entrance score for the TOEFL is 590 (paper based), 243 (computer based), or 96 (internet based), with a score of 5 in the Writing Section. The minimum score for the PTE is 68; for the IELTS, the minimum score is 7.0. All test scores must be less than 2 years old. Test scores must be sent directly from the Educational Testing Service office (institution code 4687), Pearson Office, or IELTS office directly to SJSU.

The School of Music and Dance does not require the GRE (Graduate Record Exam).

Portfolio and Letters of Recommendation

The submission of a portfolio of work is required including a curriculum vitae, video recording of a teaching episode, statement of teaching philosophy, and a sample undergraduate term paper on an education topic. An interview is also required. Please see the School of Music and Dance website for specific requirements.

The School of Music and Dance requires three letters of recommendation addressing the applicant's potential for graduate-level work in music to be sent to the Music Education area advisor.

Admission to Classified Standing

Graduate students admitted to the School of Music and Dance are usually admitted in "conditionally classified" status. This status is normal for all entering graduate students, who must demonstrate a bachelor's level competence in music history and music theory by passing the Graduate Entrance Evaluations given during Pre-Instruction before the start of the fall semester. Students who pass their Entrance Evaluations may then become "graduate classified" and are eligible to take all 200-level graduate seminars after completing MUSC 200. Students who fail portions of the Evaluation will remain conditionally classified and will be required to remediate with the appropriate coursework before taking graduate seminars beyond MUSC 200. Coursework taken as remediation is not applied to the Master's degree requirement units.

Students who fail the entire Entrance Evaluation will not be admitted into the program.

Please see "Graduate Program Test Requirements" for more information.

Requirements for Advancement to Candidacy

Candidacy denotes that the student is fully qualified to complete the final stages of the MA. In order to achieve candidacy, students must meet the university requirements for candidacy. General university requirements for advancement to candidacy for the MA degree are detailed in the Graduate Policies and Procedures section of this catalog. Advancement to candidacy requires that the student be in good standing with a 3.0 GPA or better in a minimum of 9 units of letter-graded coursework as a graduate student in 100- or 200-level courses in the degree program as indicated by all courses on the Petition for Advancement to Graduate Candidacy form. These courses must conform to university and departmental requirements, and the area and graduate advisors must approve the proposed program. The proposed program must list a total of 30 semester units, including the appropriate number of "core" courses, area specialization courses, required ensembles, and supervised graduate study.

The student must be "graduate classified" and have met and cleared their conditions for admission to the program indicated by their results in the Graduate Entrance Evaluation in music history and music systems/theory. Candidacy also includes successful completion of the Graduation Writing Assessment Requirement (GWAR), which in the School of Music & Dance is MUSC 200, Methods of Music Research & Writing.

Requirements for Graduation

University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

MA - Music Education

Thesis: In Plan A, six units are devoted to the preparation and writing of a thesis guided by the candidate's major professor and approved by a committee. After final approval by the advisor and thesis committee, the thesis is submitted to Graduate Studies for review. The thesis must meet university requirements as stipulated in this catalog and in the SJSU Master's Thesis and Doctoral Dissertation Guidelines. The successfully reviewed thesis is then submitted for publication.

Project: In Plan B, six units are devoted to the preparation and production of a written project.

Written Culminating Exams (WCE): At the end of their studies, students demonstrate their thorough grasp of music history, music systems/theory, and their field of specialization through the Written Culminating Exams (WCE). Students must pass all sections of the examination to be awarded their master's degree

Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR). For information on the GWAR, please see http://info.sjsu.edu/gcw.html.

Requirements of the Masters		30
Core Courses		**15**
MUSC 200. Methods of Music Research & Writing	GWAR	3
MUSC 201. Seminar in Music History		3
MUSC 202. Seminar in Music Systems & Theory		3
COMPLETE TWO COURSES FROM:		
MUED 221. Foundations of Music Education		3
MUED 228. Research in Music Education		3
MUED 232. Directions and Issues in Music Education		3
Area of Specialization		**9**
Nine units of 200-level graduate and approved 100-level elective courses in area specialization		9
Culminating Experience		**6**
Written Culminating Exam		0
CHOOSE ONE PLAN FROM:		
Plan A		
MUSC 299. Master's Thesis, Recital or Composition		6
Plan B		
MUSC 224. Supervised Graduate Study		6
Total Units Required		**30**

Elective courses must be planned in consultation with the area coordinator and the School of Music & Dance Graduate Advisor.

The maximum number of upper-division undergraduate units that can be applied toward the master's degree is 15.

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU Cumulative grade point averages of 3.0 in order to graduate.

MM - Music Graduate Programs

The Master of Music graduate program in the School of Music and Dance offers training for careers in performance, conducting, composition, research, and teaching. We also provide preparation for further advanced study in ten distinct areas:

- Composition
- Choral conducting
- Instrumental conducting
- Instrumental performance
- Jazz studies
- Keyboard studies
- Music education
- Music history
- Music systems/theory
- Vocal performance

Our MM, Music degree program is a 30-unit course of study, typically taken in four semesters over two years, and consists of graduate seminars, one-on-one private lessons, performance ensembles, and area specialization coursework. The program culminates with the master's exam and the completion of a graduate recital, project, thesis, or music composition.

Additional information is available in the School of Music & Dance Office and at the department website: www.sjsu.edu/music/.

Admission Requirements

University Admissions

Applicants must submit a complete graduate application by applying through the CSU Cal State Apply system at calstate.edu/apply and meet all the university graduate admissions. Applicants apply separately to the department to obtain admission into the MM, Music program. See the GAPE Graduate Admissions website and this Catalog for general information about graduate admissions at SJSU.

Applicants from countries in which the native language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirements webpage at GAPE. For TOEFL Requirements, see the Policies and Procedures section, Graduate and Post-Baccalaureate Information in this Catalog.

Requirements for Admission to the Program

You will need to apply separately to the university to obtain approval for university-level admission and to the department to obtain admission into the Master of Music Program. The School of Music and Dance graduate program requires applicants to have a bachelor's degree in Music from a regionally accredited institution and to be in good academic standing at the last college or university attended. The School of Music and Dance requires a minimum GPA of 3.00 in the last 60 units of undergraduate coursework. All required transcripts and supporting documents should be sent directly to the university.

Students from a country where the official language is not English are required to submit a TOEFL (Test of English as a Foreign Language), PTE (Pearson Test of English), or International English Language Testing System (IELTS) score. The minimum entrance score for the TOEFL is 590 (paper based), 243 (computer based), or 96 (internet based), with a score of 5 in the Writing Section. The minimum score for the PTE is 68; for the IELTS, the minimum score is 7.0. All test scores must be less than 2 years old. Test scores must be sent directly from the Educational Testing Service office (institution code 4687), Pearson Office, or IELTS office directly to SJSU.

The School of Music and Dance does not require the GRE (Graduate Record Exam).

Audition, Portfolio, Interview

Conducting and Performance: a live (preferred) or unedited recorded audition is required for conducting and performance specializations. Please see the School of Music and Dance website for specific requirements of individual performance areas.

Composition, Education, History, Systems/Theory: the submission of a portfolio of work is required for all academic specializations. Please see the School of Music and Dance website for specific requirements of individual academic areas.

Individual areas may also require an interview.

Letters of Recommendation

The School of Music and Dance requires three letters of recommendation addressing the applicant's potential for graduate-level work in music to be sent to the appropriate performance area advisor.

Admission to Classified Standing

Graduate students admitted to the School of Music and Dance are usually admitted in "conditionally classified" status. This status is normal for all entering graduate students, who must demonstrate a bachelor's level competence in music history and music theory by passing the Graduate Entrance Evaluations given during Pre-Instruction before the start of the fall semester. Students who pass their Entrance Evaluations may then become "graduate classified" and are eligible to take all 200-level graduate seminars after completing MUSC 200. Students who fail one or more portions of the Evaluation will remain conditionally classified and will be required to remediate with the appropriate coursework before taking graduate seminars beyond MUSC 200. Coursework taken as remediation is not applied to the Master's degree requirement units.

Students who fail the entire Entrance Evaluation will not be admitted into the program.

Please see the "Graduate Program Test Requirements" for more information

Requirements for Advancement to Candidacy

Candidacy denotes that the student is fully qualified to complete the final stages of the MM. In order to achieve candidacy, students must meet the university requirements for candidacy. General university requirements for advancement to candidacy for the Master's degree are detailed in the Graduate Policies and Procedures section of this catalog. Advancement to candidacy requires that the student be in good standing with a 3.0 GPA or better in a minimum of 9 units of letter-graded coursework as a graduate student in 100- or 200-level courses in the degree program as indicated by all courses on the Petition for Advancement to Graduate Candidacy form. These courses must conform to university and departmental requirements, and the area and graduate advisors must approve the proposed program. The proposed program must list a total of 30 semester units, including the appropriate number of "core" courses, area specialization courses, required ensembles, and supervised graduate study.

The student must be "graduate classified" and have met and cleared their conditions for admission to the program indicated by their results in the Graduate Entrance Evaluation in music history and music systems/theory. Candidacy also includes successful completion of the Graduation Writing Assessment Requirement (GWAR), which in the School of Music & Dance is MUSC 200, Methods of Music Research & Writing.

Requirements for Graduation

University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

Course Requirements for the Master's Degree

The Music master's degree is based on 12 units of four "core" graduate seminars, beginning with MUSC 200: Methods of Music Research & Writing, and 12 units of area courses and ensembles. Students with the academic specializations (Plan A), 6 units of thesis/composition supervision are taken in preparation for completing a thesis or composition. Students in performance specializations (Plan B), 6 units of private lessons with an individual teacher are taken in preparation for their master's recital or project. All required prerequisite course work must be passed with a grade of "B" or better and a minimum 3.0 GPA must be maintained in order to continue with the graduate program. To complete the program, students take their Written Culminating Exams (WCE) in their final semester.

Culminating Experience

Students choose a Plan A (Thesis), Plan B (Project), or Plan C (Creative Project - Composition or Recital) option as their program culminating experience. All students must also successfully complete the Written Culminating Exams (WCE)

Plan A (Thesis)

In Plan A (Thesis), six units of MUSC 299, Thesis are devoted to the preparation and writing of an advisor-approved thesis on a topic approved by the candidate's major professor. Students choosing the thesis option must secure the commitment of three faculty members of the university, two of whom must be members of the permanent faculty, to serve as members of the student's Plan A (thesis) committee, with one permanent faculty member agreeing to serve as chair. After final approval by the major advisor and thesis committee members, the thesis is submitted to Graduate Studies. The thesis must meet university requirements as stipulated in this catalog and in the SJSU Master's Thesis and Doctoral Dissertation Guidelines.

Plan B (Project)

In Plan B (Project), six units are devoted to the preparation and production of a written project.

Plan C (Creative Project - Composition or Recital)

In Plan C (Creative Project), six units are devoted to the preparation of a music composition approved by the candidate's major professor, or the preparation and performance of one or more master's recitals. Performance candidates will perform one or two recitals (by advisement) of repertoire approved by the candidate's advisor. These performances are recorded, and the recording and a hard copy of the recital program are submitted to the School of Music and Dance. Students must be in "graduate classified" status to perform their recital.

Written Culminating Exam (WCE)

At the end of their studies, all MM, Music students must demonstrate their thorough grasp of their field of specialization, music history, and music theory through the Written Culminating Exams (WCE). Students must pass all sections of the examination to be awarded their master's degrees. The examination consists of three essay questions, which will concern subjects in (1) the student's major field (piano, composition, etc.), (2) the information covered in the student's Music 201 history class; and (3) the information covered in the student's MUSC 202 theory class. The essay questions will be written by the major instructor and by the professors who taught the student Music 201 and 202. The examination will be given in the middle of the semester. If students are enrolled in MUSC 201 and/or 202 during their last semester, the essay question(s) will cover the material covered in class to that date. Students have two weeks to complete the examination, which is open book. Students are required to research their topics but cannot work with other students or any other persons on their examination. Each essay must represent only the student's work, and students must sign a declaration on the cover sheet that the essays represent only their own research and writing. Each essay must be 4-6 pp. in length, typed, and double-spaced. Either footnotes or endnotes must be used in correct format to identify all sources. Failure to demonstrate knowledge of correct bibliographic citation will result in a failure in the examination. Students will be notified two weeks after the examinations are turned in if they have passed or failed. If the student fails, the examination may be retaken one time upon consultation with the Graduate Advisor. The examinations will be filed in the student's School file.

It is the student's responsibility to inform the Graduate Advisor at the beginning of his or her last semester that he or she needs to take the WCE that semester. The Graduate Advisor will ask for the names of the three professors who will be writing the examination questions, and will assign the dates for the examination. The Graduate Advisor will request the essay questions from your professors and give you the examination on the appointed date.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

For Legend please see page 2

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MM - Music

Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR). For information on the GWAR, please see http://info.sjsu.edu/gcw.html.

Requirements of the Masters 30

Core Courses 12

MUSC 200. Methods of Music Research & Writing ..... GWAR 3
MUSC 201. Seminar in Music History 3
MUSC 202. Seminar in Music Systems & Theory 3

COMPLETE ONE COURSE FROM:

MUSC 203. Seminar in Style & Performance Practices 3
MUSC 220. Seminar in Advanced Conducting 3
MUSC 221. Seminar in Jazz History 3

Area Specialization 12

Composition

Twelve units of graduate 200-level and approved 100-level elective courses in area specialization 0

Music History

Twelve units of graduate 200-level and approved 100-level elective courses in area specialization 0

Music Theory

Twelve units of graduate 200-level and approved 100-level elective courses in area specialization 0

Music Education

Twelve units of graduate 200-level and approved 100-level elective courses in area specialization 0

Choral Conducting

Twelve units of graduate 200-level and approved 100-level elective courses in area specialization 0

Instrumental Conducting

Twelve units of graduate 200-level and approved 100-level elective courses in area specialization 0

Jazz Studies

Twelve units of graduate 200-level and approved 100-level elective courses in area specialization 0

Performance: Woodwinds, Brass & Percussion

Twelve units of 200-level graduate courses in area specialization. 0

Performance: Piano

Twelve units of graduate 200-level and approved 100-level elective courses in area specialization 0

Performance: Voice

Twelve units of graduate 200-level and approved 100-level elective courses in area specialization 0

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

For Legend please see page 2

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Culminating Experience	6
CHOOSE ONE PLAN FROM:	
Plan A (Thesis)	
MUSC 299. Master's Thesis, Recital or Composition	6
3 units in each of two final semesters	
Written Culminating Exam	0
Plan B (Project)	
MUSC 224. Supervised Graduate Study	6
2 units in each of three semesters	
Written Culminating Exam	0
Plan C (Creative Project- Composition or Recital)	
MUSC 224. Supervised Graduate Study	6
2 units in each of two semesters	
MUSC 299. Master's Thesis, Recital or Composition	6
Written Culminating Exam	0
Total Units Required	**30**

Elective courses must be planned in consultation with the Area Coordinator and the School of Music & Dance Graduate Advisor.

The maximum number of upper-division undergraduate units that can be applied toward the master's degree is 15.

Upon completion of the degree requirements, the student must have achieved minimum candidacy and an SJSU Cumulative grade point average of 3.0 in order to graduate.

Nuclear Science Program

College of Science

DUNCAN HALL 180
408-924-4954

Professors

Victor Maraschino, Radiation Safety Officer

Introduction

The Nuclear Science Facility of San José State University is the unique focus of all related teaching and research activity on campus.

Undergraduate students have an opportunity to work in the facility as part of their general education classes in chemistry and physics. Students majoring in chemistry, physics, and biology come to the facility for some of their classes or for undergraduate research projects. The Department of Physics offers its major with a concentration in Nuclear Science. Consult the department listings for degree requirements and course descriptions.

SJSU also offers MS degrees in Chemistry and Physics. The course of study could emphasize nuclear chemistry or nuclear physics depending on the student's particular interest. Consult the chemistry or physics listings respectively for degree requirements and course descriptions.

Resources

The university's Nuclear Science Facility is a unique physical plant specifically designed and built for classroom, laboratory and research work in nuclear science and technology. The Nuclear Science Facility is a freestanding 10,000 square foot, three-story building contiguous to the university's other science and classroom facilities. It is comprised of a briefing room, administrative and faculty offices, four undergraduate wet labs, two undergraduate counting rooms, five graduate wet labs, a high activity storage room, plant and animal experiment rooms, a waste water collection and sampling system, an ambient air sampling system and storerooms. The facility is staffed full-time by a director, an office manager, senior technologists and a radiation safety officer.

The reference library within the facility is comprised of approximately 300 volumes of standard science reference works and texts covering basic and advanced nuclear physics science and technology, radiobiology, health physics and standards and procedures. This collection supplements the university library, comprised of 900,000 volumes and more than 2,100 science and engineering periodicals.

Research

Research in the Nuclear Science Facility is sponsored through grants from DOE, NASA, NSF, and others. Most research is done in collaboration with other universities and national laboratories.

Nursing, School of

College of Applied Sciences and Arts
Division of Health Professions

HEALTH BUILDING 420
408-924-3131

Professors

Katherine Abriam-Yago
Karen Bawel-Brinkley
Daryl Canham
Deepika Goyal
Suzanne Malloy
Chia-Ling Mao
Colleen O'Leary-Kelley, Director
Vivian Wong

Associate Professors

Toby Adelman
Michelle Hampton
Ruth Rosenblum

Assistant Professors

Alice Butzlaff
Debrayh Gaylle
Constance Hill
Dorothy Moore
Lisa Rauch
Sheri Rickman-Patrick
Arlene Spilker
April Wood

Curricula

BS, Nursing
BS, Nursing, Concentration RN to BSN
MS, Nursing
MS, Nursing, Concentration in Family Nurse Practitioner (Special Session Program)
Certificate, Post Master's Nurse Educator
DNP, Doctor of Nursing Practice

Introduction

The Valley Foundation School of Nursing offers an innovative curriculum and varied experiential opportunities for students. The baccalaureate, master's, and doctoral degree programs in The Valley Foundation School of Nursing at San Jose State University are accredited by the Commission on Collegiate Nursing Education. These programs prepare nursing professionals to be socially and ethically responsible clinicians and scholars who are able to meet the changing healthcare needs of a diverse global community. Under faculty supervision, baccalaureate nursing students participate in clinical experiences in both hospital and community agencies. Our nurse-managed centers, located in Santa Clara and Santa Cruz counties, offer students the opportunity to provide health services and illness prevention services to populations in need. Nurses returning for their master's degree will gain additional knowledge and skills needed for either advanced practice concentration in the Nurse Educator role or the Family Nurse Practitioner role. California State University, Fresno and San Jose State University offer a joint post-master's Doctor of Nursing Practice Program. The Doctor of Nursing Practice Program prepares professional nurses to assume leadership positions in clinical, administrative, and academic settings.

Undergraduate BSN Application and Admission Procedures

The application to the Undergraduate Nursing major is a 2-step application process.

Students interested in the nursing major should attend a 2 hour group advising session (usually offered monthly). Submit a University application to www.calstate.edu/apply and official transcripts of all previous college work to the Office of Admissions and Records by the posted University deadlines. As of Fall 2010, the University has designated "undeclared pre-nursing" as an impacted major. Impaction criteria for the undeclared prenursing major are posted on the University web pages under info.sjsu.edu. Students are admitted as "cohort groups" once they have been formally admitted to the nursing major. (Note: the nursing major application process has supplemental impaction criteria in place.) Students must file a separate application to the nursing major (www.sjsu.edu/nursing) listed under prospective students.

Prior to applying to the University, students should refer to The Valley Foundation School of Nursing website for information regarding advisement for entry into the major. Advising is available through individual or monthly group sessions. Refer to the nursing web site at www.sjsu.edu/nursing for more detail, dates, times, and rooms for monthly group advising sessions. The application process for The Valley Foundation School of Nursing will be posted on the nursing website. All online applications include proof of admission to SJSU, or at least that you have begun the csumentor.edu application process, a passing score on the Writing Skills Test, and a passing score on the TEAS test. Courses with designated "W" or "WB" are not considered for calculation purposes.

Nursing has been an impacted major since Spring 2005. Impaction imposes supplemental criteria that all students must meet. Pre-nursing students apply to the "undeclared pre-nursing" major, for consideration in the applicant pool. Students may apply to the nursing major twice maximum.

The Valley Foundation School of Nursing has biannual admission application periods - Spring and Fall. Supplemental criteria for eligibility for the applicant cohort pool include:

1. Composite GPA of 3.2 in 5 prerequisite courses (BIOL 065, BIOL 066, MICRO 020, ENGL 001A, and STAT 095). All courses must be passed with a C or better.
2. BIOL 065, BIOL 066, and MICRO 020 must be completed within 5 years of establishing eligibility and passed with a grade of "C" or better. If the course does not meet the 5-year. recency requirement the student will need to retake that course. The grade for any of these 3 courses taken within the 5 years will be used for calculation purposes. Courses may not be repeated, except for forgiveness when taken at the original school and this designation must appear on official transcripts. ("W" and "WB" grades are excluded).
3. A minimum TEAS score of 78; version 6 of the TEAS. This exam may only be taken two times regardless of the version. (www.sjsu.edu/nursing)
4. Composite GPA of 3.0 in CHEM 030A, COMM 020, and an Area A3 (critical thinking) course. All courses must be passed with a C or better. Options for acceptable area A3 courses are listed on the University's web site.
5. A passing score on the Writing Skills Test (WST).

Impaction Scoring

Students meeting the above minimum criteria will be ranked according to an impaction score, calculated and weighted from the following two areas:

1. GPA in composite of 5 prerequisite courses (BIOL 065, BIOL 066, MICRO 020, ENGL 001A, STAT 095). None of these courses may be repeated, and only the first grade will be included in the calculation. Exceptions: The second attempt was for "Grade Forgiveness" (also known as Academic Renewal) or meet the 5 year recency for BIOL 065, BIOL 066, and MICR 020.
2. A minimum score on the Test of Essential Academic Skills (TEAS) Test (www.sjsu.edu/nursing). The TEAS is a test of English, reading comprehension, mathematics, and basic science. It is available through the SJSU Testing Center. Refer to The Valley Foundation School of Nursing's home page and the BS information packet (under prospective students) for further information. There is a fee. A Study and Review Guide is available for purchase online at www.atitesting.com to assist in preparation for the TEAS exam. Test administration dates (usually offered every 2 months) are posted under the University testing website. Check the testing website frequently for updates.

In order to join the applicant pool for The Valley Foundation School of Nursing, students must:

1. Declare "undeclared pre-nursing" as a major (this designation has supplemental entry criteria; see www.sjsu.edu/nursing). Change of major forms are done through the main university advising office in the Student Success Center on 10th street.
2. Complete the 8 required prerequisites courses with a grade of "C" or better. See minimum GPA under "impaction criteria."
3. Pass the Writing Skills Test (WST) or approved equivalent (check the testing office website at http://testing.sjsu.edu/ for test dates, deadlines, and fees) prior baccalaureate students exempted from WST. Allow several months to do this, prior to applying to nursing.
4. Pass the TEAS test, version 6, within 2 attempts and submit the score(s) to the online vendor for application to SJSU The Valley Foundation School of Nursing (NOTE: a minimum TEAS score of 78 is required for eligibility). The TEAS score is divided by 30 for calculation of impaction scores.
5. United States citizenship or Green Card Permanent Resident (documentation required). "Dream Act" students need certain documentation. A California Drivers License (or picture ID from Drivers License bureau) is also required.
6. Complete a required background check and drug clearance, using the School's vendor. Once the student is provisionally accepted into the nursing major, a clear background check and drug screen are required. More information on this content is on the School's web site under "Policies".
7. Submit an application with documentation of 1 through 5 above. Documentation of completion of prerequisites is submitted during the online application process.
8. Application to nursing and documentation deadlines for entry in Fall semester is Feb. 15. Application and documentation deadlines for entry in Spring semester is September 15. Specific clinical documentation will be required of all nursing students on admission to the major. Students may apply up to one month prior to these deadlines.

Please note that application requirements and prerequisite courses are subject to change. Interested students should check the nursing web site frequently for updates and changes. Monthly 2-hour group advising session does not require an appointment.

Co-requisite courses: There are 3 courses that must either be completed prior to entering nursing or within 1 year of entering the major. CHAD 070; PSYC 1; and HPRF/NURS 100W.

A student may only apply a maximum of two times to this program. If not admitted by then, the student should seek general University advising to change majors.

BS - Nursing

Undergraduate Coordinator and Advisor: Dr. Sue Malloy

Programs at SJSU prepare you for professional careers with a baccalaureate degree in Nursing.

The following courses (or their equivalents) are to be completed for the baccalaureate degree. Extended campus facilities include public health departments, home health agencies, sub-acute facilities, skilled nursing facilities, ambulatory care clinics, acute care hospitals, Nurse-Managed Centers and a wide variety of community-based agencies for clinical experience. Students must provide their own transportation to extended campus facilities. Some community agencies require home visits, therefore students must have individual use of an automobile.

Overall requirements: Students must maintain a minimum grade of "C" or better or "Credit" in each nursing course and in all prerequisites and corequisite courses for the nursing major (see admission impaction supplemental criteria for exceptions). In addition, students must pass background and drug clearances. Policies are posted on The Valley Foundation School of Nursing website at www.sjsu.edu/nursing.

All students must meet all health requirements and obtain personal professional liability insurance through the School's designated vendor. Students must carry personal health insurance at all times as well. Those who do not meet the health clearance guidelines must meet with the advisor for follow-up.

Students should be aware that the application requirements and prerequisite courses are subject to change. Interested students should check the nursing web site frequently for updates and changes.

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

5-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

Major Exceptions

This degree program meets certain University Requirements through approved major modifications. Please see the Major Exceptionsarea in the Policy and Procedures section of this catalog to identify the specific adjustments for this degree program or contact your major advisor for more details.

Major-Specific Graduation Requirements

All courses required in the major (preparation, major, and electives) require a grade of "C" or better or "Credit" (see admission impaction supplemental criteria for exceptions). In addition, students must pass background and drug clearances. Policies are posted on The Valley Foundation School of Nursing website.

University Graduation Requirements 21

Core Lower Division General Education 9

Of the 39 units required by the university, 30 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

Upper Division General Education 6

Of the 9 units required by the university, 3 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 6

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

COMPLETE ONE SEQUENCE FROM:

African American Studies 6

AFAM 002A. African Americans and the Development of America's History and Government	D2	3
AFAM 002B. African Americans and the Development of America's History and Government	M7	3

Asian American Studies 6

AAS 033A. Asian Americans in U.S. History I	D2	3
AAS 033B. Asian Americans in U.S. History II	M7	3

U.S. History and Government **6**

HIST 015. Essentials of U.S. History	M12	3
POLS 015. Essentials of U.S. & California Government	M11	3

Chicana and Chicano Studies **6**

CCS 010A. Mexican Americans and the Development of U.S. History and Government	D2	3
CCS 010B. Mexican Americans and the Development of U.S. History and Government	M7	3

Physical Education

Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst</a. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Preparation for the Major 38

Preparation for the Major **29**

Any Area A3 course		3
ENGL 001A. First Year Writing	A2	3
COMM 020. Public Speaking	A1	3
CHEM 030A. Introductory Chemistry	B1+B3	3
BIOL 065. Human Anatomy	B2+B3	4

BIOL 065O may also be used to meet this requirement.

BIOL 066. Human Physiology	B2+B3	5
MICR 020. General Bacteriology	B2+B3	5
STAT 095. Elementary Statistics	B4	3

UNVS 015F and UNVS 015S may be used in lieu of the statistics course required by this major.

Additional Support for the Major **9**

CHAD 070. Lifespan Development in the 21st Century	E	3
HS 100W. Writing Workshop	Z	3
PSYC 001. Introduction to Psychology	D1	3

Requirements of the Major 61

NURS 023. Pathophysiology - Theory I	3
NURS 024. Adult Care Management I	4
NURS 033. Professional Role Development I	2
NURS 034A. Professional Role Development II	1
NURS 043. Pharmacology	3
NURS 044. Adult Care Clinical Practicum I	3
NURS 053. Skills in Nursing I	3
NURS 054. Skills in Nursing II	2
NURS 125. Adult Care Management II	4
NURS 126A. Pediatric Health Theory	2
NURS 126B. Maternal / Newborn Health Theory	2
NURS 127A. Psychiatric / Mental Health Theory	2
NURS 127B. Community Theory	2
NURS 128. Evidence-Based Nursing Practice	2
NURS 133. Professional Role Development IV	2
NURS 136. Professional Role Development III	2
NURS 137. Professional Role Development V	2
NURS 138. Professional Role Development VI S	3
NURS 145. Adult Care Clinical Practicum II	4

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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NURS 146A. Pediatric Clinical	2
NURS 146B. Maternal Health Clinical	2
NURS 147A. Psychiatric/Mental Health Clinical	2
COMPLETE ONE COURSE FROM:	
NURS 147B. Community Health Clinical	3
NURS 147BI. Community Health Clinical -- International Experience	3
COMPLETE ONE COURSE FROM:	
NURS 148A. Senior Preceptorship	4
NURS 148AI. Senior Practicum-- International Experience	4
Total Units Required	**120**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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RN to BS - Nursing

Advanced Placement Coordinator and Advisor: Dr. Arlene Spilker

Admittance into this degree requires an Associate in Science degree in Nursing and passage of the NCLEX (National Council Licensure Examination) the licensing examination for nurses in the United States.

Admission occurs every Spring and Fall semester. The RN to BSN program can be completed in 3 semesters of full-time study.

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

University Graduation Requirements 9

Core Lower Division General Education

Of the 39 units required by the university, 39 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

Upper Division General Education 6

Of the 9 units required by the university, 3 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

Physical Education

Met as part of the community college transfer package required for admission to degree program.

Graduation Writing Assessment Requirement 3

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

HS 100W. Writing Workshop ..... Z 3

Preparation for the Major 90

Community College Lower Division Coursework necessary for Associate Degree in Nursing (ADN) 70

External Exam Credit 20

NCLEX - RN examination

Students admitted to the program will receive 20 units of credit for passage of the National Council Licensure Examination (NCLEX) for Registered Nurses.

Requirements of the Major 21

Core Courses 21

NURS 124. Nursing Theory II 3
NURS 127B. Community Theory 2
NURS 128. Evidence-Based Nursing Practice 2
NURS 137. Professional Role Development V 2
NURS 138. Professional Role Development VI ..... S 3
NURS 144. Clinical Nursing Applications 2

COMPLETE ONE COURSE FROM:

NURS 147B. Community Health Clinical	3
NURS 147BI. Community Health Clinical -- International Experience	3

COMPLETE ONE COURSE FROM:

NURS 148A. Senior Preceptorship	4
NURS 148AI. Senior Practicum-- International Experience	4

Total Units Required	**120**

Certificate - Post Master's Nurse Educator

Requirements of the Certificate	16
EDUC 186. Using Instructional Media	3
NURS 212. Curriculum Development in Nursing	3
NURS 214. Nurse Educator Theory & Practicum I	4
NURS 216. Nurse Educator Theory and Practicum II	4
Total Units Required	**16**

MS - Nursing

Graduate Options

The MS - Nursing degree has specializations* in:

- Nurse Educator
- Family Nurse Practitioner (offered via Special Session)

* Specializations are a cluster of courses used by departments for advising purposes. Specializations will not appear on transcripts or diplomas. Please see advisor for more details.

- Post-Masters Certificate/Credential Preparation as Nurse Educator
- Nurse Educator

The School of Nursing also offers an MS in Nursing with a concentration in Family Nursing Practice. This program is described elsewhere in this catalog. Finally, SJSU offers a joint Doctorate in Nursing Practice, a mostly online program.

All options are offered only if student enrollment is adequate. Please check the school website at http://www.sjsu.edu/nursing/ for current information on the status of our graduate programs and courses being offered.

Requirements for Admission

Candidates must meet all the university admissions requirements. Students can be admitted in either classified or conditionally classified standing.

After earning a baccalaureate degree in Nursing from an accredited program and obtaining San José State University admission, one may enter the master's program with a major in Nursing. Graduates of non-accredited baccalaureate programs must take prior coursework that will be assessed to determine requisite content and equivalency to baccalaureate degree requirements. Programs of study for the MS degree with a major in Nursing are based on this assessment. A California RN license is required.

Requirements for Conditionally Classified Standing

Students whose records show certain deficiencies, but whose professional achievements indicate a promise of success, may be admitted on a conditional basis. To qualify for classified standing, the conditions must be met. The appropriate form will be completed by the Nursing Program Graduate Coordinator upon receipt of documentation. A California RN license is required.

Registered nurses with baccalaureate degrees in disciplines other than nursing may be accepted conditionally such that a specialized course of study is required prior to taking Master's in Nursing courses. There are a minimum of four undergraduate courses that need to be completed with a grade of "B" or better.

Applicants from countries in which the native language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirements webpage at GAPE.

Requirements for Admission to Classified Standing

General university requirements for consideration for admission in classified standing for the master's degree or from moving from conditionally classified to classified standing are outlined in this catalog. The University requires that all graduate students complete the Graduation Writing Assessment Requirement (GWAR) as a condition for advancement to candidacy and for conversion from conditional to classified standing. Refer to the SJSU catalog section titled "Graduation Writing Assessment Requirement" for details. For graduate courses that meet the GWAR, please refer to the Graduate Admissions and Program Evaluations (GAPE) website at www.sjsu.edu/gape. In addition, the following School of Nursing requirements apply:

1. Completion of an accredited baccalaureate program in nursing with an upper-division major comparable to that offered at San José State University. Applicants who have completed other curricula or who have deficiencies will be considered individually and may be required to enroll in designated courses.
2. Applicants must present a GPA of at least 3.0 in the last 60 units of the undergraduate nursing major.
3. Completion of an introductory research course.
4. Evidence of licensure as a Registered Nurse (RN) in the State of California.
5. Completion of The Valley Foundation School of Nursing application with all attachments.
6. A statement of purpose that outlines the applicant's goals and objectives in seeking a degree.
7. Evidence of having met health requirements of the school.
8. Current certification in Cardiopulmonary Resuscitation and evidence of professional liability insurance and health insurance.
9. Evidence of knowledge and skills in the following areas: physical and psychosocial assessment skills developed to the level that the applicant can perform a complete history and physical exam on a well adult of either gender within one hour. Work completed to make up any of the above deficiencies will not be counted as part of the required units for the MS - Nursing.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Requirements for Admission to Graduate Candidacy

For advancement to candidacy for the MS - Nursing degree requires that the applicant has been granted classified standing and has removed any deficiencies involved. In addition, the candidate must have:

1. Earned at least a "B" (3.0) average in a minimum of nine graded semester units of 100- and/or 200-level work completed in graduate standing at San José State University and in any course work completed in graduate standing at other institutions before enrollment here.
2. classified standing.
3. Planned a proposed program of study approved by the Nursing School Graduate Coordinator and approved by GAPE.

Requirements for Graduation

University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

MS - Nursing Graduation Requirements

Classified standing in Nursing or the permission of instructor is required for all nursing courses listed.

Students have the option to complete a post master's Nurse Educator Certificate.

Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR). For information on the GWAR, please see http://info.sjsu.edu/gcw.html.

Requirements for the Master's — 36

Required Core Courses — 19

NURS 200. Population Based Health Care Systems	3
NURS 201. Clinical Leadership Role Development	2
NURS 202. Theoretical Foundations	2
NURS 248. Advanced Health Assessment	3
NURS 259. Advanced Clinical Pharmacology	3
NURS 260. Advanced Physiology and Pathophysiology for Advanced Practice Nursing	3
NURS 295A. Research Methods GWAR	3

Functional Areas of Specialization — 14

Nurse Educator

EDUC 186. Using Instructional Media	3
NURS 212. Curriculum Development in Nursing	3
NURS 214. Nurse Educator Theory & Practicum I	4
NURS 216. Nurse Educator Theory and Practicum II	4

Culminating Experience — 3

COMPLETE ONE COURSE FROM:

NURS 297. Master's Project	1-4
NURS 299. Master's Thesis	1-4

Total Units Required — 36

Elective courses, if applicable, are to be taken outside The Valley Foundation School of Nursing. The content of these units is to support the chosen functional option. At least one of the courses must be at the 200-level of course work. FNP students do not have elective course requirements.

MS- Nursing, Concentration in Family Nurse Practitioner (Special Session Program)

A graduate of this program is prepared for advanced nursing practice with a concentration as a Family Nurse Practitioner (FNP).

Requirements for Admission

Candidates must meet all the university admissions requirements. Students can be admitted in either classified or conditionally classified standing.

The FNP option is offered in Special Session and only if student enrollment is adequate. After earning a baccalaureate degree in Nursing from an accredited program and obtaining San José State University admission, one may enter the master's program with a major in Nursing. Graduates of non-accredited baccalaureate programs must take prior coursework that will be assessed to determine requisite content and equivalency to baccalaureate degree requirements. Programs of study for the MS degree with a major in Nursing are based on this assessment. A California RN license is required.

Requirements for Conditionally Classified Standing

Students whose records show certain deficiencies, but whose professional achievements indicate a promise of success, may be admitted on a conditional basis. To qualify for classified standing, the conditions must be met. The appropriate form will be completed by the Nursing Program Graduate Coordinator upon receipt of documentation.

Registered nurses with baccalaureate degrees in disciplines other than nursing may be accepted conditionally such that a specialized course of study is required prior to taking Master's in Nursing courses. There are a minimum of four undergraduate courses that need to be completed with a grade of "B" or better. A California RN license is required.

Applicants from countries in which the native language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirements webpage at GAPE.

Requirements for Classified Standing

General university requirements for admission in classified standing or for moving from conditionally classified to classified standing for the master's degree are outlined in this catalog. The University requires that all graduate students complete the Graduation Writing Assessment Requirement (GWAR) as a condition for advancement to candidacy and for conversion from conditional to classified standing. Refer to the SJSU catalog section titled "Graduation Writing Assessment Requirement" for details. For graduate courses that meet the GWAR, please refer to the Graduate Admissions and Program Evaluations (GAPE) website at www.sjsu.edu/gape. In addition, the following School of Nursing requirements apply:

1. Completion of an accredited baccalaureate program in nursing with an upper-division major comparable to that offered at San José State University. Applicants who have completed other curricula or who have deficiencies will be considered individually and may be required to enroll in designated courses.
2. Applicants must present a GPA of at least 3.0 in the last 60 units of the undergraduate nursing major.
3. Completion of an introductory research course.
4. Evidence of licensure as a Registered Nurse (RN) in the State of California.
5. Completion of The Valley Foundation School of Nursing application with all attachments.
6. A statement of purpose that outlines the applicant's goals and objectives in seeking a degree.
7. Evidence of having met health requirements of the school.
8. Current certification in Cardiopulmonary Resuscitation and evidence of professional liability insurance and health insurance.
9. Evidence of knowledge and skills in the following areas: physical and psychosocial assessment skills developed to the level that the applicant can perform a complete history and physical exam on a well adult of either gender within one hour. Work completed to make up any of the above deficiencies will not be counted as part of the required units for the MS - Nursing.
10. Application for the Family Nurse Practitioner Program requires an interview.

Requirements for Advancement to Graduate Candidacy

Advancement to candidacy for the MS - Nursing program requires that the applicant has been granted classified standing and has removed any deficiencies involved. In addition, the candidate must have:

1. Earned at least a "B" (3.0) average in a minimum of 9 letter-graded semester units of 100-level and/or 200-level coursework completed while in graduate standing at San José State University and in any coursework completed while in graduate standing at other institutions before enrollment here.
2. Classified standing.
3. Planned a proposed program of study approved by the Nursing Graduate Coordinator and approved by GAPE.

Requirements for Graduation

University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

For Legend please see page 2

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CATALOG CONTENTS

MS - Nursing Graduation Requirements

Classified standing in Nursing or the permission of instructor is required for all nursing courses listed.

Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR). For information on the GWAR, please see http://info.sjsu.edu/gcw.html.

Requirements for the Master's — 42

Core Courses — 19

NURS 200. Population Based Health Care Systems		3
NURS 201. Clinical Leadership Role Development		2
NURS 202. Theoretical Foundations		2
NURS 248. Advanced Health Assessment		3
NURS 259. Advanced Clinical Pharmacology		3
NURS 260. Advanced Physiology and Pathophysiology for Advanced Practice Nursing		3
NURS 295A. Research Methods	GWAR	3

FNP Concentration — 20

NURS 250. Family Nurse Practitioner Concepts and Theory I		2
NURS 251. Family Nurse Practitioner (FNP) Concepts and Theory II		2
NURS 252A. Family Nurse Practitioner (FNP) Concepts and Theory III		2
NURS 253. Family Nurse Practitioner Practicum I		2
NURS 254. Family Nurse Practitioner Practicum II		5
NURS 256. Family Nurse Practitioner Practicum III		5
NURS 258. Professional Issues for Nurse Practitioners		2

Culminating Experience — 3

CHOOSE PLAN A OR PLAN B:

Plan A (Thesis)

NURS 299. Master's Thesis		1-4

Plan B (Project)

NURS 297. Master's Project		1-4

Total Units Required — 42

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU cumulative grade point averages of 3.0 in order to graduate.

Doctor of Nursing Practice Program

The Doctor of Nursing Practice (DNP) is a practice degree program designed to prepare nurses at a doctoral level to lead health care change, serve as nursing faculty, and advance healthcare throughout central and northern California communities. The DNP program prepares nurse leaders and advanced practice nurses for evidence-based practice in patient care, leadership, and educational roles. Graduates are also prepared to serve as clinical faculty in postsecondary nursing education programs. The curriculum is based on the American Association of Colleges of Nursing's The Essentials of Doctoral Education for Advanced Nursing Practice (2006) and meets all requirements for national accreditation.

Designed for working professionals, coursework is offered primarily in an online format with intensive sessions held on-site at the San José State University campus at the beginning of each semester. Our graduates will serve as stewards of the nursing discipline and work collaboratively with other disciplines to improve the health and health care systems of our community.

See the SJSU Valley Foundation School of Nursing website for more information: www.sjsu.edu/nursing

Admission Requirements

Prior to applying to the University, students should refer to The Valley Foundation School of Nursing website for information regarding advisement for entry into the DNP degree program. The DNP is a five semester, 37-unit program that can be completed in 23 months of full-time study. It follows the cohort model, and there is no part-time option. It requires 1,000 hours of post-baccalaureate clinical practice. Applications open in the fall for admission in the following Fall semester.

The Valley Foundation School of Nursing uses the Nursing CAS for submission of applications to the Doctor of Nursing Practice program.

1. MSN from an accredited institution or a master's degree in a health-related field with additional post-baccalaureate courses in nursing theories, research methods, transcultural nursing and informatics;
2. Overall GPA of 3.0 or better;
3. Current, unrestricted California RN license;
4. National Certification in a nursing area or specialty; and
5. Preparation and experience as an APN, administrator, or educator.

In addition, applicants must apply separately for admission to the University and the department.

University Admissions

Applicants must submit a complete graduate application by applying through the CSU Cal State Apply system at calstate.edu/apply and meet all the university admission requirements. Applicants apply separately to the department to obtain admission into the DNP degree program. See the GAPE Graduate Admissions website and this Catalog for general information about graduate admissions at SJSU.

Applicants from countries in which the native language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirements webpage at GAPE. For TOEFL Requirements, see the Policies and Procedures section, Graduate and Post-Baccalaureate Information in this Catalog.

Requirements for Admission to Classified Standing

Applicants to the DNP program may be fully admitted in Classified status if they meet the admissions requirements for the University and the department. The minimum requirements for admission to the program are as follows:

1. MSN from an accredited institution or a master's degree in a health-related field with additional post-baccalaureate courses in nursing theories, research methods, transcultural nursing and informatics;
2. Overall GPA of 3.0 or better;
3. Current, unrestricted California RN license;
4. National Certification in a nursing area or specialty; and
5. Preparation and experience as an APN, administrator, or educator.

All prospective students must also submit the following application materials, first to the Nursing CAS initially, and then to Cal State Apply:

1. California RN License. Applicant must upload a copy (front and back) of a current and unrestricted RN license. Upload under "License";
2. Personal Statement. Upload a personal statement outlining your goals as a Doctor of Nursing Practice. Include your intended topic or area of interest for your doctoral project (evidence-based practice, quality improvement, program evaluation) and goals for improved practice. Statements should be typed, in Times New Roman font, double-spaced, and no longer than two pages. Upload under "Personal Statement";
3. CV/Resume. Upload a copy of your current CV or resume. Upload under "CV/Resume";
4. United States Veterans. If you are a U.S. Veteran please upload documentation. One seat is available each semester for veterans meeting application criteria. Upload under "Military Papers";
5. National Certification (if applicable). National certification in a specialty field is a requirement for graduation but NOT for admission. However, if you are currently nationally certified, upload a copy under "Certification";

6. Writing Sample. Upload an example of a scholarly paper you wrote in a prior course of study or a published manuscript. The example should include citation of scholarly research and proper use of a reference and citation format, grammar, punctuation, and style; and
7. Verification of Master's program clinical hours. Upload a letter from the university's program director or registrar that verifies the number of clinical hours that were completed within the Master's program. Upload the letter under "Other."

Conditionally Classified Standing

Applicants may be conditionally admitted (admitted with conditions) if they meet the admission requirements for the Graduate Division but do not fully meet departmental admissions requirements. The individual admission notification will explain required terms and conditions for attaining Classified standing.

Requirements for Advancement to Candidacy

Candidacy denotes that a student is fully qualified to complete the final stages of the Master of Arts degree. Matriculated graduate students must submit a Petition for Advancement to Graduate Candidacy a minimum of one semester prior to graduating. General university requirements for advancement to candidacy are detailed in the Graduate Policies and Procedures section of this catalog. The University requires that all graduate students complete the Graduation Writing Assessment Requirement (GWAR) as a condition for advancement to candidacy. Please refer to the SJSU catalog section titled "Graduation Writing Assessment Requirement" for details. For graduate courses that meet the GWAR, please refer to the Graduate Admissions and Program Evaluations website at http://www.sjsu.edu/gape. Successful completion of NURS 597 including passing the final written paper in this course with a grade of "B" or better, fulfills the GWAR in this program.

Requirements for Graduation

University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures. Completion of the degree also requires a minimum overall GPA of 3.0.

Practicum Requirement

Practice Experiences in the Curriculum (AACN Essentials, 2006). DNP programs provide rich and varied opportunities for practice experiences aimed at helping graduates achieve the essential and specialty competencies upon completion of the program. In order to achieve the DNP competencies, programs provide a minimum of 1,000 hours of practice post-baccalaureate as part of a supervised academic program. Practice experiences are designed to help students achieve specific learning outcomes related to the DNP Essentials and specialty competencies. These experiences are designed to provide systematic opportunities for feedback and reflection. Experiences include in-depth work with experts from nursing as well as other disciplines and provide opportunities for meaningful student engagement within practice environments. Given the intense practice focus of DNP programs, practice experiences are designed to help students build and assimilate knowledge for advanced specialty practice at a high level of complexity. Therefore, end-of-program practice immersion experiences should be required to provide an opportunity for further synthesis and expansion of the learning developed to that point. These experiences also provide the context within which the final DNP product is completed.

Practice immersion experiences afford the opportunity to integrate and synthesize the essentials and specialty requirements necessary to demonstrate competency in an area of specialized nursing practice. Proficiency may be acquired through a variety of methods, including attaining case requirements, patient or practice contact hours, completing specified procedures, demonstrating experiential competencies, or a combination of these elements. Students who do not have 1,000 hours of eligible post-baccalaureate practice experience complete this requirement through the NURS 580, DNP Practicum. Units are contingent on hours required. Note that all students are required to perform 270 hours (one semester) of practice experience during the DNP program. These hours are performed in conjunction with the doctoral project.

Culminating Experience

Plan B (Project)

All students must complete a doctoral project prior to conferral of the doctoral degree. The doctoral project requires enrollment in the NURS 595, 596, and 597 over consecutive semesters. Each student must form a Doctoral Project Committee comprised of three faculty/clinical professionals. The project committee chair shall be a tenured or tenure-track nursing program faculty member. Qualified individuals whose expertise is germane to the topic may be members of the Doctoral Project Committee pending approval of the committee chair and the student's program advisor. All students are required to perform 270 hours (one semester) of practice experience in conjunction with the doctoral project.

The doctoral project shall be the written product of systematic, rigorous research related to advanced practice and focused on a potential or existing health problem or issue affecting a group or community, rather than an individual. The doctoral project will conform to the following criteria: It shall identify the research problem and question(s), state the major theoretical perspectives, explain the significance of the undertaking, relate it to relevant, scholarly and professional literature, set forth the appropriate sources for and methods of gathering and analyzing the data, and offer a conclusion or recommendation. Students must conduct the project according to ethical principles and present it in an oral defense to the project committee in a public forum. They must also submit one or more manuscripts of the project to an appropriate peer-reviewed journal to complete the program culminating experience.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

For Legend please see page 2

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Requirements of the Doctorate	38
Core Courses	**27**
NURS 574. The Role of Diversity and Social Issues in Healthcare	2
NURS 575. Application of Theories in Advanced Nursing Practice	2
NURS 576. Application of Biostatistics to Population	3
NURS 583. Leadership and Professional Responsibilty in Complex Healthcare Systems	2
NURS 584. Technology, Informatics, and Data Management in the Transformation of Healthcare	2
NURS 585. Foundations of Evidence-Based Practice	3
NURS 586. Transformation of Health Care Systems: Health Policy and Economics	2
NURS 587. Principles of Epidemiology	3
NURS 591. Curriculum Development	3
NURS 592. Evaluation in Nursing Education	3
NURS 593. Financial Aspects of Projects and Practice	2
Practicum	**4**
NURS 580. DNP Practicum	1-6
1,000 hours total, can count prior field work hours. Students may have to take additional course units to make up total hours required.	
Culminating Experience	**6**
NURS 595. Translating Evidence into Reflective Practice I	2
NURS 596. Translating Evidence into Reflective Practice II	2
NURS 597. Doctoral Project	2
Oral Defense	
Journal Article Submission	
Optional Elective	**2**
NURS 594. Application of Evidence-Based Teaching in Nursing	2
Optional 2-unit course recommended for students interested in pursuing educational roles	
Total Units Required	**38**

Elective courses must be planned in consultation with the Graduate Advisor.

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU cumulative grade point averages of 3.0 in order to graduate.

Nutrition, Food Science and Packaging Department

Division of Health Professions
College of Health and Human Sciences

CENTRAL CLASSROOM BUILDING 200
408-924-3100

Professors

Marjorie R. Freedman
Clarie B. Hollenbeck
Ashwini R. Wagle, Chair
Fritz Yambrach

Associate Professors

Kasuen Mauldin

Assistant Professors

Xi Feng
John Gieng
Jamie Kubota
Colette LaSalle
Xiaojing (Kate) Liu
Giselle Pignotti
Adrianne Widaman

Curricula

BS, Nutritional Science, Concentration in Applied Nutrition and Food Sciences
BS, Nutritional Science, Concentration in Dietetics
BS, Nutritional Science, Concentration in Food Management
BS, Packaging
Minor, Nutritional Science and Food Science
Minor, Nutrition for Physical Performance
Minor, Packaging
MS, Nutritional Science

Introduction

Nutritionists, food scientists, dietitians, foodservice and packaging professionals. The Department of Nutrition, Food Science and Packaging trains graduates for rewarding careers in settings as diverse as community organizations, educational institutions, hospitals, nutrition and research laboratories, corporations and government agencies. The first nutrition department in the CSU system, our department traces its roots to 1911. We currently offer a master's degree in nutritional science and two undergraduate degrees in the field: a general BS degree and a BS degree with the option of concentrations in dietetics and packaging. Our dietetics program is accredited by the Academy of Nutrition and Dietetics (AND) and the Accreditation Council for Education in Nutrition and Dietetics (ACEND) qualifying our students to apply for ACEND accredited internships and to work toward becoming registered dietitians.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

BS - Nutritional Science, Concentration in Applied Nutrition and Food Sciences

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

University Graduation Requirements 32

Core Lower Division General Education 21

Of the 39 units required by the university, 18 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

NOTE: STUDENTS WHO HAVE COMPLETED THE ADT TRANSFER DEGREE (UNDER SB 1440) FOR THIS MAJOR WILL HAVE COMPLETED ALL LOWER DIVISION GE REQUIREMENTS AND SHOULD FOLLOW THE 60 UNIT GUARANTEE ROADMAP. MEET WITH AN ADVISOR PRIOR TO REGISTERING FOR YOUR FIRST SEMESTER FOR THE 60 UNIT ROADMAP OR SPECIFIC QUESTIONS.

Upper Division General Education 3

Of the 9 units required by the university, 6 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 6

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

COMPLETE ONE SEQUENCE FROM:

African American Studies 6

AFAM 002A. African Americans and the Development of America's History and Government	D2	3
AFAM 002B. African Americans and the Development of America's History and Government	M7	3

Asian American Studies 6

AAS 033A. Asian Americans in U.S. History I	D2	3
AAS 033B. Asian Americans in U.S. History II	M7	3

U.S. History and Government 6

HIST 015. Essentials of U.S. History	M12	3
POLS 015. Essentials of U.S. & California Government	M11	3

Chicana and Chicano Studies 6

CCS 010A. Mexican Americans and the Development of U.S. History and Government	D2	3
CCS 010B. Mexican Americans and the Development of U.S. History and Government	M7	3

Physical Education 2

Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Preparation for the Major 27

BIOL 066. Human Physiology	B2+B3	5
CHEM 001A. General Chemistry	B1+B3	5
Food Management can substitute CHEM 30A for CHEM 1A		
CHEM 030B. Introductory Chemistry		3

HS 100W. Writing Workshop	Z	3
MICR 020. General Bacteriology	B2+B3	5
PSYC 001. Introduction to Psychology	D1	3

COMPLETE ONE COURSE FROM:

STAT 095. Elementary Statistics	B4	3
HS 067. Introductory Health Statistics	B4	3

UNVS 015F and UNVS 015S may be used in lieu of the statistics course required by this major.

Requirements of the Major 61

Major Core 32

HS 135. Health Issues in a Multicultural Society	S	3
NUFS 008. Nutrition for the Health Professions		3
NUFS 020. Sanitation and Environmental Issues in the Hospitality Industry		2
NUFS 031. Professionalism in Nutrition, Food Science and Packaging		1
NUFS 101A. Food Science		4
NUFS 103. Food Processing and Packaging I		2
NUFS 106A. Human Nutrition in the Life Span		3
NUFS 106B. Research Methodology in Nutrition and Food Science		3
NUFS 111. Foodservice Production Management		3
NUFS 192. Field Experience in Nutrition and Food Science and Packaging Technology		1-6
PKG 107. Principles of Packaging		3

COMPLETE ONE COURSE FROM:

NUFS 139. Hunger and Environmental Nutrition	R	3
NUFS 144. Food Culture: Consuming Passions	V	3

Applied Nutrition and Food Sciences 29

COMPLETE 29 UNITS FROM:

CHEM 132. Introductory Biochemistry		4
CHEM 132L. Introductory Biochemistry Lab		1
ENVS 001. Introduction to Environmental Issues	D1	3
KIN 155. Exercise Physiology		3
KIN 162. Advanced Fitness Assessment and Exercise Prescription		3
NUFS 021. Culinary Principles and Practice		3
NUFS 022. Catering and Beverage Management		2
NUFS 103L. Food Processing Laboratory		1
NUFS 104A. Cultural Aspects of Food		3
NUFS 105. Current Issues in Nutrition		3
NUFS 108A. Nutrition and Metabolism		3
NUFS 114A. Community Nutrition for Majors		3
NUFS 116. Aging and Nutrition		3
NUFS 117. Food Evaluation Techniques		2
NUFS 118. Food Chemistry		3
NUFS 122. Chemical Analysis of Food		3
NUFS 123. Nutrition for Sport		3
NUFS 124. Disordered Eating and Nutrition Therapy		3
NUFS 134. Complementary and Alternative Health Practices		3
NUFS 150. Food and Nutritional Toxicology		2
NUFS 180. Individual Studies		1-6
NUFS 190. Nutrition Education and Counseling		3
NUFS 194. Entrepreneurial Nutrition		1
SPAN 004A. Basic Spanish I		4

Or by Advertisement

Total Units Required 120

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

BS - Nutritional Science, Concentration in Dietetics

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

University Graduation Requirements 32

Core Lower Division General Education 21

Of the 39 units required by the university, 18 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

Upper Division General Education 3

Of the 9 units required by the university, 6 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 6

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

COMPLETE ONE SEQUENCE FROM:

African American Studies 6

AFAM 002A. African Americans and the Development of America's History and Government	D2	3
AFAM 002B. African Americans and the Development of America's History and Government	M7	3

Asian American Studies 6

AAS 033A. Asian Americans in U.S. History I	D2	3
AAS 033B. Asian Americans in U.S. History II	M7	3

U.S. History and Government 6

HIST 015. Essentials of U.S. History	M12	3
POLS 015. Essentials of U.S. & California Government	M11	3

Chicana and Chicano Studies 6

CCS 010A. Mexican Americans and the Development of U.S. History and Government	D2	3
CCS 010B. Mexican Americans and the Development of U.S. History and Government	M7	3

Physical Education 2

Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Preparation for the Major 32

BIOL 066. Human Physiology	B2+B3	5
CHEM 001A. General Chemistry	B1+B3	5
CHEM 030B. Introductory Chemistry		3
CHEM 132. Introductory Biochemistry		4
CHEM 132L. Introductory Biochemistry Lab		1
HS 100W. Writing Workshop	Z	3
MICR 020. General Bacteriology	B2+B3	5
PSYC 001. Introduction to Psychology	D1	3

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

For Legend please see page 2

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COMPLETE ONE COURSE FROM:

STAT 095. Elementary Statistics	B4	3
HS 067. Introductory Health Statistics	B4	3

Note: UNVS 015F and UNVS 015S may be used in lieu of the statistics course required by this major.

Requirements of the Major 56

Major Core 32

HS 135. Health Issues in a Multicultural Society	S	3
NUFS 008. Nutrition for the Health Professions		3
NUFS 020. Sanitation and Environmental Issues in the Hospitality Industry		2
NUFS 031. Professionalism in Nutrition, Food Science and Packaging		1
NUFS 101A. Food Science		4
NUFS 103. Food Processing and Packaging I		2
NUFS 106A. Human Nutrition in the Life Span		3
NUFS 106B. Research Methodology in Nutrition and Food Science		3
NUFS 111. Foodservice Production Management		3
NUFS 192. Field Experience in Nutrition and Food Science and Packaging Technology		1-6
PKG 107. Principles of Packaging		3

COMPLETE ONE COURSE FROM:

NUFS 139. Hunger and Environmental Nutrition	R	3
NUFS 144. Food Culture: Consuming Passions	V	3

Concentration Requirements 24

NUFS 108A. Nutrition and Metabolism		3
NUFS 108L. Nutrition Laboratory		1
NUFS 109. Advanced Nutrition		3
NUFS 110A. Medical Nutrition Therapy		3
NUFS 110B. Medical Nutrition Therapy		3
NUFS 113. Foodservice Systems: Mgmt & Proc		3
NUFS 114A. Community Nutrition for Majors		3
NUFS 190. Nutrition Education and Counseling		3

COMPLETE TWO UNITS FROM (OR BY ADVISEMENT):

NUFS 021. Culinary Principles and Practice		3
NUFS 022. Catering and Beverage Management		2
NUFS 103L. Food Processing Laboratory		1
NUFS 104A. Cultural Aspects of Food		3
NUFS 105. Current Issues in Nutrition		3
NUFS 116. Aging and Nutrition		3
NUFS 123. Nutrition for Sport		3
NUFS 124. Disordered Eating and Nutrition Therapy		3
NUFS 134. Complementary and Alternative Health Practices		3
NUFS 180. Individual Studies		1-6
NUFS 194. Entrepreneurial Nutrition		1
SPAN 004A. Basic Spanish I		4

Or by Advertisement

Total Units Required 120

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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BS - Nutritional Science, Concentration in Food Management

The concentration in Food Management under the Bachelor of Science Degree Program in Nutritional Science provides students with the education and background needed to gain employment in foodservice administration. The course plan emphasizes providing a scientific foundation in introductory chemistry, bacteriology and human physiology. Support courses in psychology, statistics and economics also provide a strong background. Business courses in human resource management, accounting, and labor relations are needed to provide business skills utilized in foodservice management. Numerous courses in culinary skills, foodservice production management and procurement, catering, sanitation and food science, and cultural aspects of food, as well as nutrition, provide the industry focused education needed to function in the foodservice industry in management.

All students majoring in the Food Management concentration complete both a foodservice internship for 200 hours as well as a field experience course planned for a higher level of work responsibilities with enrollment as a senior for 90 hours. Both experiences provide the students majoring in the Food Management Concentration with the knowledge, skills, and confidence to interview for foodservice management positions. A carefully prepared multi-year program of study will ensure an appropriate sequencing of required courses and students should seek early and frequent advice from departmental advisors.

There are no minimum grade requirements for the major other than an overall 2.5 average across the courses in the major. The Concentration course plan meets the Program Learning Outcomes established for the Department. The BS degree in Nutritional Science with a Concentration in Food Management is a regimented degree plan for students who wish to develop a focused set of skills to be successful in the foodservice industry so they can apply these skills in a practical setting.

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

University Graduation Requirements 32

Core Lower Division General Education 21

Of the 39 units required by the university, 18 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

NOTE: STUDENTS WHO HAVE COMPLETED THE ADT TRANSFER DEGREE (UNDER SB 1440) FOR THIS MAJOR WILL HAVE COMPLETED ALL LOWER DIVISION GE REQUIREMENTS AND SHOULD FOLLOW THE 60 UNIT GUARANTEE ROADMAP. MEET WITH AN ADVISOR PRIOR TO REGISTERING FOR YOUR FIRST SEMESTER FOR THE 60 UNIT ROADMAP OR SPECIFIC QUESTIONS.

Upper Division General Education 3

Of the 9 units required by the university, 6 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 6

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

COMPLETE ONE SEQUENCE FROM:

African American Studies 6

AFAM 002A. African Americans and the Development of America's History and Government	D2	3
AFAM 002B. African Americans and the Development of America's History and Government	M7	3

Asian American Studies 6

AAS 033A. Asian Americans in U.S. History I	D2	3
AAS 033B. Asian Americans in U.S. History II	M7	3

U.S. History and Government 6

HIST 015. Essentials of U.S. History	M12	3
POLS 015. Essentials of U.S. & California Government	M11	3

Chicana and Chicano Studies 6

CCS 010A. Mexican Americans and the Development of U.S. History and Government	D2	3
CCS 010B. Mexican Americans and the Development of U.S. History and Government	M7	3

Physical Education 2

Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Preparation for the Major		25
BIOL 066. Human Physiology	B2+B3	5
CHEM 030A. Introductory Chemistry	B1B3	3
CHEM 030B. Introductory Chemistry		3
HS 100W. Writing Workshop	Z	3
MICR 020. General Bacteriology	B2+B3	5
PSYC 001. Introduction to Psychology	D1	3
COMPLETE ONE COURSE FROM:		
STAT 095. Elementary Statistics	B4	3
HS 067. Introductory Health Statistics	B4	3

UNVS 015F and UNVS 015S may be used in lieu of the statistics course required by this major.

Requirements of the Major		63
Major Core		**32**
HS 135. Health Issues in a Multicultural Society	S	3
NUFS 008. Nutrition for the Health Professions		3
NUFS 020. Sanitation and Environmental Issues in the Hospitality Industry		2
NUFS 031. Professionalism in Nutrition, Food Science and Packaging		1
NUFS 101A. Food Science		4
NUFS 103. Food Processing and Packaging I		2
NUFS 106A. Human Nutrition in the Life Span		3
NUFS 106B. Research Methodology in Nutrition and Food Science		3
NUFS 111. Foodservice Production Management		3
NUFS 192. Field Experience in Nutrition and Food Science and Packaging Technology		1-6
PKG 107. Principles of Packaging		3
COMPLETE ONE COURSE FROM:		
NUFS 139. Hunger and Environmental Nutrition	R	3
NUFS 144. Food Culture: Consuming Passions	V	3
Food Management Concentration		**26**
BUS1 020N. Survey of Accounting		3
BUS3 150. Fundamentals of Human Resource Management		3
BUS3 151. Labor Relations		3
NUFS 021. Culinary Principles and Practice		3
NUFS 022. Catering and Beverage Management		2
NUFS 025. Internship in Foodservice Management		1-2
NUFS 104A. Cultural Aspects of Food		3
NUFS 113. Foodservice Systems: Mgmt & Proc		3
COMPLETE ONE COURSE FROM:		
ECON 001A. Principles of Economics: Macroeconomics		4
ECON 001B. Principles of Economics: Microeconomics	D1	4
Major Electives		**5**
COMPLETE FIVE UNITS FROM (OR BY ADVISEMENT):		
BUS4 091L. Computer Tools for Business		1
NUFS 103L. Food Processing Laboratory		1
NUFS 105. Current Issues in Nutrition		3
NUFS 116. Aging and Nutrition		3
NUFS 194. Entrepreneurial Nutrition		1
PKG 169. Food Packaging and Preservation		3
SPAN 004A. Basic Spanish I		4
or by advisement		
Total Units Required		**120**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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BS - Packaging

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

University Graduation Requirements 35

Core Lower Division General Education 21

Of the 39 units required by the university, 18 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

Upper Division General Education 6

Of the 9 units required by the university, 3 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 6

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

COMPLETE ONE SEQUENCE FROM:

African American Studies 6

AFAM 002A. African Americans and the Development of America's History and Government	D2	3
AFAM 002B. African Americans and the Development of America's History and Government	M7	3

Asian American Studies 6

AAS 033A. Asian Americans in U.S. History I	D2	3
AAS 033B. Asian Americans in U.S. History II	M7	3

U.S. History and Government 6

HIST 015. Essentials of U.S. History	M12	3
POLS 015. Essentials of U.S. & California Government	M11	3

Chicana and Chicano Studies 6

CCS 010A. Mexican Americans and the Development of U.S. History and Government	D2	3
CCS 010B. Mexican Americans and the Development of U.S. History and Government	M7	3

Physical Education 2

Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Preparation for the Major 30

CHEM 030A. Introductory Chemistry	B1+B3	3
CHEM 030B. Introductory Chemistry		3
May substitute CHEM 001A for CHEM 030A. Students can also substitute CHEM 008 for CHEM 030B.		
HS 100W. Writing Workshop	Z	3
MATH 070. Finite Mathematics	B4	3
MATH 071. Calculus for Business and Aviation	B4	3

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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MICR 020. General Bacteriology	B2+B3	5
PSYC 001. Introduction to Psychology	D1	3
PHYS 002A. Fundamentals of Physics	B1+B3	4
COMPLETE ONE COURSE FROM:		
STAT 095. Elementary Statistics	B4	3
HS 067. Introductory Health Statistics	B4	3

Requirements of the Major 47

Core Courses 11

NUFS 008. Nutrition for the Health Professions	3
NUFS 031. Professionalism in Nutrition, Food Science and Packaging	1
NUFS 192. Field Experience in Nutrition and Food Science and Packaging Technology	1-6
PKG 107. Principles of Packaging	3

Packaging Requirements 36

NUFS 103. Food Processing and Packaging I		2
NUFS 103L. Food Processing Laboratory		1
NUFS 139. Hunger and Environmental Nutrition	R	3
PKG 120. Artios CAD For Packaging		3
PKG 121. Solidworks For Packaging		3
PKG 141A. Packaging Materials I, Paper, Metal, and Wood Based		3
PKG 141B. Packaging Materials II, Plastics, Composites, and Glass		3
PKG 146. Packaging for Medical Devices and Pharmaceuticals		3
PKG 156. Packaging Machinery Systems		3
PKG 158. Protective Package Design and Testing		3
PKG 159. Packaging Material Handling and Distribution		3
PKG 169. Food Packaging and Preservation		3
PKG 170. Packaging Development and Management		3

University Electives 8

Total Units Required 120

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Minor - Nutrition Science and Food Science

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Requirements of the Minor		15
Required Courses		**9**
NUFS 105. Current Issues in Nutrition		3
COMPLETE ONE FROM:		
NUFS 139. Hunger and Environmental Nutrition	R	3
NUFS 144. Food Culture: Consuming Passions	V	3
COMPLETE ONE FROM:		
NUFS 008. Nutrition for the Health Professions		3
NUFS 009. Introduction to Human Nutrition	E	3
Additional Courses		**6**
COMPLETE SIX UNITS FROM:		
NUFS 001A. Physical Science of Food	B1	3
NUFS 020. Sanitation and Environmental Issues in the Hospitality Industry		2
NUFS 022. Catering and Beverage Management		2
NUFS 104A. Cultural Aspects of Food		3
NUFS 106A. Human Nutrition in the Life Span		3
NUFS 114B. Community Nutrition (non-majors)		3
NUFS 116. Aging and Nutrition		3
NUFS 123. Nutrition for Sport		3
NUFS 124. Disordered Eating and Nutrition Therapy		3
NUFS 134. Complementary and Alternative Health Practices		3
NUFS 194. Entrepreneurial Nutrition		1
PKG 107. Principles of Packaging		3
Total Units Required		**15**

Minor - Nutrition for Physical Performance

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Requirements of the Minor	15
NUFS 008. Nutrition for the Health Professions	3
NUFS 105. Current Issues in Nutrition	3
NUFS 106A. Human Nutrition in the Life Span	3
NUFS 123. Nutrition for Sport	3
KIN 162. Advanced Fitness Assessment and Exercise Prescription	3
Total Units Required	**15**

If KIN 162 is required by the major, select another nutrition course with approval of the advisor.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

Minor - Packaging

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Requirements of the Major	**15**
Required Courses	**9**
PKG 107. Principles of Packaging	3
PKG 141A. Packaging Materials I, Paper, Metal, and Wood Based	3
PKG 141B. Packaging Materials II, Plastics, Composites, and Glass	3
Approved Electives	**6**
COMPLETE SIX UNITS FROM:	
PKG 146. Packaging for Medical Devices and Pharmaceuticals	3
PKG 156. Packaging Machinery Systems	3
PKG 158. Protective Package Design and Testing	3
PKG 159. Packaging Material Handling and Distribution	3
PKG 169. Food Packaging and Preservation	3
PKG 170. Packaging Development and Management	3
Total Units Required	**15**

MS - Nutritional Science

The Master of Science in Nutritional Science program is designed to meet the needs of the student who has a baccalaureate degree and seeks advanced preparation in nutrition science, nutrition education, geriatric nutrition, and foodservice/restaurant management and packaging. The program is intended to prepare candidates to assume leadership roles in their profession and communities and to provide the opportunity to acquire a foundation for doctoral study. Our MS graduates have earned doctorates, become college and university faculty, been employed in private, federal and state research institutions, and have established their own private practice or consulting business. In the process of fulfilling requirements for the MS degree, it is possible to complete the academic requirements of the Academy of Nutrition and Dietetics (AND) and the Accreditation Council for Education in Nutrition and Dietetics (ACEND) toward becoming a registered dietitian. Courses are scheduled to accommodate the time needs of working graduate students.

Additional information is available on the department website: www.sjsu.edu/nufspkg

University Admissions

Applicants must submit a complete graduate application by applying through the CSU Cal State Apply system at calstate.edu/apply and meet all the university admission requirements. Applicants apply separately to the department to obtain admission into the Nutritional Science program. See the GAPE Graduate Admissions website and this Catalog for general information about graduate admissions at SJSU.

Applicants from countries in which the native language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirements webpage at GAPE. For TOEFL Requirements, see the Policies and Procedures section, Graduate and Post-Baccalaureate Information in this Catalog.

Requirements for Admission to Classified Standing

Candidates must meet all the university admissions requirements. Students can be admitted to the MS, Nutritional Science program in either classified or conditionally classified standing. All prospective students need to apply separately to the university to obtain approval for university-level admission and to the department to obtain admission into the M.S. in Nutritional Science program. A selection committee will determine eligibility for admission to classified standing on the basis of information provided in the application. Criteria include:

1. BA or BS degree in Nutritional Science, Food Science, Foodservice Management, or equivalent;
2. Grade point average of 3.0 in upper division course; and
3. Completed Prerequisite course requirements as described in the MS, Nutritional Science graduate handbook
4. The following documents sent to the NUFS/PKG graduate coordinator by email:

a. Signed and dated letter of intent

b. Three (3) letters of recommendation

c. Signed "right of access to letter of recommendation" form for each person providing a letter

d. Resume

Requirements for Admission to Conditionally Classified Standing

Students seeking an MS, Nutritional Science degree who meet requirements for admission to the Graduate Division, but lack an undergraduate degree in Nutritional Science, Food Science, Foodservice Management or equivalent and have little or no professional experience, may apply for conditionally classified standing in the department. The decision to accept the student for study in this program will be made by a selection committee. Criteria include:

1. BA or BS degree;
2. Grade point average of 3.0 in upper division courses; and
3. Completion of prerequisite course requirements courses to correct deficiencies in undergraduate courses.

The individual admission letter will explain required terms and conditions for attaining Classified standing.

Requirements for Admission to Candidacy for the MS - Nutritional Science

Prior to registering for the first time (or upon re-entering), a student should consult with the Graduate Coordinator to develop a schedule of courses. Advancement to candidacy for the Master's degree in Nutritional Science requires favorable action of the Graduate Committee of the Department of Nutrition, Food Science and Packaging and of the university's Office of Graduate Admissions & Program Evaluations. In general, students will be recommended for candidacy when they:

1. Fulfill all university requirements for advancement to candidacy;
2. Attain classified graduate standing;
3. Complete a minimum of 9 units of letter-graded approved courses;
4. Receive a minimum 3.0 grade point average in all classes listed on the candidacy form;
5. Successfully complete NUFS 217 with at least a "C" to meet the Graduation Writing Assessment Requirement (GWAR); and
6. Select a graduate advisor and thesis or project topic.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Requirements for Graduation

University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

MS - Nutritional Science Graduation Requirements

Maintenance of a 3.0 GPA is necessary. A comprehensive final oral examination is required and will be of such scope and manner as determined by the student's graduate committee. As shown below, the program consists of 30 semester units of approved work, including 6 units of Plan A (Thesis) or 3 units of Plan B (Project).

Culminating Experience

Plan A (Thesis)

For this plan, the student is required to complete 6 units of the NUFS 299, Master's Thesis. A maximum 3 units of the NUFS 298, Special Studies in Nutrition, Food Science and Packaging is allowed. See program thesis information for steps in completing a thesis. A bound copy of the thesis must be submitted to the Nutrition, Food Science and Packaging Department and to the student's thesis advisor. The thesis must meet university requirements as stipulated in this catalog and in the SJSU Master's Thesis and Doctoral Dissertation Guidelines.

Plan B (Project)

For this plan, the student is required to complete the NUFS 298, Special Studies in Nutrition, Food Science and Packaging and submit a written project in publication format. A bound copy of the project must be submitted to the Nutrition, Food Science and Packaging Department and to the student's project advisor. This option requires an additional 3-unit elective.

Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR). For information on the GWAR, please see http://info.sjsu.edu/gcw.html.

Requirements of the Masters — 30

Core Courses — 12

NUFS 201. Colloquium in Nutrition, Food Science and Packaging		3
NUFS 217. Issues in Nutrition, Food and Packaging	GWAR	3
NUFS 295A. Research Methodology		3

COMPLETE ONE FROM:

NUFS 216. Seminar in Food Chemistry and Packaging	3
NUFS 219A. Advanced Nutrition and Metabolism	3
NUFS 219B. Seminar in Advanced Topics in Human Nutrition & Dietetics	3
NUFS 242. Advanced Foodservice/Restaurant Management	3
NUFS 270. Package Design for End Use	3

Specialization Area — 12

12 units electives selected in consultation with the graduate advisor

Culminating Experience — 6

COMPLETE PLAN A (THESIS) OR PLAN B (PROJECT)

Plan A (Thesis) — 6

NUFS 299. Master's Thesis	1-6

Plan B (Project) — 6

NUFS 298. Special Studies in Nutrition, Food Science and Packaging	1-6
An additional 3-unit elective selected in consultation with the graduate advisor	3

Total Units Required — 30

Elective courses must be planned in consultation with the Graduate Advisor.

The maximum number of upper-division undergraduate units that can be applied toward the master's degree is 15.

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU Cumulative grade point averages of 3.0 in order to graduate.

Occupational Therapy Department

College of Health and Human Sciences

CENTRAL CLASSROOM BUILDING 203
408-924-3070
www.sjsu.edu/occupationaltherapy

Professors

Lynne Andonian
Winifred Schultz-Krohn, Chair

Associate Professors

Megan Chang
Carolyn Glogoski, Faculty Early Retirement Program
Jerilyn "Gigi" Smith

Assistant Professors

Luis Arabit
Deborah Bolding
Chiao-Ju Fang

Curricula

Certificate, Mindfulness-Based Occupational Therapy
MS, Occupational Therapy

Introduction

Occupational therapists help people of all ages whose daily lives are disrupted by illness, injury, or other conditions to improve their health, independence and participation through the therapeutic use of everyday activities (occupations). One of the fastest growing of the health care professions, the demand for occupational therapists will grow by almost 30 percent by 2020, the U.S. Bureau of Labor Statistics reports.

The SJSU OT department is the oldest accredited OT program in the CSU system. Founded in 1943, it is accredited by the Accreditation Council for Occupational Therapy Education (ACOTE) of the American Occupational Therapy Association (AOTA), located at 4720 Montgomery, Suite 200, Bethesda, MD 20814-3449. ACOTE's telephone number, c/o AOTA is (301) 652-AOTA and its web address is www.acoteonline.org. NBCOT School Program Performance Data is also available.

Courses are taught by nationally recognized faculty who have clinical, research and teaching expertise across a broad range of traditional and emerging practice areas. The Student Occupational Therapy Association (SOTA) provides a myriad of social, educational and leadership opportunities. Always in high demand, our graduates are hired by private and public health care institutions and agencies.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Advanced Certificate in Mindfulness-Based Occupational Therapy

This program is meant to provide the means for occupational therapists to develop, experience, and see the profession of OT through a guiding mindfulness-based practice model and lens. The program provides curricular opportunities in the community of other OTs to build skills for developing all of the senses and abilities one has currently available to be in wise relationship to the occupational paradox of being and doing and explores the value of occupational participation as it relates to meaning and purpose. Developing skillful and steadfast mindful self-care and compassion in the midst of our complex work as OTs is a primary focus of this training program. From this embodied experience of the mindfulness-based lens the program will provide guidance and mentorship for appropriately integrating mindfulness into one's clinical work.

Requirements of the Certificate	11

Certificate Prerequisites

Mindfulness-Based Stress Reduction Course 8-week (9-10 session [2.5 to 3 hours per week] with All-Day Retreat Session) and Proof of license as a healthcare professional from any accredited institution.4. Participation in a 1-day MBOT Certificate Program Orientation / Information /Introductory Session which may be offered in person or online by the MBOT program instructors.

Required Courses	11
OCTH 205. Mindfulness of Self in Occupational Therapy Practice & Daily Life	2
OCTH 207. Mindfulness and Quality of Participation in Daily Occupations	2
OCTH 209. MBOT Intensive Training Retreat	2
OCTH 223. Compassionate Care for Self and Others in Occupational Therapy Practice	2
OCTH 225. Capstone Evidence-Based MBOT Practice Project	3
Total Units Required	**11**

MS - Occupational Therapy

The SJSU Department of Occupational Therapy offers the oldest accredited OT program in the CSU system. Founded in 1943, the Master of Science in Occupational Therapy degree program is designed for those who have already earned a baccalaureate degree in another field. The program of study enables students to obtain the education and degree necessary to be eligible to practice as an occupational therapist. Once the MS degree in Occupational Therapy is complete, including the successful completion of the OCTH 201A and OCTH 201B courses, the student is eligible to sit for the national certification examination. Successful completion of the examination qualifies the candidate to apply for national certification and state licensure.

The MS, Occupational Therapy program is accredited by the Accreditation Council for Occupational Therapy Education (ACOTE) of the American Occupational Therapy Association (AOTA), located at 4720 Montgomery, Suite 200, Bethesda, MD 20814-3449. ACOTE's telephone number, c/o AOTA is (301) 652-AOTA and its web address is www.acoteonline.org. NBCOT School Program Performance Data is also available.

See the department website for more information: http://www.sjsu.edu/occupationaltherapy/

Admission Requirements

The curriculum of the Master of Science in Occupational Therapy degree program is designed for those who have already earned a baccalaureate degree in another field. The program of study enables students to obtain the education and degree necessary to be eligible to practice as an occupational therapist. Once the MS degree in Occupational Therapy is complete, including the successful completion of the OCTH 201A and OCTH 201B courses, the student is eligible to sit for the national certification examination. Successful completion of the examination qualifies the candidate to apply for national certification and state licensure. Applications are accepted beginning October 1 for the subsequent Fall semester. It is important that students apply as early as possible.

University Admissions

Applicants must submit a complete graduate application by applying through the CSU Cal State Apply system at calstate.edu/apply and meet all the university admission requirements. Applicants apply separately to the department to obtain admission into the Occupational Therapy program. See the GAPE Graduate Admissions website and this Catalog for general information about graduate admissions at SJSU.

Applicants from countries in which the native language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirements webpage at GAPE. For TOEFL Requirements, see the Policies and Procedures section, Graduate and Post-Baccalaureate Information in this Catalog.

Admission to Classified Graduate Standing

Prospective students must meet the following prerequisites. All prerequisite courses must be completed before acceptance into the program:

1. Cumulative GPA of 3.0 (on 4.0 scale) in the last 60 semester units (or 90 quarter units) of coursework and a minimum grade of B or better for all prerequisite courses;
2. Minimum of 80 hours volunteer experience or equivalent paid work experience in 2 different types of therapeutic settings; 60 of the hours must be completed under the supervision of an occupational therapist. The additional 20 hours can be completed in a community service setting. Hours must be verified by supervisor on Evaluation Form for Volunteer Experience available on the Department of Occupational Therapy website; forms are submitted at the time of application;
3. Completion of Student Information Form available on the OTCAS and subsequent submission of the first page of the OTCAS application form and the general essay from the OTCAS application directly to the Occupational Therapy department;
4. Human Anatomy with human cadaver laboratory (virtual laboratory acceptable), 3 semester units or 4 quarter units;
5. Physiology with laboratory, 3 semester units or 4 quarter units;
6. General psychology course, 3 semester or 4 quarter units;
7. Introductory Sociology or Cultural Anthropology course, 3 semester or 4 quarter units;
8. Abnormal Psychology course, 3 semester or 4 quarter units;
9. One college-level skills course may be taken through adult education. The purpose of the course is to have students work with an artistic medium. Acceptable courses include: Ceramics, painting, weaving, graphic arts and woodworking. Previous work may be accepted as fulfilling this requirement at the discretion of the Admissions Committee;
10. Statistics course, either an upper division course offered by the departments of education, social sciences, psychology or division of health professions or a lower division statistics course that covers correlations and analysis of variance, 3 semester or 4 quarter units. Course must be completed within seven years of the application;
11. Neuroanatomy - Course available online through SJSU Occupational Therapy program. Courses from other institutions may also be acceptable at the discretion of the Admissions Committee. 3 semester or 4 quarter units;
12. Evidence of understanding of occupational therapy and defined career goals in relation to that profession as stated on the Student Information Form and/or accompanying personal written statements (see #3 above);
13. Ability to write as demonstrated in the student information form (see #3 above), transcripts of all previous work submitted and any correspondence;
14. A GRE (Graduate Record Examination) combined minimum Quantitative and Verbal score of 297 is required. In addition, a minimum GRE verbal score of 153 is required and a minimum Analytical Writing score of 4.0 is required; a score of 4.5 or higher in Analytical writing is desired. Note: Scores must be sent to both the University and the Department of Occupational Therapy;

15. Three letters of recommendation from former instructors, employers, supervisors, or other individuals knowledgeable about the candidate's academic abilities, capacity for goal-directed behavior, and the ability to integrate and synthesize ideas. One letter must be from an academic instructor; and
16. Personal interview by Graduate Committee may be requested. If so, the student will be notified. If transportation, cost, and time are prohibitive, a phone or online interview can be arranged.

All prerequisite courses must be completed before acceptance into the program. All transcripts must be sent to OTCAS in addition to the University. For current admission procedures, please visit www.sjsu.edu/occupationaltherapy.

These requirements exist for all prospective students holding baccalaureate degrees in other disciplines. The department reviews completed files and makes recommendations for acceptance or denial to the SJSU Admissions Office.

Requirements for Advancement to Candidacy

Matriculated graduate students must submit a Petition for Advancement to Graduate Candidacy a minimum of one semester prior to graduating. General university requirements for advancement to candidacy are detailed in the Graduate Policies and Procedures section of this catalog. The University requires that all graduate students complete the Graduation Writing Assessment Requirement (GWAR) as a condition for advancement to candidacy. Please refer to the SJSU catalog section titled "Graduation Writing Assessment Requirement" for details. For graduate courses that meet the GWAR, please refer to the Graduate Admissions and Program Evaluations website at http://www.sjsu.edu/gape. Successful completion of OCTH 245, including passing the final written paper in this course with a grade of "B" or better, fulfills the GWAR in this program.

Requirements for Graduation

University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

In consultation with the department graduate coordinator, the candidate will develop and pursue a program of study. The candidate must successfully complete all requirements of the selected plan including the course work specified in the Master's Degree Approval Program.

Occupational Therapy International Experience Requirement

To satisfy the Occupational Therapy Department international requirement, students must study abroad for at least nine days in an approved program. (Exemption from the study abroad portion of the requirement must be approved by the dean of the College of Health and Human Sciences on the basis of compelling individual life experiences or physical limitations. A relevant cross-cultural experience in the U.S. will be substituted). Specific details can be found on the college website at www.sjsu.edu/chhs.

Culminating Fieldwork Requirement

Following completion of the academic coursework (60 units), students must be enrolled in and complete two Fieldwork Courses, OCTH 201A and OCTH 201B, prior to the University awarding the Master of Science degree in Occupational Therapy.

Culminating Experience

Plan B (Project)

Students in this program fulfill their culminating experience requirement with a Plan B (Project). The Comprehensive Master's project requires critical analysis and synthesis of information gathered, crafted into a publishable paper with a poster and oral presentation. Students will enroll in 3 units of OCTH 295, Advanced Research, which supports inquiry into advanced topics in occupational therapy practice, including theoretical and clinical problems.

Occupational Therapy International Experience Requirement

To satisfy the Occupational Therapy Department international requirement, students must study abroad for at least nine days in an approved program (exemption from the study abroad portion of the requirement must be approved by the dean of the College of Health and Human Sciences based on compelling individual life experiences or physical limitations. A relevant cross-cultural experience in the U.S. will be substituted). Specific details can be found on the college website at http://www.sjsu.edu/chahs/international-experience/.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR). For information on the GWAR, please see http://info.sjsu.edu/gcw.html.

Requirements of the Masters	72
Core Courses	**57**
OCTH 211. Historical and Theoretical Foundations of Occupational Therapy	3
OCTH 212. Occupations through the Lifespan	3
OCTH 213. Professional Development I	3
OCTH 216. Evaluation in Occupational Therapy	3
OCTH 221. Occupational Analysis	3
OCTH 222. Functional Kinesiology for Occupational Therapists	3
OCTH 224. Occupational Therapy Practice in the Community I	3
OCTH 226. Occupational Therapy with Children	3
OCTH 233. Professional Development II	3
OCTH 234. Occupational Therapy Practice in the Community II	3
OCTH 236. Occupational Therapy with Youth	3
OCTH 245. Introduction to Research Methods GWAR	3
OCTH 246. Occupational Therapy with Young Adults	3
OCTH 256. Occupational Therapy with Middle Aged Adults	3
OCTH 266. Occupational Therapy with Older Adults	3
OCTH 275. Evidence Based Practice in Occupational Therapy	3
OCTH 276. Practicum and Seminar 1A	3
OCTH 286. Practicum and Seminar 1B	4
COMPLETE ONE COURSE (CHOSEN WITH ADVISOR):	
OCTH 210. Seminar in Occupational Therapy	2-3
OCTH 210ITL. Seminar in Occupational Therapy: International Experience	2-3
Culminating Fieldwork	**12**
OCTH 201A. Field Work Experience	6
OCTH 201B. Advanced Field Work Experience	6
Culminating Experience	**3**
OCTH 295. Advanced Research Methods in Occupational Therapy	3
Total Units Required	**72**

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU cumulative grade point average of 3.0 in order to graduate.

Philosophy Department

College of Humanities and the Arts

FACULTY OFFICES 201
408-924-4468

Professors

Karin Brown
Peter Hadreas
Thomas Leddy
Rita C. Manning
Bo Mou
Carlos A. Sanchez
Janet Stemwedel, Chair
Anand Vaidya

Assistant Professors

Rebecca Chan
Jordan Liz

Curricula

BA, Philosophy
Minor, Philosophy
MA, Philosophy

Introduction

Philosophy majors read and discuss ideas generated by some of the greatest thinkers in history and learn to examine contemporary theoretical problems from a philosophical perspective. Noted for its treatment of philosophy in a global context as well as its engagement with issues reflecting its Silicon Valley setting, the Department of Philosophy offers classes taught by faculty recognized and highly regarded for both teaching and scholarship. Our curriculum is equally strong in traditional and innovative areas of philosophy, such as feminist and applied philosophy, and we offer both undergraduate and graduate degree programs. Because the study of philosophy develops a student's ability to analyze ideas and arguments, to think critically and to write well, a major in philosophy provides pre-professional training in a number of fields, including the fields of law, medicine, psychology and theology.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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BA - Philosophy

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

University Graduation Requirements 35

Core Lower Division General Education 24

Of the 39 units required by the university, 15 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

NOTE: STUDENTS WHO HAVE COMPLETED THE ADT TRANSFER DEGREE (UNDER SB 1440) FOR THIS MAJOR WILL HAVE COMPLETED ALL LOWER DIVISION GE REQUIREMENTS AND SHOULD FOLLOW THE 60 UNIT GUARANTEE ROADMAP. MEET WITH AN ADVISOR PRIOR TO REGISTERING FOR YOUR FIRST SEMESTER FOR THE 60 UNIT ROADMAP OR SPECIFIC QUESTIONS.

Upper Division General Education

Of the 9 units required by the university, 9 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 6

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

COMPLETE ONE SEQUENCE FROM:

African American Studies 6

AFAM 002A. African Americans and the Development of America's History and Government	D2	3
AFAM 002B. African Americans and the Development of America's History and Government	M7	3

Asian American Studies 6

AAS 033A. Asian Americans in U.S. History I	D2	3
AAS 033B. Asian Americans in U.S. History II	M7	3

U.S. History and Government 6

HIST 015. Essentials of U.S. History	M12	3
POLS 015. Essentials of U.S. & California Government	M11	3

Chicana and Chicano Studies 6

CCS 010A. Mexican Americans and the Development of U.S. History and Government	D2	3
CCS 010B. Mexican Americans and the Development of U.S. History and Government	M7	3

Physical Education 2

Graduation Writing Assessment Requirement 3

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Requirements of the Major		33
PHIL 070A. Ancient Philosophy	C2	3
PHIL 070B. Modern Philosophy	C2	3
COMPLETE ONE COURSE FROM:		
PHIL 009. Mathematics and Logic for General Education	B4	3
PHIL 057. Logic and Critical Reasoning	A3	3
PHIL 157. Intermediate Logic & Language Analysis		3
PHIL 157 requires permission from advisor		
COMPLETE ONE SEMINAR COURSE FROM:		
PHIL 190. Seminar in Philosophical Classics		3
PHIL 195. Seminar in Philosophy of Law		3
PHIL 290. Advanced Seminar in a Selected Philosopher or Tradition	GWAR	3
PHIL 291. Advanced Seminar in Epistemology and Metaphysics	GWAR	3
PHIL 292. Advanced Seminar in Ethics or Aesthetics		3
PHIL 293. Advanced Seminar in Logical Theory		3

Philosophy Electives	**21**
Complete seven upper division Philosophy courses, which may include SJSU Studies Philosophy courses.	
Students may substitute a Graduate Level Philosophy course for one of the seven upper division Philosophy courses with permission from the advisor.	

University Electives	52
At least 4 units must be Upper Division	

Total Units Required	**120**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Minor - Philosophy

The selection of philosophy courses should expose the student to the history, traditions and methods of philosophy in a manner that helps students to productively assess their major course work within a broader philosophical perspective.

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Requirements of the Minor	18
Lower Division Philosophy courses chosen with Advisor	6
Upper Division Philosophy courses chosen with Advisor	9
An additional Lower or Upper Division Philosophy course chosen with Advisor	3
Total Units Required	**18**

MA - Philosophy

Advisors: Dr. Carlos A. Sanchez

Requirements for Admission to Classified Standing

Candidates must meet all university requirements for admission. In addition, a student will be admitted to classified status only if:

1. At least 18 units in philosophy have been taken including at least 6 units in upper division work, at least 6 units in the history of philosophy, at least 3 units in ethics, and at least 3 units of symbolic logic (Phil 9 or its equivalent). Exceptions based on comparable studies and experience may be made with graduate committee approval.
2. The average grade received in the 18 units is at least a "B".
3. Three letters of recommendation have been submitted.

Admission to Conditionally Classified Standing

Applicants who meet requirements for admission to the Graduate Division but who do not meet all the requirements for classified standing will be admitted as conditionally classified.

Requirements for Admission to Candidacy for the MA - Philosophy

The basic requirements for admission to candidacy for the MA - Philosophy are outlined in detail in the Academic Requirements section of this catalog. The University requires that all graduate students satisfy the Graduation Writing Assessment Requirement (GWAR) as a condition for advancement to candidacy. Please refer to the SJSU catalog section titled "Graduation Writing Assessment Requirement" for details. For graduate courses that meet the GWAR, please refer to the Graduate Admissions & Program Evaluations website at www.sjsu.edu/gape.

Completing Requirements

Plan A - Thesis

Designed for students who wish to do a thesis.

Plan B - Option 1: Reading Intensive

Designed for students who wish to do a guided, individualized reading project.

Plan B - Option 2: Applied Philosophy Project

Designed for students who wish to do a project.

Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR). For information on the GWAR, please see http://info.sjsu.edu/gcw.html.

Requirements of the Masters — 30

Core Courses — 12

PHIL 290. Advanced Seminar in a Selected Philosopher or Tradition	GWAR	3
PHIL 291. Advanced Seminar in Epistemology and Metaphysics	GWAR	3
PHIL 292. Advanced Seminar in Ethics or Aesthetics		3

COMPLETE ONE COURSE FROM:

PHIL 157. Intermediate Logic & Language Analysis		3
PHIL 293. Advanced Seminar in Logical Theory		3

Elective Courses — 12

100- or 200-level courses within the department

one or more of 290, 291, 292, and 293 may be repeated as electives when the course content is different

Comprehensive Exam

taken after most of the core and elective courses are completed

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Choose One Plan	**6**
Plan A- Option 1: Thesis	**6**
200-Level course chosen with advisor	1-3
PHIL 299. Master's Thesis	3
Plan B- Option 1: Reading Intensive	**6**
200-level course (on advisement)	1-3
PHIL 298. Special Studies	1-3
Plan B- Option 2: Applied Philosophy Project	**6**
200-level course chosen with advisor	1-3
PHIL 298. Special Studies	3
Total Units Required	**30**

Physics and Astronomy Department

College of Science

SCIENCE BUILDING 148
408-924-5210

Professors

Ramendra D. Bahuguna
Alejandro L. Garcia
Monika E. Kress, Chair
Kenneth Wharton

Associate Professors

Peter T. Beyersdorf
Ranko Heindl
Ehsan Khatami
Cassandra Paul
Aaron Romanowsky

Assistant Professors

Benedikt Harrer
Thomas Madura
Gina Quan
Christopher Smallwood
Neil Switz

Curricula

BA, Physics
BA, Physics, Preparation for Teaching
BS, Physics
Minor, Physics
Minor, Astronomy
MS, Physics
MS, Physics, Concentration in Computational Physics
MS, Physics, Concentration in Modern Optics

Introduction

At the core of all science, physics helps us understand chemical reactions, protein folding, the Earth's interior, and the life cycle of stars. Among much else, physicists invented the semiconductor, the laser, and the electron microscope. They play key roles in the design and operation of spacecraft and in the development of electronic and optical instrumentation. The Department of Physics and Astronomy offers an MS degree in physics and two undergraduate degrees: (1) a BS that prepares students for professional careers in applied physics or graduate study, and (2) a BA that combines a strong foundation in physics with electives that allow for a second area of concentration, such as computer science, chemistry, science education, or math. Our faculty are experts in lasers and optics, computational physics, condensed matter, astrophysics, and physics education research. The department receives on average approximately $1.8 million annually in external funding for sponsored research.

BA - Physics

This 120-unit program provides a strong foundation in physics while allowing sufficient electives for the student to pursue a second program of study in another field (e.g., science education, business, math, or another science; transfer students must take at least 12 units of upper division physics major courses at SJSU with a GPA of 2.0 or better in these courses).

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

University Graduation Requirements 44

Core Lower Division General Education 24

Of the 39 units required by the university, 15 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

NOTE: STUDENTS WHO HAVE COMPLETED THE ADT TRANSFER DEGREE (UNDER SB 1440) FOR THIS MAJOR WILL HAVE COMPLETED ALL LOWER DIVISION GE REQUIREMENTS AND SHOULD FOLLOW THE 60 UNIT GUARANTEE ROADMAP. MEET WITH AN ADVISOR PRIOR TO REGISTERING FOR YOUR FIRST SEMESTER FOR THE 60 UNIT ROADMAP OR SPECIFIC QUESTIONS.

Upper Division General Education 9

Of the 9 units required by the university, 0 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 6

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

COMPLETE ONE SEQUENCE FROM:

African American Studies 6

AFAM 002A. African Americans and the Development of America's History and Government	D2	3
AFAM 002B. African Americans and the Development of America's History and Government	M7	3

Asian American Studies 6

AAS 033A. Asian Americans in U.S. History I	D2	3
AAS 033B. Asian Americans in U.S. History II	M7	3

U.S. History and Government 6

HIST 015. Essentials of U.S. History	M12	3
POLS 015. Essentials of U.S. & California Government	M11	3

Chicana and Chicano Studies 6

CCS 010A. Mexican Americans and the Development of U.S. History and Government	D2	3
CCS 010B. Mexican Americans and the Development of U.S. History and Government	M7	3

Physical Education 2

Graduation Writing Assessment Requirement 3

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Preparation for the Major		**18**
CHEM 001A. General Chemistry	B1+B3	5
MATH 030. Calculus I	B4	3
MATH 031. Calculus II	B4	4
MATH 032. Calculus III	B4	3
MATH 133A. Ordinary Differential Equations		3
Requirements of the Major		**46**
Core Courses		**46**
PHYS 020. Invitation to Physics and Astronomy		1
PHYS 040. Introduction to Computational Physics		3
PHYS 050. General Physics/Mechanics	B1+B3	4
PHYS 051. General Physics/Electricity and Magnetism	B1+B3	4
PHYS 052. General Physics/Waves, Light, Heat	B1+B3	4
PHYS 105A. Advanced Mechanics I		4
PHYS 110A. Electricity and Magnetism I		3
PHYS 120A. Electronics, Data Acquisition & Analysis		3
PHYS 122. Modern Physics		4
PHYS 130. Mathematical Methods in Physics		4
PHYS 160. Thermodynamics and Statistical Physics		3
Additional units of upper division physics		9
University Electives		**12**
Total Units Required		**120**

BA - Physics, Preparation for Teaching

This major is designed for students interested in teaching science in high school or middle school. Students enrolled in this program will earn units towards their single subject credential as an undergraduate. The following course work satisfies San José State University's requirements for a BA in Physics. A minimum grade point average (GPA) criterion may be required for verification of subject matter competency. Completion of the program will not guarantee admission to the credential program. Like all other applicants, students must meet credential program standards and undergo screening for admission. See "Teaching: How to Become a Teacher in California" (see Teaching) for information on application and admission to credential programs.

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

University Graduation Requirements 44

Core Lower Division General Education 24

Of the 39 units required by the university, 15 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

Upper Division General Education 9

Of the 9 units required by the university, 0 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 6

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

COMPLETE ONE SEQUENCE FROM:

African American Studies 6

AFAM 002A. African Americans and the Development of America's History and Government	D2	3
AFAM 002B. African Americans and the Development of America's History and Government	M7	3

Asian American Studies 6

AAS 033A. Asian Americans in U.S. History I	D2	3
AAS 033B. Asian Americans in U.S. History II	M7	3

U.S. History and Government 6

HIST 015. Essentials of U.S. History	M12	3
POLS 015. Essentials of U.S. & California Government	M11	3

Chicana and Chicano Studies 6

CCS 010A. Mexican Americans and the Development of U.S. History and Government	D2	3
CCS 010B. Mexican Americans and the Development of U.S. History and Government	M7	3

Physical Education 2

Graduation Writing Assessment Requirement 3

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

Preparation for the Major		**18**
CHEM 001A. General Chemistry	B1+B3	5
MATH 030. Calculus I	B4	3
MATH 031. Calculus II	B4	4
MATH 032. Calculus III	B4	3
MATH 133A. Ordinary Differential Equations		3
Requirements of the Major		**53**
Core Courses		**53**
EDEL 294. Research and Practices in Health and Special Education		3
EDSC 162. Language/Literacy Development of L2 Learners		3
EDSC 173. Psychological Foundations of Secondary Teacher Education		3
PHYS 020. Invitation to Physics and Astronomy		1
PHYS 040. Introduction to Computational Physics		3
PHYS 050. General Physics/Mechanics	B1+B3	4
PHYS 051. General Physics/Electricity and Magnetism	B1+B3	4
PHYS 052. General Physics/Waves, Light, Heat	B1+B3	4
PHYS 105A. Advanced Mechanics I		4
PHYS 110A. Electricity and Magnetism I		3
PHYS 120A. Electronics, Data Acquisition & Analysis		3
PHYS 122. Modern Physics		4
PHYS 130. Mathematical Methods in Physics		4
SCED 173. Secondary School Science		3
SCED 175. Classroom Experiences in Science Teaching		1
Additional units of upper division physics		6
University Electives		**5**
Total Units Required		**120**

BS - Physics

This 120-unit program prepares students for professional positions in applied and computational physics or for graduate study (transfer students must take at least 12 units of upper division physics major courses at SJSU with a GPA of 2.0 or better in these courses).

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

University Graduation Requirements 44

Core Lower Division General Education 24

Of the 39 units required by the university, 15 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

NOTE: STUDENTS WHO HAVE COMPLETED THE ADT TRANSFER DEGREE (UNDER SB 1440) FOR THIS MAJOR WILL HAVE COMPLETED ALL LOWER DIVISION GE REQUIREMENTS AND SHOULD FOLLOW THE 60 UNIT GUARANTEE ROADMAP. MEET WITH AN ADVISOR PRIOR TO REGISTERING FOR YOUR FIRST SEMESTER FOR THE 60 UNIT ROADMAP OR SPECIFIC QUESTIONS.

Upper Division General Education 9

Of the 9 units required by the university, 0 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 6

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

COMPLETE ONE SEQUENCE FROM:

African American Studies 6

AFAM 002A. African Americans and the Development of America's History and Government	D2	3
AFAM 002B. African Americans and the Development of America's History and Government	M7	3

Asian American Studies 6

AAS 033A. Asian Americans in U.S. History I	D2	3
AAS 033B. Asian Americans in U.S. History II	M7	3

U.S. History and Government 6

HIST 015. Essentials of U.S. History	M12	3
POLS 015. Essentials of U.S. & California Government	M11	3

Chicana and Chicano Studies 6

CCS 010A. Mexican Americans and the Development of U.S. History and Government	D2	3
CCS 010B. Mexican Americans and the Development of U.S. History and Government	M7	3

Physical Education 2

Graduation Writing Assessment Requirement 3

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

Preparation for the Major		**34**
CHEM 001A. General Chemistry	B1+B3	5
MATH 030. Calculus I	B4	3
MATH 031. Calculus II	B4	4
MATH 032. Calculus III	B4	3
MATH 133A. Ordinary Differential Equations		3
PHYS 020. Invitation to Physics and Astronomy		1
PHYS 040. Introduction to Computational Physics		3
PHYS 050. General Physics/Mechanics	B1+B3	4
PHYS 051. General Physics/Electricity and Magnetism	B1+B3	4
PHYS 052. General Physics/Waves, Light, Heat	B1+B3	4
Requirements of the Major		**39**
Core Courses		**33**
PHYS 105A. Advanced Mechanics I		4
PHYS 110A. Electricity and Magnetism I		3
PHYS 110B. Electricity and Magnetism II		3
PHYS 120A. Electronics, Data Acquisition & Analysis		3
PHYS 122. Modern Physics		4
PHYS 130. Mathematical Methods in Physics		4
PHYS 140. Computational Methods in Physics		3
PHYS 160. Thermodynamics and Statistical Physics		3
PHYS 163. Quantum Mechanics		3
COMPLETE ONE COURSE FROM:		
PHYS 120B. Modern and Solid State Physics Lab		3
PHYS 120C. Advanced Physics Lab: Optics and Lasers		3
Astronomy and Physics Electives		**6**
ADDITIONAL SIX UNITS IN UPPER DIVISION PHYSICS OR ASTROPHYSICS FROM:		
ASTR 117A. Astrophysics I		3
ASTR 117B. Astrophysics II		3
ASTR 155. Topics in Modern Astrophysics		3
PHYS 105B. Advanced Mechanics II		3
PHYS 158. Modern Optics		3
PHYS 175A. Solid State Physics		3
PHYS 120B. Modern and Solid State Physics Lab		3
PHYS 120C. Advanced Physics Lab: Optics and Lasers		3
PHYS 168. Lasers		3
University Electives		**3**
Total Units Required		**120**

Minor - Astronomy

The Astronomy minor offered by the Department of Physics and Astronomy requires completion of the physics and astronomy courses taken at San José State University with a grade of "C" (2.0 GPA) or better.

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Requirements of the Major		21
PHYS 050. General Physics/Mechanics	B1+B3	4
PHYS 051. General Physics/Electricity and Magnetism	B1+B3	4
PHYS 052. General Physics/Waves, Light, Heat	B1+B3	4
Or take PHYS 50 series equivalents		
ASTR 117A. Astrophysics I		3
ASTR 117B. Astrophysics II		3
ASTR 155. Topics in Modern Astrophysics		3
Total Units Required		**21**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Minor - Physics

A physics minor to accompany a major in some other field is offered. A physics minor is 18 units of physics courses taken at San José State University with a "C" (2.0) average or better.

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Requirements of the Minor		18
PHYS 050. General Physics/Mechanics	B1+B3	4
PHYS 051. General Physics/Electricity and Magnetism	B1+B3	4
PHYS 052. General Physics/Waves, Light, Heat	B1+B3	4
Six units of upper division physics approved by Physics advisor		6
Total Units Required		**18**

Graduate Programs in Physics

Admission Requirements

University Admission

Applicants must submit a complete graduate application by applying through the CSU Cal State Apply system at calstate.edu/apply and meet all the university admission requirements. Applicants apply separately to the department to obtain admission into the MS, Physics degree program. See the GAPE Graduate Admissions website and this Catalog for general information about graduate admissions at SJSU.

Applicants from countries in which the native language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirements webpage at GAPE. For TOEFL Requirements, see the Policies and Procedures section, Graduate and Post-Baccalaureate Information in this Catalog.

Program Requirements for Admission to Classified Standing

Minimum requirements for admission to the Graduate Division are outlined in the Admissions section of this catalog. Students can be admitted in either classified or conditionally classified standing. To be admitted to the MS, Physics degree program in Classified status, an applicant must possess a baccalaureate degree with a major in Physics and a grade point average of 3.0 or better in the last 60 units. Applicants must also have completed at least 24 semester units of upper division physics, or courses in related fields approved by the Physics Department graduate advisor.

Program Admission to Conditionally Classified Standing

Students may be admitted to conditionally classified standing if they meet minimum requirements for admission to the University but their preparation for advanced graduate work is considered inadequate to meet the course prerequisites or other departmental requirements. The conditions will include completing PHYS 105A, PHYS 110A, and PHYS 163 with a grade of "B" or better. Students may need to complete additional coursework to meet prerequisites for these classes. The program admissions notification will explain terms and requirements.

Requirements for Advancement to Candidacy

Matriculated graduate students must submit a Petition for Advancement to Graduate Candidacy a minimum of one semester prior to graduating. General university requirements for advancement to candidacy for the MS degree are detailed in the Graduate Policies and Procedures section of this catalog.

Students also must fulfill Graduation Writing Assessment Requirement (GWAR) before advancing to candidacy. Information about GWAR requirements can be found at Graduation Writing Assessment Requirement (GWAR). Graduate courses that meet GWAR requirements include.

Requirements for Graduation

University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

Course Requirements

To meet the requirements for the MS, Physics, a student must complete 30 units (and satisfy the program GWAR requirement) with a cumulative GPA of 3.0 or better. The student must complete one of two culminating experience options: Plan A (Thesis) or the Plan B (Project). Note: The Plan A (Thesis) option requires Graduate Studies approval of the completed thesis.

In consultation with the department graduate coordinator, the candidate will develop and pursue a plan of study. The candidate must successfully complete all requirements of the selected plan including the course work and the culminating experience.

Culminating Experience

Students in the MS, Physics program choose a Plan A (Thesis) or Plan B (Project) option as their culminating experience.

Plan A (Thesis)

The student who opts to complete a Master's thesis is responsible for securing the commitment of a full-time tenured or tenure-track faculty member who agrees to serve as thesis committee chair. The student must also secure the commitments of two additional university faculty members, one of whom must be a full-time tenure or tenure-track faculty member, to serve as the student's thesis committee. The student must write a thesis proposal and have it approved by the thesis committee and pass at the PHYS 298, Research before enrolling in the PHYS 299, Master's Thesis. The thesis must meet university requirements as stipulated in this catalog and in the SJSU Master's Thesis and Doctoral Dissertation Guidelines. It will be written under the guidance of the candidate's thesis committee chair with the assistance of the thesis committee.

Plan B (Project)

Students opting to complete a master's project will take the PHYS 298, Research (3 units) and an additional elective for a total of 6 units. The project shall be one of the following:

- A written project or journal paper describing the research project.
- A presentation of the research topic at a department seminar with a written description of the project presented to the student's committee (both written and an oral presentation).
- Authorship in a peer reviewed journal and presentation of the results to the student's committee.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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MS - Physics

At the core of all science, physics helps us understand chemical reactions, protein folding, the Earth's interior, and the life cycle of stars. Physicists invented the semiconductor, the laser, and the electron microscope. They play key roles in the design and operation of spacecraft and in the development of electronic and optical instrumentation. The Department of Physics and Astronomy offers a Master of Science in Physics and two Concentrations. Our faculty are experts in lasers and optics, computational physics, condensed matter, astrophysics, and physics education research. The department receives on average approximately $1.8 million annually in external funding for sponsored research.

Additional information is available on the Department of Physics and Astronomy website at http://physics.sjsu.edu

Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR). For information on the GWAR, please see http://info.sjsu.edu/gcw.html.

Requirements of the Masters — 30

Core — 18

PHYS 100W. Methods of research and communication in physics	Z	3
PHYS 205. Advanced Dynamics		3
PHYS 210. Electromagnetic Theory		3
PHYS 230. Methods in Mathematical Physics		3
PHYS 260. Statistical Mechanics		3
PHYS 263A. Quantum Theory		3

Electives — 6

3 units letter-graded 200-level physics	3
3 units 100- or 200-level physics, mathematics, science or engineering courses approved by the graduate advisor	3

Culminating Experience — 6

Complete one option (Plan A or Plan B):

Plan A (Thesis)

PHYS 298. Research	1-4
PHYS 299. Master's Thesis	1-4

3 units each of PHYS 298 and PHYS 299

Plan B (Project)

PHYS 298. Research	1-4

3 units of PHYS 298

Additional 3 units of PHYS 298 or elective selected in consultation with graduate advisor	3

Total Units Required — 30

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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MS - Physics, Concentration in Computational Physics

The goal of this concentration is to give the candidate a thorough grounding in physics, computer programming and numerical methods. All candidates are required to complete a project or a thesis in which they apply computer-oriented techniques to physics problems.

Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR). For information on the GWAR, please see http://info.sjsu.edu/gcw.html.

Requirements of the Masters 30

Physics Courses 18

PHYS 100W. Methods of research and communication in physics	Z	3
PHYS 205. Advanced Dynamics		3
PHYS 210. Electromagnetic Theory		3
PHYS 230. Methods in Mathematical Physics		3
PHYS 240. Computational Physics		3
PHYS 263A. Quantum Theory		3

Mathematics Courses 6

COMPLETE ONE COURSE FROM:

MATH 143C. Numerical Analysis and Scientific Computing	3
MATH 143M. Numerical Analysis and Scientific Computing	3

SELECT ONE COURSE IN CONSULTATION WITH GRADUATE ADVISOR:

MATH 243B. Advanced Topics in Numerical Analysis	3
MATH 243M. Numerical Linear Algebra	3
200-level mathematics or physics	3

Culminating Experience 6

COMPLETE ONE OPTION (PLAN A OR PLAN B):

Plan A (Thesis)

PHYS 298. Research	1-4
PHYS 299. Master's Thesis	1-4

3 units each of PHYS 298 and PHYS 299

Plan B (Project)

PHYS 298. Research	1-4

3 units of PHYS 298

3 units of 200-level mathematics or physics elective course selected in consultation with graduate advisor	3

Total Units Required 30

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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MS - Physics, Concentration in Modern Optics

The students in this concentration receive instruction in fundamental areas of physics and gain experience and knowledge in a wide range of subjects related to Modern Optics. All candidates are required to complete a thesis including the defense (Plan A) or take an oral comprehensive examination as culminating experience (Plan B)

Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR). For information on the GWAR, please see http://info.sjsu.edu/gcw.html.

Requirements of the Masters 31

Core 21

PHYS 100W. Methods of research and communication in physics	Z	3
PHYS 205. Advanced Dynamics		3
PHYS 210. Electromagnetic Theory		3
PHYS 230. Methods in Mathematical Physics		3
PHYS 258. Optics		3
PHYS 263A. Quantum Theory		3

Electives 3

COMPLETE ONE COURSE FROM:

PHYS 208. Introduction to Electro-Optics	3
PHYS 268. Laser Spectroscopy	3

Culminating Experience 6

Choose a Plan

Plan A (Thesis)

PHYS 298. Research	2
PHYS 299. Master's Thesis	3

3 units each of PHYS 298 and PHYS 299

Plan B (Project)

PHYS 298. Research	2

3 units of PHYS 298

Students choosing this option complete one additional course from PHYS 120C, 168, 208, 268, or 220	3

Comprehensive Examination

Total Units Required 31

Elective courses must be planned in consultation with the Graduate Advisor.

The maximum number of upper-division undergraduate units that can be applied toward the master's degree is 15.

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU Cumulative grade point averages of 3.0 in order to graduate.

Political Science Department

College of Social Sciences

CLARK HALL 471
408-924-5550

Professors

James C. Brent
Frances L. Edwards
Melinda Jackson, Chair
Kenneth B. Peters
Lawrence Quill

Associate Professors

Garrick Percival
Karthika Sasikumar

Assistant Professors

Sergio Bejar-Lopez
Mary Currin-Percival
Danijela Dudley
Leonard Lira
Matthew Record

Curricula

BA, Political Science
Minor, Applied Research Methods
Minor, Political Science
Minor, Public Administration and Public Policy
Masters, Public Administration

Introduction

Political science majors tackle the public issues of the day as well as the timeless issues of government, public policy and the political process. The Department of Political Science offers a BA in political science and a master's degree in public administration (MPA). Our courses cover U.S. politics and public administration, public law, comparative politics, international relations and political theory. Our extensive internship program includes funded internships in Sacramento and Washington, D.C., and our students have the opportunity to participate in a Model United Nations and the honor society Pi Sigma Alpha. We arrange annual trips to the state capital and state supreme court and campus presentations by guest speakers who range from Holocaust survivors to U. S. Senators. We prepare our graduates for advanced graduate study as well as careers in law, teaching, government service, legislative staffing, political consulting, interest group representation, international relations and other fields. Contact us at 408-924-5550 or visit us at http://www.sjsu.edu/polisci/.

Honors Program

The achievements of political science majors with an overall GPA of 3.20 and a 3.50 GPA in political science are recognized by the department honors program. These outstanding students are eligible to enroll in POLS 190H, an honors thesis. Students who attain the required GPA and complete the honors thesis graduate with Honors in Political Science. Interested students should consult the department chairperson.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

BA - Political Science

The BA - Political Science provides students with an understanding of politics and the political process and prepares them for their lifelong responsibilities as citizens, as well as furthering their skills in critical analysis and communication. The major in political science may lead to a wide variety of careers, including teaching, the law, business and public service.

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

University Graduation Requirements 44

Core Lower Division General Education 30

Of the 39 units required by the university, 9 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

NOTE: STUDENTS WHO HAVE COMPLETED THE ADT TRANSFER DEGREE (UNDER SB 1440) FOR THIS MAJOR WILL HAVE COMPLETED ALL LOWER DIVISION GE REQUIREMENTS AND SHOULD FOLLOW THE 60 UNIT GUARANTEE ROADMAP. MEET WITH AN ADVISOR PRIOR TO REGISTERING FOR YOUR FIRST SEMESTER FOR THE 60 UNIT ROADMAP OR SPECIFIC QUESTIONS.

Upper Division General Education 9

Of the 9 units required by the university, 0 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 3

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

Consult Major Advisor for department recommended coursework to meet GE requirement.

Physical Education 2

Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Requirements of the Major 46-50

Lower Division Core Courses 12

POLS 002. Introduction to Comparative Politics	D2	3
POLS 003. Introduction to Political Thought	C2	3
POLS 004. Introduction to International Relations	D3	3

COMPLETE ONE COURSE FROM:

POLS 001. American Government	US23	3
POLS 015. Essentials of U.S. & California Government	M11	3

Upper Division Core Courses 21-22

POLS 100W. Writing Workshop	Z	3
POLS 100M. Political Inquiry		4

Additional Upper Division Core Courses 14-15

Complete 14-15 units from the following. One course from each of the four fields is required.

U.S. Government and Politics **3-4**

COMPLETE ONE COURSE FROM:

POLS 102. State Government and Politics US3 4
POLS 103. Local Government and Politics 4
POLS 105. Congress 4
POLS 106. The United States Presidency 4
POLS 107. Politics and Public Opinion 4
POLS 108. Political Participation 4
POLS 114. Introduction to Public Administration 3
POLS 121A. Constitutional Law: Institutional Powers 4
POLS 122. Judicial Politics 4
POLS 130. American Public Policy 4

Comparative Politics **4**

COMPLETE ONE COURSE FROM:

POLS 141. Politics of Post-Communist Countries 4
POLS 142. African Politics 4
POLS 144. Middle Eastern Politics 4
POLS 145. Asian Politics 4
POLS 146. Latin American Politics 4
POLS 147. Globalization 4
POLS 148. Nationalism and Comparative Political Cultures 4
POLS 149. Comparative Public Policy and Administration 4

International Relations **4**

COMPLETE ONE COURSE FROM:

POLS 152A. International Organizations and NGOs 4
POLS 153. European Union 4
POLS 154. U.S. Foreign Policy: Formulation and Administration 4
POLS 155. The Wealth of Nations 4
POLS 157. International Security 4

Political Thought **3**

COMPLETE ONE COURSE FROM:

POLS 160A. Classical Political Thought 3
POLS 160B. Modern Political Thought 3
POLS 160C. Recent Political Thought 3
POLS 163. American Political Thought 3

Additional Upper Division Courses **13-16**

Upper Division Electives **9-12**

Three additional upper division courses from POLS 102-199 (except POLS 120, 150 or 170V).

Capstone Course **4**

POLS 190. Senior Seminar 4

University Electives **26-30**

Students may choose Political Science or other electives.

Total Units Required **120**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Minor - Applied Research Methods

The interdisciplinary Minor in Applied Research Methods (ARM) is designed to prepare students for careers involving social research and data analysis. The ARM Minor provides students with a broad understanding of research methods, including both quantitative and qualitative approaches and techniques such as surveys, experiments, interviews, focus groups, ethnography, and content analysis. Students in the ARM Minor will learn to apply these research skills to socially relevant issues, combining theoretical background with hands-on skills practice. The ARM Minor provides an ideal complement to the programs of students from a variety of social sciences, business, and applied sciences and arts disciplines.

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Preparation for the Minor 3

Introductory Statistics 3

COMPLETE ONE COURSE FROM:

STAT 095. Elementary Statistics	B4	3
HS 067. Introductory Health Statistics	B4	3
JS 015. Introductory Statistics in Justice Studies	B4	3
SOCI 015. Statistical Applications in the Social Sciences	B4	3
UNVS 015S. Statway Part B: Statistics-Concepts & Methods	B4	3

UNVS 015S Prerequisite: UNVS15F with grade of C- or better or concurrent enrollment in UNVS1015W

Or other introductory statistics course approved by Minor Coordinator

Requirements of the Minor 12-16

Intermediate Statistics 3-4

COMPLETE ONE COURSE FROM:

ECON 103. Intro to Econometrics	4
MATH 161A. Applied Probability and Statistics I	3
STAT 115. Intermediate Statistics	3

Quantitative Methods 3-4

COMPLETE ONE COURSE FROM:

COMM 155I. Quantitative Communication Inquiry	4
ECON 108. Cost-Benefit Analysis	4
JS 114. Research Methods in Justice Studies	3
MATH 161B. Applied Probability and Statistics II	3
POLS 100M. Political Inquiry	4
PSYC 117. Psychological Tests and Measures	3
SOCI 104. Quantitative Research Methods	3

Qualitative Methods 3-4

COMPLETE ONE COURSE FROM:

ANTH 149. Ethnographic Methods	3
COMM 156I. Observation and Interviewing Methods	4
COMM 111P. Interviewing	4
COMM 121P. Performance as Practice	4
COMM 150I. Inquiry in Organizational Communication	4
COMM 151I. New Media/New Methods	4
GEOG 135. Qualitative Methods in Geographical Research	3
JS 117. Qualitative Research Methods	3
SOCI 105. Qualitative Research Methods	3

Applied Research Methods Electives	3-4
COMPLETE ONE COURSE FROM:	
ANTH 105. Applied Anthropology	3
ENVS 110. Resource Analysis	4
GEOG 170. Introduction to Mapping and Geographic Information Systems	3
ORGS 102. Organizations, Inquiry & Analysis	4
POLS 195. Applied Research Methods	4
Total Units Required	**12-16**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Minor - Political Science

Students majoring in a wide variety of fields find a minor in political science interesting and useful, providing knowledge and skills that enhance their careers, improve their citizenship and cultivate their minds. The minor appeals especially to students in the other social sciences or in business, journalism or administration of justice, although many others also use the minor to broaden their education. Political Science department advisors help students customize their programs to support their special interests. A minimum of six units must be completed in residence to satisfy the requirements for a political science minor. The minimum requirements are:

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Requirements of the Minor		18
Lower Division Courses		**6**
COMPLETE ONE COURSE FROM:		
POLS 001. American Government	US23	3
POLS 015. Essentials of U.S. & California Government	M11	3
COMPLETE ONE COURSE FROM:		
POLS 002. Introduction to Comparative Politics	D2	3
POLS 003. Introduction to Political Thought	C2	3
POLS 004. Introduction to International Relations	D3	3
Upper Division Electives		**12**
Twelve additional upper division units from POLS 102-199.		
Total Units Required		**18**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

Minor - Public Administration and Public Policy

The Public Administration and Public Policy minor provides a structured introduction to the practice of government. This minor appeals especially to students who are interested in exploring careers in the public, private, or non-profit sectors that involve policy development, advocacy, and evaluation, or government relations. This minor compliments the Political Science major, as well as other majors across the social sciences, business, journalism, justice studies, social work, and many other disciplines.

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Preparation for the Minor		3
COMPLETE ONE COURSE FROM:		
POLS 001. American Government	US23	3
POLS 015. Essentials of U.S. & California Government	M11	3

Requirements of the Minor		15
POLS 114. Introduction to Public Administration		3
POLS 130. American Public Policy		4
COMPLETE TWO COURSES FROM:		
POLS 102. State Government and Politics	US3	4
POLS 103. Local Government and Politics		4
POLS 121A. Constitutional Law: Institutional Powers		4
POLS 149. Comparative Public Policy and Administration		4
POLS 181. Internships		4
Total Units Required		**18**

MPA - Master of Public Administration

The program leads to the professional degree of Master of Public Administration. It provides pre-service students with the knowledge and skills necessary for effective administration of local, state, and federal government agencies and of nonprofit organizations. It also offers mid-career administrators and professionals in public service an opportunity to improve their management skills and qualifications. For the convenience of students who are employed full-time, all courses are offered in the evening. Alumni assist with orientation and mentoring activities.

The MPA program provides each student with a basic understanding of the environment of public policy and the ability to deal with:

- Political and legal institutions and processes
- Economic and social institutions and processes
- Organization and management concepts, and human resource administration
- Concepts and techniques of budgeting and financial administration
- Application of quantitative and qualitative techniques of analysis in policy and program formulation, implementation and evaluation, and decision making and problem solving

Students also develop the ability to:

Define and diagnose public problems, engage in supported decision-making, collect relevant data including big data, perform logical analyses, develop alternatives, implement an effective and ethical course of action, and evaluate results

- Organize and communicate information clearly to a variety of audiences through formats including oral presentations, written memoranda and technical reports, and statistical charts, graphs, and tables
- Recognize and value diversity and diverse viewpoints within the community, and integrate diverse view into community problem solutions
- Apply information technology to public administration problems, including community service provision and cybersecurity of systems

For more information on the program please go to the program's website at http://www.sjsu.edu/mpa/

Admissions Requirements

The MPA program accepts students in unclassified and classified standing. People in unclassified standing must meet all admissions requirements, but may be lacking one or more of the prerequisites for the program. These prerequisites must be completed before registering for the fifth MPA course. People admitted in classified standing have met all requirements for admission to the program.

Minimum requirements for admission to the Graduate Division are outlined in this catalog. See admissions requirements.

The MPA does not use the GRE, as it is not a good predictor of performance for people who have been in the working world for several years. The MPA program is designed for working professionals, although well qualified recent graduates may be admitted.

Applicants from countries in which the native language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirements webpage at GAPE. For the MPA a minimum score of 575 is required.

Preparation

A bachelor's degree or its equivalent, from an accredited college or university is required. No specific undergraduate major is necessary. Preparation must include introductory courses in American government, micro-economics and statistics from an accredited community college or university, and competency in spreadsheet use. These are known as prerequisites, requirements to be met before beginning the MPA program. Deficiencies in preparation must be removed before admission to candidacy and before completion of four MPA courses. Transcripts for the baccalaureate, including from all colleges where prerequisites were taken, must be sent directly to Graduate Admissions upon applying to the program, not to the department. Transcripts for the missing prerequisites submitted after admission must go to the MPA Director directly.

Grade Point Average (GPA) Requirements

Applicants applying directly after graduating from an undergraduate school need an overall grade point average of 3.0 in all courses, or in the last 60 units as an undergraduate, or in the major. Applicants applying three or more years after completing the BA degree need a grade point average of 2.75 overall, or in the last 60 units of undergraduate courses, or in the major. These are minimum qualifications for consideration, and may not result in admission. In addition, applicants should submit evidence of professional development, such as promotions noted on a resume or in letters of recommendation.

Requirements for Advancement to Graduate Candidacy

Students must apply for admission to candidacy as early as possible, but no later than the last semester of their graduate program. University requirements for advancement to candidacy {http://info.sjsu.edu/static/policies/candidacy.html} for the master's degree as outlined in the Graduate Policies and Procedures section of this catalog can be found at this link.

Final date for submission in each semester may be found at the GAPE website http://www.sjsu.edu/gape/current_students/deadlines/. In addition to meeting the university-wide requirements for advancement to candidacy, as outlined in this catalog, applicants must have submitted an approved program for the degree.

Candidacy includes successful completion of the Graduation Writing Assessment Requirement (GWAR). For graduate courses that meet the GWAR, refer to the GWAR Course List on the College of Graduate Studies website. Within the MPA program, PADM 210 meets the GWAR.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Requirements for Graduation

University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

Culminating Experience

Plan A (with Thesis)

A thesis demonstrating the student's competence in original research and acceptable to the department must be submitted to the department at least eight weeks prior to the date on which the degree is to be awarded. This thesis must conform to university standards and be approved by the Associate Dean of Graduate Studies.

Plan B (with Project)

In lieu of a thesis, a student may complete an academically rigorous research project by enrolling in PADM 298, Special Problems. In PADM 298 the student will complete a substantial paper under faculty supervision to complete the project component of Plan B.

Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR). For information on the GWAR, please see http://info.sjsu.edu/gcw.html.

This requirement is satisfied by passing PADM 210.

Requirements of the Masters — 36

Core Courses — 15

The courses form a base of knowledge and skills that prepare students for advanced seminars. Students must complete these courses before taking PADM 298.

COMPLETE FIFTEEN UNITS FROM:

PADM 210. Introduction to Public Administration	GWAR	3
PADM 212. Administrative Research Methods		3
PADM 213. Policy Analysis and Evaluation		3
PADM 214. Introduction to Public Management		3
PADM 218. Public Budgeting		3

Advanced Seminars Electives — 9-18

COMPLETE THREE COURSES FROM:

PADM 202. Regional Governance	3
PADM 215. Public Personnel Administration	3
PADM 217. Organizational Theory	3
PADM 219. Public Financial Administration	3
PADM 220. Non-Profit Management	3
PADM 223. Law and Public Administration	3
PADM 228. Urban Community Development	4
PADM 240. Environmental Planning	4
PADM 295. Topics in Public Administration	3

Additional Electives — 0-9

Depending on thesis or project arrangements, electives may include additional MPA courses, the PADM 281, Internship, the PADM 284 Independent Reading, or approved 100- or 200-level courses in political science or other departments, up to a maximum of 9 units. 0-9

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Culminating Experience	**3**
COMPLETE ONE OPTION (PLAN A OR PLAN B):	
Plan A (with Thesis)	**3**
PADM 299. Master's Thesis	3
Plan B (with Project)	**3**
PADM 298. Special Problems	3
Total Units Required	**36**

No more than six units of 100-level course work may be applied towards the MPA degree.

No more than six units of transfer credit from other universities may be applied toward the MPA degree.

Students who do not have substantial management work experience related to the curriculum are required to register for PADM 281 and complete an appropriate internship.

Elective courses must be planned in consultation with the Graduate Advisor.

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU cumulative grade point averages of 3.0 in order to graduate.

Psychology Department

College of Social Sciences

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Curricula

BA, Psychology
BS, Psychology
Minor, Human Systems Integration
Minor, Psychology
MA, Psychology, Concentration in Research and Experimental Psychology
MS, Psychology, Concentration in Clinical Psychology
MS, Psychology, Concentration in Industrial/Organizational Psychology

Introduction

The Department of Psychology seeks to develop skilled critical thinkers who use their knowledge of the principles of human behavior, cognition, and emotion to work and live effectively and fully in a multicultural global society. Our curriculum covers the major areas in the field of psychology to help students understand the complexities of human thought and behavior in a sociocultural context. In addition, the Department provides students with training in research methods, statistics, and scientific writing. Psychology students have opportunities to gain practical experience by working with our faculty in research labs, community outreach projects, Silicon Valley companies, and so on. The Department offers a BA in Psychology, a BS in Psychology, a minor in Human Systems Integration, a minor in Psychology, an MA in Research and Experimental Psychology, an MS in Clinical Psychology, and an MS in Industrial and Organizational Psychology. Detailed information about our faculty, students, and programs may be found on our website at www.sjsu.edu/psych.

Psychology Honors Program

Students requesting departmental honors in psychology will be evaluated against the following criteria at graduation: (1) a minimum aggregate GPA of 3.5 across all psychology course work; (2) evidence of distinguished scholarly work, as indicated by the completion of a BA thesis (PSYC 199), the honors seminar (PSYC 195), or work leading to a published paper or presentation at a professional meeting. Contact a psychology advisor for details.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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BA - Psychology

The undergraduate degree assures a broad coverage of the major areas of content and methods in psychology identified by the American Psychological Association as the backbone of a strong degree program. The goal of the breadth part of the degree requirements is to provide a strong background in general psychology. In addition, sufficient flexibility is offered through choices in fulfilling these requirements and through the electives so that students, in consultation with their advisors, can design a program of study which focuses on each student's particular area of interest.

A carefully prepared multi-year program of study will ensure an appropriate sequencing of required courses (e.g., BIOL 21 or BIOL 65 is a prerequisite to PSYC 30, STAT 95 is a prerequisite for PSYC 100W, PSYC 100W is a prerequisite for PSYC 120, PSYC 120 is a pre- or co-prerequisite for 190/195). Use the advisor's expertise and the MyGPS planning tools for GE, SJSU Studies, and American Institutions course selection and to ensure a strong foundation for future coursework. Seeking advising is especially important to those at risk for probation, those in the honors program, and those planning to go on to graduate school in psychology. The two and four year planners give additional guidance in designing a particular program of study including suggestions about the order in which to take classes even if they are not governed by official prerequisite requirements. All of these materials as well as the extra coursework and other requirements for Departmental Honors are available on the department website www.sjsu.edu/psych or the department office.

Once declared as a psychology major, there are no minimum grade requirements for the major other than a C- or better for the lower division statistics requirement and an overall 2.0 average across the courses in the major (i.e., a D- can "count" towards meeting psychology requirements even if it does not count towards General Education requirements).

The lower division biology requirement cannot be met with general biology (BIOL 20) nor the online version of human anatomy (BIOL 65O).

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

University Graduation Requirements 41

Core Lower Division General Education 24

Of the 39 units required by the university, 15 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

NOTE: STUDENTS WHO HAVE COMPLETED THE ADT TRANSFER DEGREE (UNDER SB 1440) FOR THIS MAJOR WILL HAVE COMPLETED ALL LOWER DIVISION GE REQUIREMENTS AND SHOULD FOLLOW THE 60 UNIT GUARANTEE ROADMAP. MEET WITH AN ADVISOR PRIOR TO REGISTERING FOR YOUR FIRST SEMESTER FOR THE 60 UNIT ROADMAP OR SPECIFIC QUESTIONS.

Upper Division General Education 9

Of the 9 units required by the university, 0 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 6

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

COMPLETE ONE SEQUENCE FROM:

African American Studies 6

AFAM 002A. African Americans and the Development of America's History and Government	D2	3
AFAM 002B. African Americans and the Development of America's History and Government	M7	3

Asian American Studies 6

AAS 033A. Asian Americans in U.S. History I	D2	3
AAS 033B. Asian Americans in U.S. History II	M7	3

U.S. History and Government 6

HIST 015. Essentials of U.S. History	M12	3
POLS 015. Essentials of U.S. & California Government	M11	3

Chicana and Chicano Studies 6

CCS 010A. Mexican Americans and the Development of U.S. History and Government	D2	3
CCS 010B. Mexican Americans and the Development of U.S. History and Government	M7	3

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Physical Education		**2**

Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Preparation for the Major		**3-4**
COMPLETE ONE COURSE FROM:		
BIOL 021. Human Biology	B2+B3	3
BIOL 065. Human Anatomy	B2+B3	4
Requirements of the Major		**48**
Lower Division Core		**12**
PSYC 001. Introduction to Psychology	D1	3
PSYC 018. Introduction to Research Methods		3
PSYC 030. Introductory Psychobiology		3
STAT 095. Elementary Statistics	B4	3

UNVS 015F and UNVS 015S may be used in lieu of the statistics course required by this major. A grade of C- or better is required to meet this statistics requirement.

Upper Division Core		**27**
PSYC 100W. Writing Workshop	Z	3
PSYC 118. Advanced Research Methods in Psychology		3
COMPLETE ONE COURSE FROM:		
PSYC 102. Psychology of Childhood		3
PSYC 112. Psychology of Adolescence		3
PSYC 114. Psychology of Aging		3
COMPLETE TWO COURSES FROM:		
PSYC 129. Neuroscience		3
PSYC 135. Cognition		3
PSYC 155. Human Learning		3
PSYC 158. Perception		3
COMPLETE ONE COURSE FROM:		
PSYC 110. Adult Psychopathology		3
PSYC 142. Child Psychopathology		3
COMPLETE ONE COURSE FROM:		
PSYC 139. Psychology of Personality		3
PSYC 154. Social Psychology		3
COMPLETE ONE COURSE FROM:		
PSYC 117. Psychological Tests and Measures		3
STAT 115. Intermediate Statistics		3
COMPLETE ONE COURSE FROM:		
PSYC 190. Current Issues Capstone		3
PSYC 195. Honors Seminar in Psychology		3
Psychology Electives		**9**
Three units of upper or lower division psychology courses		3
Six units of upper division psychology courses		6
University Electives		**27-28**
Total Units Required		**120**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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BS - Psychology

The BS degree is a regimented degree plan for students who wish to develop a focused set of skills in research focused scientific and methodological training. The BS degree program has more course requirements than the BA (i.e., fewer electives). Students should seek early and frequent advice from departmental advisors.

A carefully prepared multi-year program of study will ensure an appropriate sequencing of required courses (e.g., BIOL 21 or BIOL 65 is a prerequisite for PSYC 30, STAT 95 is a prerequisite for PSYC 100W, PSYC 100W is a prerequisite for PSYC 120, PSYC 120 is a prerequisite for PSYC 121A-E, and PSYC 120 is also a pre- or co-prerequisite for 190/195). Use the advisor's expertise for GE, SJSU Studies, and American Institutions course selection and to ensure a strong foundation for future coursework. Seeking advising is especially important for those in the honors program or those planning to go on to research-oriented graduate programs in psychology. The two and four-year planners give additional guidance in designing a particular program of study including suggestions about the order in which to take classes even if they are not governed by official prerequisite requirements. All these materials as well as the requirements for Departmental Honors (BA or BS Psychology) are available from www.sjsu.edu/psych or the department office.

There are no minimum grade requirements for coursework in the major other than a C- or better for the lower division statistics requirement and an overall 2.0 average across the courses in the major (i.e., a D- can "count" towards meeting psychology requirements even if it does not count towards General Education requirements).

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

University Graduation Requirements 32

Core Lower Division General Education 21

Of the 39 units required by the university, 18 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

Upper Division General Education 3

Of the 9 units required by the university, 6 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 6

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

COMPLETE ONE SEQUENCE FROM:

African American Studies 6

AFAM 002A. African Americans and the Development of America's History and Government	D2	3
AFAM 002B. African Americans and the Development of America's History and Government	M7	3

Asian American Studies 6

AAS 033A. Asian Americans in U.S. History I	D2	3
AAS 033B. Asian Americans in U.S. History II	M7	3

U.S. History and Government 6

HIST 015. Essentials of U.S. History	M12	3
POLS 015. Essentials of U.S. & California Government	M11	3

Chicana and Chicano Studies 6

CCS 010A. Mexican Americans and the Development of U.S. History and Government	D2	3
CCS 010B. Mexican Americans and the Development of U.S. History and Government	M7	3

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Physical Education 2

Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Preparation for the Major 12-18

COMPLETE ONE COURSE FROM:

BIOL 021. Human Biology	B2+B3	3
BIOL 065. Human Anatomy	B2+B3	4

COMPLETE THREE COURSES FROM (NO MORE THAN TWO FROM EACH DEPARTMENT):

BIOL 101. Origins of Life	R	3
BIOL 109. Human Neuroanatomy and Physiology		4
LING 123. Sound and Communication	R	3
LING 161. Psycholinguistics		3
PHIL 110. Science, Technology and Human Values	V	3
PHIL 133. Ethics in Science	V	3
PHIL 160. Philosophy of Science	R	3
CHEM 001A. General Chemistry	B1+B3	5
Chem 1A or Chem 30A, but not both		
CHEM 001B. General Chemistry	B1+B3	5
Chem 1B or Chem 30B, but not both.		
CHEM 030A. Introductory Chemistry	B1+B3	3
CHEM 030B. Introductory Chemistry		3

Requirements of the Major 55

Lower Division Core 9

PSYC 001. Introduction to Psychology	D1	3
PSYC 030. Introductory Psychobiology		3
STAT 095. Elementary Statistics	B4	3

UNVS 015F and UNVS 015S may be used in lieu of the statistics course required by this major.

Upper Division Core 41

PSYC 100W. Writing Workshop	Z	3
PSYC 102. Psychology of Childhood		3
PSYC 110. Adult Psychopathology		3
PSYC 117. Psychological Tests and Measures		3
PSYC 120. Advanced Research Methods and Design		4
PSYC 139. Psychology of Personality		3
PSYC 154. Social Psychology		3
STAT 115. Intermediate Statistics		3

COMPLETE ONE COURSE FROM:

PSYC 129. Neuroscience		3
PSYC 160. Clinical Psychology		3
PSYC 170. Industrial and Organizational Psychology		3

COMPLETE TWO COURSE FROM:

PSYC 135. Cognition		3
PSYC 155. Human Learning		3
PSYC 158. Perception		3

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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COMPLETE TWO COURSES FROM:

PSYC 121A. Advanced Research Methods Social/Personality Laboratory	2
PSYC 121B. Advanced Research Methods: Cognition/Perception	2
PSYC 121C. Advanced Research Methods: Clinical Laboratory	2
PSYC 121E. Advanced Research Methods: Psychophysiology Lab	2

COMPLETE ONE COURSE FROM:

PSYC 190. Current Issues Capstone	3
PSYC 195. Honors Seminar in Psychology	3

Major Electives	**5**
One Upper Division Psychology Elective	2
One Upper or Lower Division Psychology Elective	3
University Electives	15-21
Total Units Required	**120**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Minor - Psychology

A minor in Psychology has a minimum of 18 units of PSYC and/or STAT. At least 12 of the 18 units must be upper division (i.e., courses numbered 100+ at SJSU). At least 12 units must be separate and distinct from the units used for the major program of the student. See a departmental advisor for approval of courses. Visit the Psychology Department Advising website for more information.

It is not permissible for a Psychology Major to also have a minor in Psychology.

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Lower Division Electives	**0-6**
PSYC or STAT Prefix	
Upper Division Electives	**12-18**
PSYC or STAT Prefix	
Total Units Required	**18**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Minor - Human Systems Integration

The Human Systems Integration (HSI) minor: (1) studies the cognitive, perceptual, and performance capabilities and limitations of people as they interact with sociotechnical systems and devices (e.g., energy and transportation systems, computers, mobile devices, workplaces); and (2) seeks to apply evidence-based principles in the development of human-centered systems and devices. The HSI minor aims to provide students with interdisciplinary training to prepare to them to work in cross-functional teams to optimize human capabilities, increase system efficiency, reliability, and safety, and minimize error.

At least 12 units outside of preparation for the minor must be separate and distinct from the units used for the major program of the student. See a departmental advisor for approval of courses. Visit the Psychology Department Advising website for more information.

It is permissible for Psychology Majors to have a minor in Human Systems Integration.

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Preparation for the Minor		6
PSYC 001. Introduction to Psychology	D1	3
COMPLETE ONE COURSE FROM:		
HS 067. Introductory Health Statistics	B4	3
SOCI 015. Statistical Applications in the Social Sciences	B4	3
STAT 095. Elementary Statistics	B4	3
UNVS 015S. Statway Part B: Statistics-Concepts & Methods	B4	3
BUS2 090. Business Statistics		3

Required Courses		9
PSYC 173. Human Factors		3
COMPLETE TWO COURSE FROM:		
PSYC 135. Cognition		3
PSYC 155. Human Learning		3
PSYC 158. Perception		3

Minor Electives		6-8
COMPLETE AT LEAST TWO COURSES FROM:		
ART 108. Introduction to Game Studies		3
AVIA 002. Private Pilot Ground		3
AVIA 073. Air Traffic Control		3
AVIA 141. Human Factors in the Aviation Environment		3
BUS2 130. Introduction to Marketing		3
BUS4 092. Introduction to Business Programming		3
BUS4 111. Networking and Data Communications		3
CS 046A. Introduction to Programming		4
CS 046B. Introduction to Data Structures		4
DSID 121. Industrial Design Process		3
ENGR 120. Programming Concepts for Behavioral and Social Science Applications		3
ISE 164. Computer and Human Interaction		3
ISE 114. Safety Engineering		3
PSYC 170. Industrial and Organizational Psychology		3
STAT 115. Intermediate Statistics		3
Total Units Required		**21-23**

MA - Psychology, Concentration in Research and Experimental Psychology

The Master of Arts Program in Psychology affords its candidates an opportunity for advanced study of psychological theory and research techniques with the following objectives in mind:

- **To ultimately earn a doctorate in psychology** - the course work and experience obtained in the Psychology Program is designed to enhance students' credentials when applying to highly competitive doctoral programs.
- **To succeed in business, industry and or a research setting** - our program's emphasis on the mastery of statistical and methodological procedures, research experience, and critical thinking produces graduates that are well suited for many careers in business, government, and/or an array of research settings.

Admission Requirements

To be eligible for admission into our program, you must:

Meet all of the University's graduate admissions requirements

1. Have the equivalent of a U.S. baccalaureate degree
2. Have completed a minimum of 30 semester units in undergraduate psychology
3. Have a minimum GPA of 3.0 in the last 60 semester units (90 quarter units) of all college and/or university course work
4. Have a minimum GPA of 3.0 in all college and/or university psychology courses taken
5. Have taken the GRE Exam (General Test only), although we do not require a minimum score for your application to be considered.

Degree Requirements

General university requirements and procedures for completing the Master of Arts degree are described in the Academic Regulations section of this catalog. In addition to these, the following departmental requirements must be fulfilled.

General Program requirements

1. The student's combined total of approved undergraduate and graduate work in psychology must be at least 60 semester units, including 30 units for the MA Degree Program.
2. The student must complete at least 30 approved graduate units. At least 27 of these 30 units must be psychology or statistics units; of the 27, at least 24 must be 200-level courses, i.e., up to six units may be from 100-level courses with the program coordinator's approval.
3. The candidate must complete an acceptable thesis. This thesis will be a quantitative investigation of some degree of originality and of publication caliber.
4. Satisfactory performance on a final examination is required. This examination may be written, oral or both, as determined by the student's thesis advisory committee. This is typically satisfied through the oral defense of the student's thesis research.
5. The University requires that all graduate students complete the Graduation Writing Assessment Requirement (GWAR) as a condition for advancement to candidacy. Please refer to the SJSU catalog section titled "Graduation Writing Assessment Requirement" for details. For graduate courses that meet the GWAR, please refer to the Graduate Admissions and Evaluations website at http://www.sjsu.edu/gape {http://www.sjsu.edu/gradstudies}.

Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR). For information on the GWAR, please see http://info.sjsu.edu/gcw.html.

Requirements of the Masters — 30

Core — 12

PSYC 280. General Seminar	GWAR	3
PSYC 220. Seminar in Experimental Psychology		3
STAT 245. Advanced Statistics		3

COMPLETE ONE COURSE FROM:

PSYC 240. Research Design and Applied Psychometrics	3
STAT 235. Multivariate Analysis	3

Breadth — 12

PSYC 204. Seminar in Developmental Psychology	3
PSYC 230. Seminar in Physiological Psychology	3

COMPLETE ONE COURSE FROM:

PSYC 235. Seminar in Cognitive Psychology	3
PSYC 256. Seminar in Perception	3

COMPLETE ONE COURSE FROM:

PSYC 200. Seminar in Personality Theory		3
PSYC 254. Social Psychology Seminar	GWAR	3
Culminating Experience		**6**
PSYC 299. Master's Thesis or Project		1-6
Elective		3
Total Units Required		**30**

Thesis Requirement

The thesis serves as the culmination of a student's course work, research experience, and growth as a scholar and scientist. This process is guided closely by a thesis advisor; a tenured or tenure-track faculty member of the Department of Psychology. As the student's ideas develop into a full thesis proposal, a thesis advisory committee is formed in order to provide further guidance and expertise. Collection of the thesis data begins once the proposal has been approved by the committee and the proper animal care/human subjects' approval has been obtained. The introduction, analysis, and interpretations of these data will form the core of the student's written master's thesis. These efforts all culminate in an oral presentation and defense before the thesis committee. A detailed statement of thesis policies is available in the Psychology Department Office and on the departmental website www.sjsu.edu/psych.

MS - Psychology, Concentration in Clinical Psychology

The Master of Science (MS) degree in Clinical Psychology is designed to provide the student with both theoretical and practical training in the assessment, diagnosis, and treatment of a wide variety of individual (adult and children), couples', and family mental health problems, and to prepare the student to work in private or public service agencies, independent practice, community mental health centers, or hospitals. The required academic course work and supervised fieldwork of 60 semester units meets the course work requirements for the California State Marriage and Family Therapist (MFT) license and most of the requirements for the Licensed Professional Clinical Counselor (LPCC) license (see www.bbs.ca.gov for requirements). An additional 2500-3000 hours of acceptable supervised experience is required for admission to the state MFT or LPCC licensing examination.

Admission Requirements

To be eligible for admission into the Clinical Psychology program, you must:

1. Meet all of the University graduate admissions requirements
2. Have a baccalaureate degree (BA or BS) in Psychology OR any baccalaureate degree (BA or BS) and a minimum of 30 semester units (45 quarter units) in Psychology
3. Have taken the REQUIRED six courses in psychology from the list provided below. These are to be included in the minimum 30 semester units (10 semester courses).
4. Have a minimum GPA of 3.0 in all Psychology coursework AND a minimum of 3.0 the last 2 years of academic work attempted (60 semester or 90 quarter units).
5. Provide evidence of a minimum of 100 hours of paid or volunteer applied clinical experience working with persons in a counseling/helping capacity (e.g., volunteer in home for emotionally disturbed children, juvenile hall, suicide and crisis telephone hotline).
6. Provide three letters of recommendation. One reference MUST be from a clinical supervisor. Additional references may come from former instructors and from supervisors of previous work in volunteer placements in the clinical field.

Undergraduate Courses in Psychology Required for Admission

1. 1. General or Introduction to Psychology (SJSU code PSYC 1)
2. 2. Elementary Statistics (SJSU code STAT 95)
3. 3. Introduction to Research Methods (SJSU code PSYC 18 or PSYC 120)
4. 4. Psychobiology or equivalent (SJSU code PSYC 30)

Each of the above four (1-4) may be taken at the community college or university level and may be lower division courses.

1. 5. Upper division course in Abnormal Psychology (SJSU code PSYC 110)
2. 6. Upper division course in Theory and Methods of Counseling, or Clinical Psychology (SJSU code PSYC 160, or PSYC 165)

Degree Requirements

General university requirements and procedures for completing the Master of Science degree are described in the Academic Regulations section of this catalog. In addition to these, the following departmental requirements must be fulfilled.

1. The student must complete a total of 60 units in clinical psychology as specified in the table below.
2. Candidates must demonstrate satisfactory performance on one or more final comprehensive examinations. These examinations are both written and oral.
3. The University requires that all graduate students complete the Graduation Writing Assessment Requirement (GWAR) as a condition for advancement to candidacy. Please refer to the SJSU catalog section titled "Graduation Writing Assessment Requirement" for details. For graduate courses that meet the GWAR, please refer to the Graduate Admissions and Program Evaluations website at http://www.sjsu.edu/gape.

Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR). For information on the GWAR, please see http://info.sjsu.edu/gcw.html.

Requirements of the Masters		60
Core Courses		**48**
PSYC 203A. Clinical Assessment I	GWAR	3
PSYC 208. Family Assessment and Intervention		3
PSYC 209. Psychology of Contemporary Families		3
PSYC 210. Advanced Psychopathology		3
PSYC 211. Child Psychopathology		3

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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PSYC 212. Life Span Development	3
PSYC 222. Gender and Ethnic Issues in Counseling and Therapy	3
PSYC 224A. Clinical Psychology Practicum I	3
PSYC 224B. Clinical Psychology Practicum II	3
PSYC 225. Advanced Group Dynamics	3
PSYC 226. Addictions and Treatment	3
PSYC 228. Professional Ethics for Psychologists	3
PSYC 232. Clinical Psychopharmacology	3
PSYC 258. Methods of Psychotherapy	3
PSYC 260. Crisis and Trauma Counseling	3
PSYC 291. Method and Design for Applied Research	3
Culminating Experience	**6**
PSYC 298. Special Problems	1-6
Students will take PSYC 298 twice.	
Field Work	**6**
PSYC 243. Field Work in Psychology	1-6
Total Units Required	**60**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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MS - Psychology, Concentration in Industrial/Organizational Psychology

The Master of Science (MS) degree in Industrial/Organizational (I/O) Psychology program is designed to provide students with a fundamental grounding in theory, research, and application in the field of I/O Psychology and to prepare them to work in a wide range of settings including medium-to-large sized organizations, government agencies, human resources or management consulting firms, and large research organizations. The program places particular emphasis on the science-practitioner approach in which students understand and appreciate theory and research as they apply their knowledge and skills to the needs and challenges of organizations.

Admission Requirements

To be eligible for admission into the industrial/organizational Psychology program, you must:

1. Meet all of the University graduate admissions requirements
2. Have completed either a baccalaureate degree (BA/BS) in psychology or any baccalaureate degree and a minimum of 30 semester (45 quarter) units in psychology
3. Have a minimum GPA of 3.0 in the last 60 semester units (90 quarter units) of all college and/or university course work
4. Have a minimum GPA of 3.0 in all college and/or university psychology courses taken
5. Have taken the GRE Exam (General Test only), although we do not require a minimum score for your application to be considered.

Degree Requirements

General university requirements and procedures for completing the Master of Science degree are described in the Academic Regulations section of this catalog. In addition to these, the following departmental requirements must be fulfilled.

1. The student must complete a total of not less than 30 semester units for the industrial/organizational concentration as specified in the degree below.
2. Candidates in the MS Industrial/Organizational program must complete a thesis as part of their 30 semester unit degree requirement. The nature of the thesis is to be determined in consultation with a committee of at least three faculty members. The thesis ordinarily consists of a quantitative investigation or program design, trial and evaluation of some degree of originality. The topic should be relevant to the field of study in which the candidate plans to work. The thesis will generally constitute the final comprehensive examination.
3. The University requires that all graduate students complete the Graduation Writing Assessment Requirement (GWAR) as a condition for advancement to candidacy. Please refer to the SJSU catalog section titled "Graduation Writing Assessment Requirement" for details. For graduate courses that meet the GWAR, please refer to the Graduate Admissions and Program Evaluations website at http://www.sjsu.edu/gape.

Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR). For information on the GWAR, please see http://info.sjsu.edu/gcw.html.

Requirements of the Masters		30
Core Courses		**15**
PSYC 240. Research Design and Applied Psychometrics		3
PSYC 249. Field Work in Industrial/Organizational Psychology		3
PSYC 270. Seminar in Industrial and Organizational Psychology	GWAR	3
PSYC 271. Seminar in Personnel Psychology		3
STAT 235. Multivariate Analysis		3
Electives		**9**
9 units of department advisor-approved electives		
Culminating Experience		**6**
COMPLETE ONE COURSE FROM:		
PSYC 298. Special Problems		1-6
PSYC 299. Master's Thesis or Project		1-6
Total Units Required		**30**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Recreation Program

College of Health and Human Sciences
Department of Health Science and Recreation

SPARTAN COMPLEX, 211
408-924-2971
Recreation Program Website

Assistant Professors

Josh Baur
Susan Ross

Curricula

BS, Recreation
BS, Recreation, Concentration in Recreation Management
BS, Recreation, Concentration in Recreation Therapy
Minor, Recreation
MS, Recreation
MS, Recreation, Concentration in International Tourism

Introduction

The recreation degree program, founded in 1947, has a core accredited by the Council on Accreditation of Park, Recreation, and Tourism Related Professions (COAPRT). The degree has maintained continuous accreditation since its first awarding of this status occurred in April 1987, demonstrating the rigor and recognition of our programs. The Bachelor's degree in Recreation is a nationally accredited program comprised of a core set of classes and courses split generally between concentration courses and major electives. Graduates completing one of these concentrations are eligible to apply for national and state certification. While the general recreation degree is the most flexible in terms of choosing related electives, students may instead elect to complete a more specialized course of study in one of our two approved concentrations within the B.S. Recreation Degree: Recreation Management and Recreation Therapy. We also offer M.S. in Recreation, all of which are designed to meet increasing needs and demands for recreation professionals and administrators in our growing fields of practices in public, non-profit, and commercial sectors, not only locally and regionally, but also nationally and globally.

BS - Recreation

This degree is listed with the Health Science and Recreation Department.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

BS - Recreation, Concentration in Recreation Management

This degree is listed with the Health Science and Recreation Department.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

BS - Recreation, Concentration in Recreation Therapy

This degree is listed with the Health Science and Recreation Department.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Minor - Recreation

This degree is listed with the Health Science and Recreation Department.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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MS - Recreation

This degree is listed with the Health Science and Recreation Department.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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MS - Recreation, Concentration in International Tourism

This degree is listed with the Health Science and Recreation Department.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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School of Social Work

College of Health and Human Sciences

WASHINGTON SQUARE HALL 215
408-924-5800

Professors

Edward Cohen
Amy D'Andrade
Sadhna Diwan
Laurie Drabble
Meekyung Han
Peter Allen Lee, Director
Sang Lee
Migdalia Reyes
Soma Sen
Jack Wall

Associate Professors

Emily J. Bruce
E. Michael Gorman
Kathy Lemon

Assistant Professors

Nicole Dubus

Curricula

BA, Social Work
Minor, Social Work
Credential, Pupil Personnel Services (PPSC)
Credential, Post-Master's Pupil Personnel Services (PMPPSC)
MSW, Master of Social Work

Introduction

Social work is a dynamic and challenging profession that presents exceptional opportunities for personal job satisfaction. A professional social worker helps people cope with interpersonal and social problems and obtain the resources they need to live with dignity. Additionally, social workers help communities mobilize and deliver the services and support their citizens require. The School of Social Work is committed to the core values of service, social justice, the dignity and worth of individuals, human rights, competence, integrity and scientific inquiry. We honor diversity. Employing a transcultural perspective, we train our students to practice professionally in a broad range of groups, including Latinos, Asian and Pacific Islanders, African Americans, the disenfranchised and the marginalized. Our undergraduate and graduate degree programs are accredited by the Council on Social Work Education. Our On-Campus MSW Program may be completed in two or three years; our Online/Hybrid MSW Program is completed in two years through continuous part-time enrollment.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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BA - Social Work

The BASW program, which has been fully accredited by the Council on Social Work Education since 1976, educates generalist social work practitioners with a liberal arts foundation for practice from a transcultural perspective with individuals, families, and groups within organizations and in the context of broader communities in which they are embedded. To develop the necessary professional generalist skills in their work with individuals, families, groups, and communities, the BASW program curriculum and field practicum experiences provide students with learning opportunities to develop: 1) a selected body of knowledge about social institutions, and methods of problem-solving in social relationships; 2) the skills for integrating knowledge, thought, and feeling into an effective and efficient program of doing; and, 3) a personal and professional value system which incorporates a growing self-awareness necessary for the sensitive and disciplined use of self in helping roles.

In addition to the core social work curriculum, which includes human behavior in the social environment, social policy and programs, practice, social research, and field education, electives are offered to expand a student's interest in the areas of social work with families; social services to children and youth; alcoholism and substance abuse and the family.

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

Major-Specific Graduation Requirements

The following courses Required in the Major must be completed with a grade of "C or better": SCWK 110, SCWK 112, SCWK 120, SCWK 130, and SCWK 175. The following course must be completed with "Credit": SCWK 140

University Graduation Requirements 50

Core Lower Division General Education 30

Of the 39 units required by the university, 9 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

NOTE: STUDENTS WHO HAVE COMPLETED THE ADT TRANSFER DEGREE (UNDER SB 1440) FOR THIS MAJOR WILL HAVE COMPLETED ALL LOWER DIVISION GE REQUIREMENTS AND SHOULD FOLLOW THE 60 UNIT GUARANTEE ROADMAP. MEET WITH AN ADVISOR PRIOR TO REGISTERING FOR YOUR FIRST SEMESTER FOR THE 60 UNIT ROADMAP OR SPECIFIC QUESTIONS.

Upper Division General Education 9

Of the 9 units required by the university, 0 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 6

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

COMPLETE ONE SEQUENCE FROM:

African American Studies 6

AFAM 002A. African Americans and the Development of America's History and Government	D2	3
AFAM 002B. African Americans and the Development of America's History and Government	M7	3

Asian American Studies 6

AAS 033A. Asian Americans in U.S. History I	D2	3
AAS 033B. Asian Americans in U.S. History II	M7	3

U.S. History and Government 6

HIST 015. Essentials of U.S. History	M12	3
POLS 015. Essentials of U.S. & California Government	M11	3

Chicana and Chicano Studies 6

CCS 010A. Mexican Americans and the Development of U.S. History and Government	D2	3
CCS 010B. Mexican Americans and the Development of U.S. History and Government	M7	3

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Physical Education	**2**
Graduation Writing Assessment Requirement	**3**

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Preparation for the Major	**3**
STAT 095. Elementary Statistics B4	3

UNVS 015F and UNVS 015S may be used in lieu of the statistics course required by this major.

Requirements of the Major	**38**
SCWK 110. Foundations of Social Work Practice	3
SCWK 111. Generalist Social Work Practice I	3
SCWK 112. Generalist Practice II	3
SCWK 120. Social Welfare Institutions and Policies I	3
SCWK 121. Social Welfare Institutions and Policies II	3
SCWK 130. Human Behavior in the Social Environment I	3
SCWK 131. Human Behavior in the Social Environment II	3
SCWK 140. Introduction to Field Practicum	3
SCWK 141. Field Practicum I	4
SCWK 142. Field Practicum II	4
SCWK 170. Introduction to Research Methods	3
SCWK 175. Social Work Senior Seminar	3
University Electives	**29**
Total Units Required	**120**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Minor - Social Work

The minor in Social Work consists of 18 units and is designed to enrich the student's major area of study by providing an understanding of the values and structures of current human service programs within a historical and developmental framework. Admission into the minor program is based on the availability of space.

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Requirements of the Minor	18
SCWK 010. Introduction to Social Welfare and Social Work	3
SCWK 110. Foundations of Social Work Practice	3
SCWK 120. Social Welfare Institutions and Policies I	3
SCWK 130. Human Behavior in the Social Environment I	3
Department Electives	**6**
COMPLETE TWO COURSES FROM:	
SCWK 121. Social Welfare Institutions and Policies II	3
SCWK 131. Human Behavior in the Social Environment II	3
SCWK 140. Introduction to Field Practicum	3
SCWK 170. Introduction to Research Methods	3
SCWK 192. Social Work with Families	3
Total Units Required	**18**

Credentials for Master's of Social Work Program

A **Credential in Spanish Language Counseling** is available to students who, through course work or examination, show evidence of competency to conduct counseling/ therapy in Spanish.

Pupil Personnel Services Credential (PPSC)

The **Pupil Personnel Services Credential (PPSC)** may be obtained by students who are completing the MSW degree in our program, the CBEST, and meet the PPSC program requirements. The PPSC is obtained in School Social Work and Child Welfare and Attendance. Students must accept placement in an approved PPSC program school setting for their second year practicum.

* Students in the MSW Program must consult with the MSW Program Coordinator and Advisor prior to starting the process to earn a PPSC.

* While enrolled in the MSW Program, students wanting to earn a PPSC must take and pass the following courses:

Requirements of the Credential	14-16
SCWK 263. Social Work and the Law	3
SCWK 272. Social Work in Educational Settings	3
An appropriate school-based internship approved by the Field Education program, i.e., through SCWK 232 and 233.	8-10
Total Units Required	**14-16**

Post-Master's Pupil Personnel Services Credential (PM-PPSC)

Post-Master's Pupil Personnel Services Credential (PM-PPSC), prepares individuals already with an MSW degree to qualify to be credentialed by the State of California as school social workers. Please see the School of Social Work website for PM-PPSC program information and application process: http://www.sjsu.edu/socialwork/prospectivestudents/certsandcredentials/

Students accepted into the PM-PPSC program must take and pass the following courses offered through Special Sessions.

Requirements of the Credential	7-10
SCWK 263. Social Work and the Law	3
SCWK 272. Social Work in Educational Settings	3
An appropriate school-based internship approved by the Field Education program, i.e., through SCWK 230 and 231.	1-4
Total Units Required	**7-10**

MSW - Master of Social Work

The MSW Program offers graduate professional education in advanced generalist social work practice from a transcultural multi-systems perspective. It prepares graduates for advanced practice and leadership in one of three fields of practice: aging; children, youth, and families; and health/mental health. The curriculum emphasizes the application of skills in those areas of practice where the need for social workers in the next decade will be the greatest in the State of California. The graduate program has been fully accredited by the national Commission on Accreditation of the Council on Social Work Education since 1973.

For more information, see the department website at http://www.sjsu.edu/socialwork/.

Admissions Requirements

University Admissions Requirements

All graduate applicants must submit a complete graduate application by applying through the CSU Cal State Apply system at calstate.edu/apply. Candidates must meet all university-level admissions requirements. Additional information regarding university graduate admissions requirements may be found on the catalog web page.

Program Admissions Requirements

In addition to these general requirements established by the university, applicants for admission for the Master's of Social Work degree must demonstrate a commitment to social work goals either by having completed undergraduate social work education, or by holding a baccalaureate in a related field and having significant experience, and/or personal involvement with social issues as they relate to various marginalized groups and communities.

To be admitted to the School of Social Work, an applicant must first complete the graduate application for admission to the University through calstate.edu/apply. The applicant then submit a separate application to the MSW program which includes:

a. A personal statement describing the applicant's interest in the field and professional goals.

b. Three recommendations from professionals in the field or former professors who can testify to the applicant's ability to succeed in a graduate-level academic program and his or her suitability to meet the challenges of the profession.

c. A description of all social work-related experience (paid, internship and/or volunteer).

d. A sample of the applicant's best writing, i.e., a paper written for an upper-division or graduate-level class, technical report, or other example of academic or professional written work.

Applications to the Master's in Social Work program and all supporting materials must be sent directly to the School of Social Work for review and recommendation by the MSW Program Admissions Committee.

Applicants from countries in which the native language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirement webpage at GAPE.

Requirements for Conditionally Classified Standing

An applicant who does not meet all requirements for admission in classified standing for the Master's in Social Work may be admitted into the program on a conditionally classified basis. The MSW Program Admissions Committee may consider applicants who possess strong or considerable work experience and who can by additional preparation remedy minor academic deficiencies. Such admissions will be conditional upon completion of specific courses listed by the graduate advisor on the admission notification.

Requirements for Advancement to Candidacy

Students must complete all university requirements for advancement to candidacy for the master's degree as outlined in the Graduate Policies and Procedures section of this catalog. Candidacy includes successful completion of the Graduation Writing Assessment Requirement (GWAR). For graduate courses that meet the GWAR, refer to the GWAR Course List on the College of Graduate Studies website.

The student will consult with the MSW graduate advisor to complete a petition for advancement to candidacy. The petition includes an official plan of study listing all courses needed to complete the requirements for the degree. The plan of study must be approved by the MSW Graduate Advisor and then by the Office of Graduate Admissions and Program Evaluations (GAPE), which notifies the student of advancement to candidacy.

The student must also demonstrate aptitude for advanced study in social work, as measured by successful completion of the Foundation Year of study, instructor appraisals, and/or evaluation of previous academic work (i.e., applicable transfer units or course substitutions).

Requirements for Graduation

University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

MSW - Graduation Requirements

The School of Social Work offers an On-Campus MSW Program and an Online/Hybrid MSW Program

On-Campus MSW Program

All students in the Master's of Social Work program must complete a total of 60 semester units of study in social work with a minimum cumulative grade point average of 3.0 overall. This includes two years (1,200 hours) of field internship in a social agency or community setting selected and approved by the MSW Field Education Committee. The On-Campus MSW Program offers a Two-Year/Full-Time and Three-Year/Part-Time plan of study. The Two-Year Plan requires a full-time commitment to the program. The Three-Year plan is designed for working professionals. It includes two years of field practicum and coursework spread over three academic years, with many courses taught in the evening and on weekends. Both plans have identical course requirements for completing the degree.

To assist matriculated students in progressing more rapidly toward their MSW degree and to increase accessibility to the course curriculum for both Two-Year/Full-Time and Three-Year/Part-Time students, the MSW Program sometimes offers courses during the summer and winter terms when the budget allows for this. The number and type of courses are dependent upon on student interest and faculty resources.

For detailed information on the program, see the School of Social Work "Masters of Social Work (MSW)" webpage: sjsu.edu/socialwork/prospectivestudents/msw

Culminating Experience: Project (Plan B)

Candidates for the degree complete a capstone project as part of their 60-unit degree requirement. This project is a complete research study on a social work-related topic.

Online/Hybrid MSW Program (Special Session Program)

The Online/Hybrid MSW Program is a two-year program that requires continuous part-time enrollment (i.e., two academic courses and a field education course concurrently through the calendar year). In this program, academic courses are completed online (with asynchronous sessions and synchronous sessions usually on weekday evenings), and field education is completed in-person. Note that the two Online/Hybrid MSW fields of practice are children, youth, and families; and health/mental health. The field of practice covering aging is not currently offered in the Online/Hybrid MSW Program. The Online/Hybrid MSW Program degree requirements and the social work competencies covered are the same as those of the On-Campus MSW Program.

Requirements for Graduation

University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

Program Graduation Requirements

The general requirements for the course completion are as follows. Note that students in their Foundation Year take 4 units of both the SCWK 230 and SCWK 231 field courses. Students in their Advanced Year take 5 units of both the SCWK 232 and SCWK 233 field courses.

Special Session Program Information

Academic Programs offered through Special Session are operated by the College of Professional and Global Education (CPGE). Registration and enrollment in a Special Session must use the special session application form and will follow special session fee and course schedules. Note that regular session students seeking to enroll simultaneously in a special session course or program will trigger a separate and additional set of fees. This may require an additional enrollment appointment from the Registrar and it may have implications for financial aid status or requirements. Please visit the Special Session for more information.

Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR). For information on the GWAR, please see http://info.sjsu.edu/gcw.html.

This requirement is satisfied by passing SCWK 212 or 214 (both are required courses).

Requirements of the Masters 60

Foundation Core Curriculum 32

SCWK 202. Social Policy and Services: History and Values		3
SCWK 204. Social Policy Analysis		3
SCWK 212. Human Behavior in Social Environment I	GWAR	3
SCWK 214. Human Behavior in Social Environment II	GWAR	3
SCWK 220. Transcultural Generalist Practice I		3
SCWK 221. Transcultural Generalist Practice II		3
SCWK 230. Social Work Practicum I		1-6
SCWK 231. Social Work Practicum II		1-6
SCWK 240. Research Methods and Design		3
SCWK 242. Research Methods, Data Analysis and Evaluation		3

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Advanced Year Core Curriculum- Transcultural Multi-Systems- with Fields of Practice **22**

Fields of Practice **6**

SELECT ONE FIELD OF PRACTICE (FOP) FROM THE FOLLOWING: AGING; CHILDREN, YOUTH, AND FAMILIES; OR HEALTH/MENTAL HEALTH

Aging

SCWK 250. Policy Practice in Aging 3
SCWK 251. Social Work with Aging Populations 3

Children, Youth and Families

SCWK 260. Policy Practice in Child and Family Welfare 3

COMPLETE ONE COURSE FROM:

SCWK 222. Transcultural Advanced Generalist Practice I: Family Systems Focus 3
SCWK 261. Social Work Practice with Children 3
SCWK 262. Social Work Practice with Adolescents 3

Health/Mental Health

SCWK 280. Policy Practice in Health/Mental Health 3
SCWK 281. Social Work in Health/Mental Health 3

Electives **6**

Two 200-level coursese selected in consultation with graduate advisor.

Practicum **10**

SCWK 232. Social Work Practicum III 1-6
Students take 5 units of SCWK 232

SCWK 233. Social Work Practicum IV 1-6
Students take 5 units of SCWK 233

Culminating Experience: Project (Plan B) **6**

SCWK 298A. Special Study A 3
SCWK 298B. Special Study B 3
Comprehensive Examination 0

Total Units Required **60**

Elective courses must be planned in consultation with the Graduate Advisor.

The maximum number of upper-division undergraduate units that can be applied toward the master's degree is 15.

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU Cumulative grade point averages of 3.0 in order to graduate.

Science Education Program

College of Science

Professors

Resa M. Kelly
Paula Messina
Ellen P. Metzger, Chair

Associate Professors

Cassandra Paul
Elizabeth Walsh

Curricula

BA, Earth Science
BA, Physics, Preparation for Teaching
Minor, Science Education
MA, Science Education
MA, Science Education with Single Subject Credential

Introduction

In concert with the College of Science, the Science Education program offers professional development opportunities for science teachers at all levels. We design and coordinate courses that support the preparation of science teachers in the areas of biology, chemistry, earth science, and physics. In cooperation with the College of Education and the Secondary Education Program, we oversee the single subject teacher credential program in science through advising, coursework offerings and student teacher supervision. In addition, we offer a master's degree in Science Education and oversee the Science Education Resource Center (SERC), a unique resource center that houses science education materials available for checkout by our local teachers.

BA - Earth Science

This degree is listed with the Geology Department.

BA - Physics, Preparation for Teaching

This degree is listed with the Physics and Astronomy Department.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Minor - Science Education

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Requirements of the Minor	14
Students interested in teaching high school science should take SCED 173 and EDSC 173 (open to seniors and post-baccalaureate students only; department consent is required).	
Students interested in teaching elementary or middle school science should take EDEL 108B and EDEL 102 (open to seniors and post-baccalaureate students only; department consent is required).	
EDEL 294. Research and Practices in Health and Special Education	3
COMPLETE ONE COURSE FROM:	
SCED 173. Secondary School Science	3
EDEL 108B. Curriculum: Science	1-3
COMPLETE ONE COURSE FROM:	
SCED 175. Classroom Experiences in Science Teaching	1
Must take SCED175 twice to meet requirement	
SCED 174. Training to Teach	3
COMPLETE ONE COURSE FROM:	
EDSC 173. Psychological Foundations of Secondary Teacher Education	3
EDTE 224. Seminar in Educational Psychology	3
Total Units Required	**14**

Minor - Science Content for Teaching

The science education minor is designed as a program of study that will allow students who are interested in becoming elementary and middle school teachers to satisfy the Introductory Science Authorization course work requirements of the California Commission on Teacher Credentialing.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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MA - Science Education

The MA in Science Education is a flexible program designed for prospective and practicing K-12 science teachers, educators and specialists working in informal or outdoor education, community college science educators, and prospective science education PhD students. The curriculum is designed to augment and broaden the candidate's knowledge of current advances in science education research, and connect these findings to best classroom practices.

For more information, please visit our website at www.sjsu.edu/scied/academic_programs/masters

Qualified students who have earned a multiple or single-subject credential at San José State University may apply up to 9 units of approved credential coursework from the College of Education and 3 units of approved credential coursework from the College of Science to the MA Science Education degree. Students who earned their credential elsewhere may transfer up to 9 units of completed post-graduate coursework to the MA Science Education program at the discretion of the Science Education Graduate Coordinator.

Admissions Requirements

Minimum requirements for admission to the Graduate Division are outlined in this catalog. In addition, classified standing requires an undergraduate major with a grade point average of 2.75.

- demonstrated subject-matter competency in science, either through a baccalaureate degree in science or by passing the Science Subtests I and II (test codes 118 and 119) of the California Subject Examinations for Teachers (CSET) and one Specialized Science CSET in either biology (120 or 124), chemistry (121 or 125), geoscience (122 or 126) or physics (123 or 127).
- evidence of appropriate goal(s) and commitment to graduate-level study as demonstrated by a personal statement written by the applicant and letters of recommendation from two or more persons qualified to judge the applicant's potential as a graduate student.
- a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirements webpage at GAPE, if the applicant is from a country in which the native language is not English.
- approval of the graduate advisor and/or graduate committee.

Requirements for Advancement to Graduate Candidacy

The student must satisfy general university requirements for advancement to candidacy as outlined in detail in this catalog. The University requires that all graduate students complete the Graduation Writing Assessment Requirement (GWAR) as a condition for advancement to candidacy. Please refer to the Graduation Writing Assessment Requirement (GWAR), described in this catalog. SCED 220 meets the GWAR requirement and is also a required course in this program, so no additional classes beyond the core courses for the MA - Science Education are needed to meet this requirement.

Requirements for Graduation

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

Culminating Experience

Plan A (with Thesis)

This option requires a thesis in science education approved by a master's committee of no fewer than three members. The thesis is credited under SCI 299 units. At the end of the program, the candidate must successfully deliver an oral seminar and defense of the thesis, cumulatively known as a culminating experience. The written thesis must be submitted to the master's advisor and master's committee for approval before being submitted to the Office of Graduate Studies for university approval. Note: this is an uncommon choice for our graduate students.

Plan B (with Project)

This option requires a project related to science education approved by a master's committee of no fewer than three members. The project is credited under SCED 298 units. At the end of the program, the candidate must successfully deliver an oral seminar and defense of the project, cumulatively known as a culminating experience. The written report of the project must be submitted to the master's advisor and master's committee. Note: the majority of our graduate students choose this path to graduation.

Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR). For information on the GWAR, please see http://info.sjsu.edu/gcw.html.

This requirement is satisfied by passing SCED 220.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Requirements of the Masters	30
Core Courses	**9**
SCED 173. Secondary School Science	3
SCED 205. Methods of Research	3
SCED 220. Theories and Practices in Science Education GWAR	3
Electives	**18**
SCED 255. Advanced Natural Science	1-3
SCED 285. Seminar	3
Other 100- or 200-level courses within the College of Science selected with advisor approval.	
A maximum of 9 units taken through the College of Education may be applied with advisor approval, approved 100- or 200-level courses include:	
EDSC 162. Language/Literacy Development of L2 Learners	3
EDSC 172A. Social, Philosophical Multicultural Fdn	3
EDSC 173. Psychological Foundations of Secondary Teacher Education	3
EDSC 182. Assessment and Evaluation	3
EDSE 192A. Including and Supporting Students	3
EDTE 190. Health Education for the Classroom Teacher	3
Culminating Experience	**6**
COMPLETE ONE OPTION (PLAN A OR PLAN B):	
Plan A (Thesis)	
SCED 297. Science Education Research	1-3
SCI 299. Master's Thesis	1-6
Oral Defense	
Plan B (Project)	
SCED 297. Science Education Research	1-3
SCED 298. Research	1-6
Oral Defense	
Total Units Required	**30**

Elective courses must be planned in consultation with the Graduate Coordinator and Graduate Advisor.

The maximum number of upper-division undergraduate units that can be applied toward the master's degree is 15.

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU cumulative grade point averages of 3.0 in order to graduate.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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MA - Science Education With Single Subject Credential

Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR). For information on the GWAR, please see http://info.sjsu.edu/gcw.html.

This requirement is satisfied by passing SCED 220.

Requirements of the Masters 30

Core Courses 9

SCED 173. Secondary School Science		3
SCED 205. Methods of Research		3
SCED 220. Theories and Practices in Science Education	GWAR	3

Electives 6

SCED 285. Seminar		3
SCED 255. Advanced Natural Science		1-3

A maximum of 9 units taken through the College of Education may be applied with advisor approval, approved 100- or 200-level courses include:

Single Subject Credential 34

EDEL 294. Research and Practices in Health and Special Education		3
EDSC 172A. Social, Philosophical Multicultural Fdn		3
EDSC 173. Psychological Foundations of Secondary Teacher Education		3
EDSC 182. Assessment and Evaluation		3
EDSC 184X. Student Teaching I		6
EDSC 184Y. Student Teaching II		4
EDSC 184Z. Student Teaching III		4
EDSC 246. Learning Communities: Methods and Management		3
SCED 375. Colloquium in Science Education		2
Subject Methods Course		3

Culminating Experience 6

SCED 297. Science Education Research		1-3
SCED 298. Research		1-6

Total Units Required 55

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

Sociology and Interdisciplinary Social Sciences Department

College of Social Sciences

DUDLEY MOORHEAD HALL 241
408-924-5320

Professors

Maria Luisa Alaniz
Natalie Boero
Peter Chua
Hien Duc Do, Coordinator, Asian American Studies Program
Carlos Eduardo Garcia, Chair
Shahin Gerami
Amy Leisenring
Susan Bell Murray, Director of Graduate Studies
Scott Myers-Lipton
Alexander Yamato

Associate Professors

William Armaline
Tanya Bakhru, Coordinator, Women, Gender, and Sexuality Studies Program

Assistant Professors

Faustina DuCros
Yvonne Y. Kwan
Joanne Rondilla
Preston O. Rudy
Elizabeth Sweet
Megan Thiele

Curricula

BA, Sociology
BA, Sociology, Concentration in Community Change
BA, Sociology, Concentration in Race and Ethnic Studies
BA, Sociology, Concentration in Social Interaction
BA, Sociology, Concentration in Women, Gender and Sexuality Studies
Minor, Asian American Studies
Minor, Sociology
Minor, Sociology of Education
Minor, Women, Gender and Sexuality Studies
MA, Sociology (Not Accepting Students)

Introduction

The Department of Sociology and Interdisciplinary Social Sciences educates students about the social processes that create, maintain, and transform our society. The major uses sociological foundations and applications as well as interdisciplinary approaches to the study of society and in teacher education training. Sociologists analyze how social institutions and social structures such as the economy, politics, education, the family, mass media, and the criminal justice system affect individuals in society. The major provides students with the skills and knowledge to navigate the social, political, economic, historical, and cultural issues that build and sustain effective leadership in our complex global society. The teacher preparation program is designed to ensure that teachers will excel in classrooms that are increasingly heterogeneous in terms of race and ethnicity.

We have two major degree program tracks: Sociology, Sociology with Concentrations (Community Change; Race and Ethnic Studies; Social Interaction; Women, Gender and Sexuality Studies); Social Science Teacher Preparation (Multiple and Single Subject). The department offers several minor courses of study: Asian American Studies, Sociology, Sociology of Education, and Women, Gender and Sexuality Studies. These degree programs lead to careers in education, government and public policy, criminal justice, nonprofit organizations, marketing research, human resource management, social work, and other areas.

BA - Sociology

The BA in sociology educates students about social processes that create, maintain, and transform social institutions and social identities. Sociology provides a framework for understanding social behavior in groups, social change and inequality in society, and solutions to social problems. Analytical and research skills speak to the needs of a changing world. The degree offers students the widest flexibility in terms of future career choices.

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

University Graduation Requirements 44

Core Lower Division General Education 27

Of the 39 units required by the university, 12 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

NOTE: STUDENTS WHO HAVE COMPLETED THE ADT TRANSFER DEGREE (UNDER SB 1440) FOR THIS MAJOR WILL HAVE COMPLETED ALL LOWER DIVISION GE REQUIREMENTS AND SHOULD FOLLOW THE 60 UNIT GUARANTEE ROADMAP. MEET WITH AN ADVISOR PRIOR TO REGISTERING FOR YOUR FIRST SEMESTER FOR THE 60 UNIT ROADMAP OR SPECIFIC QUESTIONS.

Upper Division General Education 6

Of the 9 units required by the university, 3 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 6

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

COMPLETE ONE SEQUENCE FROM:

African American Studies 6

AFAM 002A. African Americans and the Development of America's History and Government	D2	3
AFAM 002B. African Americans and the Development of America's History and Government	M7	3

Asian American Studies 6

AAS 033A. Asian Americans in U.S. History I	D2	3
AAS 033B. Asian Americans in U.S. History II	M7	3

U.S. History and Government 6

HIST 015. Essentials of U.S. History	M12	3
POLS 015. Essentials of U.S. & California Government	M11	3

Chicana and Chicano Studies 6

CCS 010A. Mexican Americans and the Development of U.S. History and Government	D2	3
CCS 010B. Mexican Americans and the Development of U.S. History and Government	M7	3

Physical Education 2

Graduation Writing Assessment Requirement 3

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

SOCI 100W. Writing Workshop	Z	3

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

For Legend please see page 2

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CATALOG CONTENTS

Requirements of the Major 39

Core Courses 24

SOCI 001. Introduction to Sociology	D1	3
SOCI 080. Social Problems	D3	3
SOCI 101. Social Theory		3
SOCI 104. Quantitative Research Methods		3
SOCI 105. Qualitative Research Methods		3
SOCI 116. Global Society		3

COMPLETE ONE COURSE FROM:

SOCI 102. Introduction to Statistics		3
SOCI 015. Statistical Applications in the Social Sciences	B4	3

UNVS 015F and UNVS 015S may be used in lieu of the statistics course required by this major.

COMPLETE ONE COURSE FROM:

SOCI 104B. Advanced Quantitative Research Methods		3
SOCI 105B. Advanced Qualitative Research Methods		3
SOCI 181B. Sociology Career Capstone		3

Additional Requirements 15

COMPLETE ONE COURSE FROM:

SOCI 118. Sociology of Human Rights and Social Justice		3
SOCI 140. Sociology of Media		3
SOCI 146. Work, Power, and Leisure		3
SOCI 160. Immigration and Identity		3
SOCI 161. City Life		3
SOCI 162. Race and Ethnic Relations	S	3
SOCI 163. Social Change		3
SOCI 164. Social Action		3
SOCI 165. Poverty, Wealth and Privilege		3
SOCI 166. Medical Sociology		3
SOCI 169. Political Sociology		3
SOCI 177. Sociology of Education		3

COMPLETE ONE COURSE FROM:

SOCI 151. Violence in the Family		3
SOCI 154. Sociology and Non-Conforming Behavior		3
SOCI 170. Sociology of Family		3
SOCI 171. Person and Society		3
SOCI 172. Lesbian, Gay, Bi, Transgender Studies		3
SOCI 173. Socialization and Identity		3
SOCI 174. Sexualities		3
SOCI 175. Sociology of Masculinities and Femininities		3
SOCI 176. Sociology of Everyday Life		3
SOCI 178. Sociology of Childhood		3
Select any additional three upper division Sociology courses including those listed above and 199H		9

University Electives 37

A minor is strongly recommended.

Total Units Required 120

SOCI 120, SOCI 180, SOCI 196 and SOCI 199H may be applied to the major when they have direct relevance; such relevance is determined by advisor.

Double major or double concentration requirements: contact the Department of Sociology and Interdisciplinary Social Sciences for an appointment with the department chair.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

BA - Sociology, Concentration in Community Change

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

University Graduation Requirements 41

Core Lower Division General Education 24

Of the 39 units required by the university, 15 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

NOTE: STUDENTS WHO HAVE COMPLETED THE ADT TRANSFER DEGREE (UNDER SB 1440) FOR THIS MAJOR WILL HAVE COMPLETED ALL LOWER DIVISION GE REQUIREMENTS AND SHOULD FOLLOW THE 60 UNIT GUARANTEE ROADMAP. MEET WITH AN ADVISOR PRIOR TO REGISTERING FOR YOUR FIRST SEMESTER FOR THE 60 UNIT ROADMAP OR SPECIFIC QUESTIONS.

Upper Division General Education 6

Of the 9 units required by the university, 3 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 6

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

COMPLETE ONE SEQUENCE FROM:

African American Studies 6

AFAM 002A. African Americans and the Development of America's History and Government	D2	3
AFAM 002B. African Americans and the Development of America's History and Government	M7	3

Asian American Studies 6

AAS 033A. Asian Americans in U.S. History I	D2	3
AAS 033B. Asian Americans in U.S. History II	M7	3

U.S. History and Government 6

HIST 015. Essentials of U.S. History	M12	3
POLS 015. Essentials of U.S. & California Government	M11	3

Chicana and Chicano Studies 6

CCS 010A. Mexican Americans and the Development of U.S. History and Government	D2	3
CCS 010B. Mexican Americans and the Development of U.S. History and Government	M7	3

Physical Education 2

Graduation Writing Assessment Requirement 3

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

SOCI 100W. Writing Workshop	Z	3

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Requirements of the Major 39

Core Courses 24

SOCI 001. Introduction to Sociology	D1	3
SOCI 080. Social Problems	D3	3
SOCI 101. Social Theory		3
SOCI 104. Quantitative Research Methods		3
SOCI 105. Qualitative Research Methods		3
SOCI 116. Global Society		3

COMPLETE ONE COURSE FROM:

SOCI 015. Statistical Applications in the Social Sciences	B4	3

UNVS 015F and UNVS 015S may be used in lieu of the statistics course required by this major.

SOCI 102. Introduction to Statistics		3

COMPLETE ONE COURSE FROM:

SOCI 104B. Advanced Quantitative Research Methods		3
SOCI 105B. Advanced Qualitative Research Methods		3
SOCI 181B. Sociology Career Capstone		3

Community Change Concentration 15

SOCI 163. Social Change		3
SOCI 164. Social Action		3

COMPLETE THREE COURSES FROM:

SOCI 057. Community Involvement and Personal Growth	E	3
SOCI 160. Immigration and Identity		3
SOCI 165. Poverty, Wealth and Privilege		3
SOCI 118. Sociology of Human Rights and Social Justice		3
SOCI 120. Contemporary Social Issues		3
SOCI 146. Work, Power, and Leisure		3
SOCI 161. City Life		3
SOCI 162. Race and Ethnic Relations	S	3
SOCI 166. Medical Sociology		3
SOCI 169. Political Sociology		3
SOCI 171. Person and Society		3
SOCI 199H. Senior Honors Thesis		1-4

University Electives 40

A minor is strongly recommended.

Total Units Required 120

SOCI 180, SOCI 196, and SOCI 199H may be applied to the major when they have direct relevance to the concentration; such relevance is determined by approval of an advisor.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

BA - Sociology, Concentration in Race and Ethnic Studies

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

University Graduation Requirements 41

Core Lower Division General Education 27

Of the 39 units required by the university, 12 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

NOTE: STUDENTS WHO HAVE COMPLETED THE ADT TRANSFER DEGREE (UNDER SB 1440) FOR THIS MAJOR WILL HAVE COMPLETED ALL LOWER DIVISION GE REQUIREMENTS AND SHOULD FOLLOW THE 60 UNIT GUARANTEE ROADMAP. MEET WITH AN ADVISOR PRIOR TO REGISTERING FOR YOUR FIRST SEMESTER FOR THE 60 UNIT ROADMAP OR SPECIFIC QUESTIONS.

Upper Division General Education 6

Of the 9 units required by the university, 3 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 6

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

COMPLETE ONE SEQUENCE FROM:

African American Studies 6

AFAM 002A. African Americans and the Development of America's History and Government	D2	3
AFAM 002B. African Americans and the Development of America's History and Government	M7	3

Asian American Studies 6

AAS 033A. Asian Americans in U.S. History I	D2	3
AAS 033B. Asian Americans in U.S. History II	M7	3

U.S. History and Government 6

HIST 015. Essentials of U.S. History	M12	3
POLS 015. Essentials of U.S. & California Government	M11	3

Chicana and Chicano Studies 6

CCS 010A. Mexican Americans and the Development of U.S. History and Government	D2	3
CCS 010B. Mexican Americans and the Development of U.S. History and Government	M7	3

Physical Education 2

Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Requirements of the Major 42-43

Core Courses 27

SOCI 001. Introduction to Sociology	D1	3
SOCI 015. Statistical Applications in the Social Sciences	B4	3

UNVS 015F and UNVS 015S may be used in lieu of the statistics course required by this major.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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SOCI 080. Social Problems D3 3
SOCI 100W. Writing Workshop ..... Z 3
SOCI 101. Social Theory 3
SOCI 104. Quantitative Research Methods 3
SOCI 105. Qualitative Research Methods 3
SOCI 116. Global Society 3

COMPLETE ONE COURSE FROM:

SOCI 104B. Advanced Quantitative Research Methods 3
SOCI 105B. Advanced Qualitative Research Methods 3
SOCI 181B. Sociology Career Capstone 3

Additional Requirements **15-16**

Concentration Core **3**

COMPLETE ONE COURSE FROM:

AAS 185. Multicultural Perspectives within American Society 3
SOCI 162. Race and Ethnic Relations ..... S 3

Race and Ethnic Studies Breadth **12-13**

COMPLETE ONE COURSE FROM EACH OF THE FOLLOWING AREAS

Area 1- Asian American Studies: **3-4**

AAS 125. Filipino Experience in the United States 3
AAS 133. Introduction to Social Issues in Planning 4
AAS 170. Special Topics in Asian American Studies 3
AAS 175. Asian American Communities ..... S 3
AAS 186. The Vietnamese Experience in America 3

Area 2- African American Studies: **3**

AFAM 112. African Immigrant Communities in the U.S. 3
AFAM 120. Sociology of African American Communities 3
AFAM 125. The Black Family:Historical/Contemporary Realities 3
AFAM 134. The Black Civil Rights Movements 3

3- Chicana and Chicano Studies: **3**

CCS 115. Chicana/o Families 3
CCS 120. Political Economy and Chicana/o Communities 3
CCS 125. Chicana/o Community Studies 3
CCS 127. Chicanas/os and the Criminal Justice System 3
CCS 130. Chicanas and Chicanos in American Society ..... S 3
CCS 135. Contemporary Chicana/o Issues 3

Area 4- Native American Studies **3**

ANTH 164. North America before 1492 3
ANTH 175. Anthropology of Native America 3
ANTH 176. Indians of California 3
SOCI 142. Critical Native American Studies 3

University Electives **36-37**

A minor is strongly recommended.

Total Units Required **120**

BA - Sociology, Concentration in Social Interaction

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

University Graduation Requirements 41

Core Lower Division General Education 27

Of the 39 units required by the university, 12 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

NOTE: STUDENTS WHO HAVE COMPLETED THE ADT TRANSFER DEGREE (UNDER SB 1440) FOR THIS MAJOR WILL HAVE COMPLETED ALL LOWER DIVISION GE REQUIREMENTS AND SHOULD FOLLOW THE 60 UNIT GUARANTEE ROADMAP. MEET WITH AN ADVISOR PRIOR TO REGISTERING FOR YOUR FIRST SEMESTER FOR THE 60 UNIT ROADMAP OR SPECIFIC QUESTIONS.

Upper Division General Education 6

Of the 9 units required by the university, 3 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 6

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

COMPLETE ONE SEQUENCE FROM:

African American Studies **6**

AFAM 002A. African Americans and the Development of America's History and Government	D2	3
AFAM 002B. African Americans and the Development of America's History and Government	M7	3

Asian American Studies **6**

AAS 033A. Asian Americans in U.S. History I	D2	3
AAS 033B. Asian Americans in U.S. History II	M7	3

U.S. History and Government **6**

HIST 015. Essentials of U.S. History	M12	3
POLS 015. Essentials of U.S. & California Government	M11	3

Chicana and Chicano Studies **6**

CCS 010A. Mexican Americans and the Development of U.S. History and Government	D2	3
CCS 010B. Mexican Americans and the Development of U.S. History and Government	M7	3

Physical Education 2

Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Requirements of the Major 42

Core Courses 27

SOCI 001. Introduction to Sociology	D1	3
SOCI 080. Social Problems	D3	3
SOCI 100W. Writing Workshop	Z	3
SOCI 101. Social Theory		3
SOCI 104. Quantitative Research Methods		3
SOCI 105. Qualitative Research Methods		3
SOCI 116. Global Society		3

COMPLETE ONE COURSE FROM:

SOCI 015. Statistical Applications in the Social Sciences	B4	3

UNVS 015F and UNVS 015S may be used in lieu of the statistics course required by this major.

SOCI 102. Introduction to Statistics		3

COMPLETE ONE COURSE FROM:

SOCI 104B. Advanced Quantitative Research Methods		3
SOCI 105B. Advanced Qualitative Research Methods		3
SOCI 181B. Sociology Career Capstone		3

Social Interaction Concentration 15

SOCI 173. Socialization and Identity		3

COMPLETE THREE COURSES FROM:

SOCI 140. Sociology of Media		3
SOCI 151. Violence in the Family		3
SOCI 154. Sociology and Non-Conforming Behavior		3
SOCI 171. Person and Society		3
SOCI 174. Sexualities		3
SOCI 176. Sociology of Everyday Life		3
SOCI 178. Sociology of Childhood		3

COMPLETE ONE COURSE FROM:

SOCI 160. Immigration and Identity		3
SOCI 161. City Life		3
SOCI 162. Race and Ethnic Relations	S	3
SOCI 166. Medical Sociology		3
SOCI 177. Sociology of Education		3

University Electives 37

A minor is strongly recommended.

Total Units Required 120

SOCI 120, SOCI 180, SOCI 196, and SOCI 199H may be applied to the major when they have direct relevance to the concentration; such relevance is determined by approval of an advisor.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

For Legend please see page 2

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CATALOG CONTENTS

BA - Sociology, Concentration in Women, Gender, and Sexuality Studies

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

University Graduation Requirements 38

Core Lower Division General Education 27

Of the 39 units required by the university, 12 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

NOTE: STUDENTS WHO HAVE COMPLETED THE ADT TRANSFER DEGREE (UNDER SB 1440) FOR THIS MAJOR WILL HAVE COMPLETED ALL LOWER DIVISION GE REQUIREMENTS AND SHOULD FOLLOW THE 60 UNIT GUARANTEE ROADMAP. MEET WITH AN ADVISOR PRIOR TO REGISTERING FOR YOUR FIRST SEMESTER FOR THE 60 UNIT ROADMAP OR SPECIFIC QUESTIONS.

Upper Division General Education 3

Of the 9 units required by the university, 6 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 6

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

COMPLETE ONE SEQUENCE FROM:

African American Studies **6**

AFAM 002A. African Americans and the Development of America's History and Government	D2	3
AFAM 002B. African Americans and the Development of America's History and Government	M7	3

Asian American Studies **6**

AAS 033A. Asian Americans in U.S. History I	D2	3
AAS 033B. Asian Americans in U.S. History II	M7	3

U.S. History and Government **6**

HIST 015. Essentials of U.S. History	M12	3
POLS 015. Essentials of U.S. & California Government	M11	3

Chicana and Chicano Studies **6**

CCS 010A. Mexican Americans and the Development of U.S. History and Government	D2	3
CCS 010B. Mexican Americans and the Development of U.S. History and Government	M7	3

Physical Education 2

Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

For Legend please see page 2

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Requirements of the Major 42

Core Courses 27

SOCI 001. Introduction to Sociology	D1	3
SOCI 080. Social Problems	D3	3
SOCI 100W. Writing Workshop	Z	3
SOCI 101. Social Theory		3
SOCI 104. Quantitative Research Methods		3
SOCI 105. Qualitative Research Methods		3
SOCI 116. Global Society		3

COMPLETE ONE COURSE FROM:

SOCI 015. Statistical Applications in the Social Sciences	B4	3

UNVS 015F and UNVS 015S may be used in lieu of the statistics course required by this major.

SOCI 102. Introduction to Statistics		3

COMPLETE ONE COURSE FROM:

SOCI 104B. Advanced Quantitative Research Methods		3
SOCI 105B. Advanced Qualitative Research Methods		3
SOCI 181B. Sociology Career Capstone		3

Concentration Courses 15

SOCI 172. Lesbian, Gay, Bi, Transgender Studies		3
SOCI 175. Sociology of Masculinities and Femininities		3
WOMS 169. Sexualities and the Body		3

COMPLETE TWO COURSES FROM:

SOCI 170. Sociology of Family		3
WOMS 101. Sex, Power, and Politics	S	3
WOMS 102. The Global Study of Women	V	3
WOMS 112. Women in the Global Economy		3
WOMS 114. Politics of Mothering and Reproduction		3
WOMS 160. Queering Gender, Race, and Class		3
WOMS 189. Islamic Perspectives on Gender		3

University Electives 40

A minor is strongly recommended.

Total Units Required 120

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

Minor - Asian American Studies

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Requirements of the Minor		**15**
Required Courses		**9**
AAS 033A. Asian Americans in U.S. History I	D2	3
AAS 033B. Asian Americans in U.S. History II	M7	3
AAS 175. Asian American Communities	S	3
Additional Course		**3**
COMPLETE ONE COURSE FROM:		
AAS 185. Multicultural Perspectives within American Society		3
WOMS 160. Queering Gender, Race, and Class		3
Electives		**3**
COMPLETE ONE COURSE FROM:		
AAS 125. Filipino Experience in the United States		3
AAS 170. Special Topics in Asian American Studies		3
AAS 186. The Vietnamese Experience in America		3
Total Units Required		**15**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Minor - Sociology

The minor in sociology complements a large number of majors including any of the social sciences, business, journalism, radio and TV, child development, justice studies, kinesiology, education, social work and others. SOCI 1 and any other five sociology courses, at least three of which must be upper division = 18 total semester units required for the minor.

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Requirements of the Minor		18
SOCI 001. Introduction to Sociology	D1	3
other courses approved by the minor advisor, at least three of which must be upper division		
Total Units Required		**18**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

Minor - Sociology of Education

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Requirements of the Minor		15
SOCI 177. Sociology of Education		3
SOCI 162. Race and Ethnic Relations	S	3
SOCS 195. Social Science Teacher Preparation		3
WOMS 187. Feminist Perspectives on Gender and Education in the U.S.		3
COMPLETE ONE COURSE FROM:		
CCS 185. Teaching in a Diverse Society		3
EDEL 103. Social-Multicultural Foundations of Education		3
Total Units Required		**15**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Minor - Women, Gender, and Sexuality Studies

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Requirements of the Minor		15
Required Courses		**12**
WOMS 010. Women, Gender, and Sexuality Studies	D1	3
COMPLETE NINE UNITS FROM:		
WOMS 020. Women of Color in the US	D2	3
WOMS 101. Sex, Power, and Politics	S	3
WOMS 102. The Global Study of Women	V	3
WOMS 112. Women in the Global Economy		3
WOMS 114. Politics of Mothering and Reproduction		3
WOMS 160. Queering Gender, Race, and Class		3
WOMS 169. Sexualities and the Body		3
WOMS 189. Islamic Perspectives on Gender		3
Electives		**3**
COMPLETE ONCE COURSE FROM:		
CCS 160. Gender and Sexuality in the Chicana/o Community	S	3
SOCI 172. Lesbian, Gay, Bi, Transgender Studies		3
SOCI 174. Sexualities		3
WOMS 107. Psychology of Women		3
WOMS 131. Gender, Sexuality, and Religion		3
WOMS 156. Black Women Writers: Race, Culture and Resistance		3
WOMS 175. Sociology of Masculinities and Femininities		3
WOMS 180. Individual Studies		1-4
WOMS 187. Feminist Perspectives on Gender and Education in the U.S.		3
WOMS 190. Internship		1-4
Total Units Required		**15**

MA - Sociology (Not Accepting Students)

Admissions Requirements

The Department of Sociology and Interdisciplinary Social Sciences at San José State University offers a General MA Degree in Sociology. The program is designed to prepare students for entry into PhD programs and to provide skills and training necessary for employment as professional sociologists and other related occupations. We are looking for students who are curious about the social world, academically dedicated, and committed to the examination of society. Information about the program can be found on the department website: sjsu.edu/siss/academics/grad/index.html

Admissions Requirements

Applicants must meet all of the university admission requirements as established by the university catalog. The Department of Sociology and Interdisciplinary Social Sciences sets criteria for admission into the Sociology Master of Arts Program that are higher than the base standards established by the university. The requirements of the Department of Sociology and Interdisciplinary Social Sciences are as follows:

- An earned baccalaureate at an accredited college or university with a grade point average of 3.0 (on a 4-point scale);
- Completion of the following prerequisite coursework with a grade of "B" or better: sociological theory (SOCI 101 or equivalent), research methods (SOCI 104 or equivalent), and social science statistics (SOCI 15 or SOCI 102 or equivalent);
- An approximately 1,000-word statement of purpose discussing the applicant's purpose for pursuing an MA degree in Sociology, the applicant's areas of interest and previous academic/professional experience, and the applicant's career goals;
- Two letters of recommendation from faculty members who can assess the applicant's potential for graduate level work in Sociology. In certain cases, one letter may be from an employer who can attest to the applicant's ability and potential for graduate work; and
- A writing sample that consists of a 6- to 10-page paper (or portion of a paper) that highlights the applicant's writing ability and analytical skills.

Depending on whether or not they have completed the prerequisite requirements, applicants can be admitted in either classified or conditionally classified standing. Students admitted in conditionally classified standing will need to complete any missing prerequisite courses and pass them with a grade of "B" or better within 2 semesters of being admitted. Students who do not do meet this requirement will be disqualified from the program.

Applicants from countries in which the native language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirements webpage at GAPE.

Requirements for Advancement to Graduate Candidacy

After completing a minimum of 9 units of letter-graded instruction at the graduate level (with at least a "B" average), students may apply to candidacy. Additionally, admission to candidacy requires:

- An approved program of study consisting of 30 units, developed in consultation with the graduate advisor and in conformity with university and departmental requirements; and
- Completion of the Graduation Writing Assessment Requirement (GWAR). The university requires that all graduate students complete the GWAR as a condition for advancement to candidacy. Please refer to the SJSU catalog section titled "Graduation Writing Assessment Requirement" for details. For graduate courses that meet the GWAR, please refer to the Graduate Admissions and Program Evaluations website at http://www.sjsu.edu/gape.

Further requirements of the department for advancement to candidacy include submission of a declaration of a plan of study to the department's Graduate Committee, detailing the student's intent to complete either a special study project (SOCI 298) or a thesis (SOCI 299). If the plan is deemed satisfactory, the student will be advanced to candidacy.

Requirements for Graduation

University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

Department Graduation Requirements

Requirements for the MA in Sociology include 30 units of graduate level course work. All students are required to complete SOCI 200, SOCI 201, SOCI 204, and SOCI 205 with a grade of "B" or better. With approval of the department's graduate coordinator, up to 9 units of upper-division undergraduate course work in Sociology, graduate-level non-sociology course work, or a combination of the two, may count toward the total 30-unit requirement.

Culminating Experience

Plan A (Thesis)

Students selecting the thesis option must demonstrate research and writing competency and show the ability to conduct independent research. Upon successful completion of the four required core courses and after receiving approval from the Graduate Committee for the declared program of study, the student selects a thesis committee consisting of at least three members, two of whom must be from the faculty in the Sociology Department. The chair of the committee must also be a tenured or tenure-track faculty member in the department. The student may enroll in up to 6 units of thesis/research hours (SOCI 299) with the professor designated as chair of the committee. The student must successfully pass a final oral defense of the thesis and the thesis must meet university requirements as stipulated in this catalog and in the SJSU Master's Thesis and Doctoral Dissertation Guidelines.

Plan B (Project)

After the successful completion of the four required core courses and after receiving approval from the graduate committee for the declared program of study, the student enrolls in 3 units of SOCI 298 with the professor who is selected as the student's advisor. The Project option involves a written paper that investigates or analyzes some facet of a social problem; the exact nature and scope of the project is determined by the student in consultation with his or her advisor.

Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR). For information on the GWAR, please see http://info.sjsu.edu/gcw.html.

This requirement is satisfied by passing SOCI 201.

Requirements of the Masters — 30

Core Courses — 12

SOCI 200. Sociological Practice		3
SOCI 201. Graduate Sociological Theory	GWAR	3
SOCI 204. Quantitative Data Analysis		3
SOCI 205. Seminar in Qualitative Research Methods		3

Electives — 12-15

12 units 200-level Sociology electives planned in consultation with the Graduate Coordinator. Up to 6 units may be approved 100-level courses in Sociology or 200-level courses in another department. Students in the Plan B (Project) option take 15 units of elective coursework.

Culminating Experience — 3-6

Complete one option (Plan A Thesis or Plan B Project):

Plan A (Thesis) — 6

SOCI 299. Master's Thesis or Project	1-6
Oral Thesis Defense	

Plan B (Project) — 3

SOCI 298. Special Study	1-4

Total Units Required — 30

Elective courses must be planned in consultation with the Graduate Coordinator.

In all plans, students may have only 12 units of C/NC courses.

The maximum number of upper-division undergraduate units that can be applied toward the master's degree is 15.

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU cumulative grade point averages of 3.0 in order to graduate.

Technology

College of Engineering
Department of Aviation and Technology

INDUSTRIAL STUDIES 111
408-924-3190 (Voice)
www.sjsu.edu/avtech

Professors

Patricia Ryaby Backer
Fred Barez, , Chair
Samuel Obi

Assistant Professors

Fatemeh Davoudi Kakhki
Pouya Ostovari
David Yan

Curricula

BS, Industrial Technology, Concentration in Computer Network System Management
BS, Industrial Technology, Concentration in Manufacturing Systems
Minor, Electronics
Minor, Industrial Technology
Minor, Manufacturing
MS, Quality Assurance

Introduction

Choose a career in applied engineering design and management focused on green operations and sustainable manufacturing or in the dynamic, changing field of computer electronics and network technology. Two undergraduate Industrial Technology programs, accredited by the Association for Technology Management and Applied Engineering (www.ATMAE.org), are offered by the Department of Aviation and Technology: a bachelor's degree with a concentration in Computer Electronics and Network Technology (CENT) and a bachelor's degree with a concentration in Manufacturing Systems (sustainable manufacturing). The curriculum also prepares students who are interested in obtaining single subject teaching credentials in Industrial Technology Education in order to pursue careers as public school teachers and industry trainers. The Department also offers graduate work leading to the Master of Science in Quality Assurance (this program is currently not accepting students).

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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BS - Industrial Technology, Concentration in Computer Network System Management

The Bachelor of Science in Industrial Technology with a concentration in Computer Network System Management (CNSM) is designed to prepare graduates for the ever increasing employment opportunities in the field of Computer Network Systems and Management. You will gain knowledge, skills, and practical experiences in the Internet of Things (IoT), network theory and administration, wireless communication, network security and prevention management, and cyber security management.

The computer network professional plans for implementation of systems, maintains the software and hardware, monitors the system for potential disturbances, analyzes problems, and develops plans for potential solutions. A computer network specialist professional is a problem solver who assures the network system is operational, secure, and protected at all times against cyber-attacks.

Computer and networking professionals are employed to facilitate the exchange and use of data in an organization in furtherance of organization goals. They also protect individuals, companies, and government organizations and their information throughout the enterprise. This requires that such professionals be knowledgeable about and familiar with constantly changing technologies and security processes. The major priority of the computer networking specialist professional is the day-to-day support that keeps the network functioning and secure. Graduates of the BSIT in Computer Network System Management will be able to:

1. Demonstrate strong communication, critical thinking, and interpersonal skills
2. Use skills in team development, dynamics, and management to work as team players
3. Demonstrate ethical behavior and concern for colleagues, society, and the environment
4. Demonstrate leadership skills for a technology professional
5. Implement and manage computer and network systems
6. Solve problems related to daily interruptions of information flow
7. Design and interface components for connected products
8. Manage databases and cloud computing systems and services
9. Implement and manage Internet of Things (IoT) systems
10. Apply cybersecurity techniques to protect networks from attacks

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

Major Exceptions

This degree program meets certain University Requirements through approved major modifications. Please see the Major Exceptions area in the Policy and Procedures section of this catalog to identify the specific adjustments for this degree program or contact your major advisor for more details.

Major-Specific Graduation Requirements

All courses in the Preparation and Required in the Major (all courses in preparation, core, and concentration) must be completed with a grade of "C- or better".

University Graduation Requirements	24

Core Lower Division General Education	18

Of the 39 units required by the university, 21 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

Upper Division General Education

Of the 9 units required by the university, 9 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions	6

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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COMPLETE ONE SEQUENCE FROM:

African American Studies		**6**
AFAM 002A. African Americans and the Development of America's History and Government	D2	3
AFAM 002B. African Americans and the Development of America's History and Government	M7	3
Asian American Studies		**6**
AAS 033A. Asian Americans in U.S. History I	D2	3
AAS 033B. Asian Americans in U.S. History II	M7	3
U.S. History and Government		**6**
HIST 015. Essentials of U.S. History	M12	3
POLS 015. Essentials of U.S. & California Government	M11	3
Chicana and Chicano Studies		**6**
CCS 010A. Mexican Americans and the Development of U.S. History and Government	D2	3
CCS 010B. Mexican Americans and the Development of U.S. History and Government	M7	3

Physical Education

Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Preparation for the Major 26

CHEM 001A. General Chemistry	B1+B3	5
TECH 030. Introduction to Python Programming		3
ECON 001B. Principles of Economics: Microeconomics	D1	4
ENGR 010. Introduction to Engineering	E	3
MATH 071. Calculus for Business and Aviation	B4	3

MATH 30 or MATH 30P may be used in lieu of MATH 71

PHYS 002A. Fundamentals of Physics	B1+B3	4
PHYS 002B. Fundamentals of Physics	B1+B3	4

May also take PHYS 50 and 51 instead of PHYS 2A/B

Requirements of the Major 54

To qualify for a baccalaureate degree in Industrial Technology with a concentration in Computer Network System Management, students must earn a grade of "C-" or better in each major and preparation course.

Core **21**

ENGR 100W. Engineering Reports	Z+R	3
TECH 060. Introduction to Electronics		3
TECH 065. Networking Theory and Application		3
TECH 145. Lean Manufacturing		3
TECH 190A. Senior Project I		3
TECH 190B. Senior Project II		3
TECH 198. Technology and Civilization	V	3

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Computer Network System Management (CNSM) Concentration	**30**
TECH 063. Analog and Digital Circuits	3
TECH 066. Network Administration	3
TECH 067. Introduction to Internet of Things	3
TECH 068. Internet of Things Systems	3
TECH 136. Software Quality Management	3
TECH 165. Wireless Communications Technologies	3
TECH 170. Connected Products Applications	3
TECH 171. Network Security & Prevention Management	3
TECH 173. Cloud Computing System Management	3
TECH 179. Cyber Security System Management	3
Technical Elective	**3**
Complete three units from any advisor approved upper division TECH or ENGR courses	
Business Minor (required for this major)	15
BUS1 020. Financial Accounting	3
BUS2 090. Business Statistics	3
BUS3 160. Fundamentals of Management and Organizational Behavior	3
BUS3 186. Professional and Business Ethics S	3
COMPLETE ONE COURSE FROM:	
BUS5 141. Procurement and Supply Management	3
BUS5 142. Total Quality Management	3
BUS5 145. Global Operations Strategy	3
University Electives	1
Total Units Required	**120**

BS - Industrial Technology, Concentration in Manufacturing Systems

The Bachelor of Science in Industrial Technology with a concentration in Manufacturing Systems is designed to prepare students for technical and management careers in business and industry. Manufacturing Systems prepares you for a career in manufacturing design and management with a special focus on green operations and sustainable manufacturing. You will gain knowledge, skills, and practical experiences in innovative manufacturing processes and management, green product design, computer integrated manufacturing, sustainable manufacturing practices, robotics and control systems, and computer aided manufacturing.

This dynamic and expanding field applies computer design tools and other advanced technologies to the solving of problems in manufacturing systems, computer aided design and manufacturing (CAD/CAM), and computer integrated manufacturing (CIM). A new, strong emphasis on green design practices and sustainable operations will add to your basic and advanced industrial manufacturing design knowledge. Graduates of the BSIT in Manufacturing Systems will be able to:

1. Use skills in the planning, design, and implementation of sustainable manufacturing processes.
2. Implement Green Design solutions to industrial and consumer product design challenges.
3. Use understanding of the product life cycle and the management of product manufacturing to direct sustainable operations in industry and business.
4. Design and plan sustainable and green industrial facilities in conformance with LEEDS and other environmental standards.
5. Select and operate computer numerical control and other machines for the production of consumer and commercial products.
6. Use knowledge of the uses, advantages, and disadvantages of current and evolving manufacturing techniques including laser machining, electrical discharge machining, water jet and abrasive water jet machining, and rapid prototyping in modern production systems.
7. Select, analyze and use polymers, composites and other materials in the design of manufactured products.
8. Apply the theory and methods of computer-integrated manufacturing (CIM), including the computer-aided design/computer-aided manufacturing (CAD/CAM) interface to industrial problems and settings.
9. Use the principles of production scheduling and planning in the management of the industrial environment.
10. Use robots and mechatronics for sustainable operations in a modern CIM environment.
11. Apply the latest methods for materials and production management including Just-in-Time (JIT), Materials Resource Planning (MRP), and Lean Manufacturing.
12. Integrate green design, sustainable manufacturing, and recyclable/reusable materials into the design and development of new products.
13. Apply the principles of Lean Manufacturing to manufacturing and soft systems.
14. Apply OSHA and NIOSH principles to facilities design and management.

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

Major Exceptions

This degree program meets certain University Requirements through approved major modifications. Please see the Major Exceptions area in the Policy and Procedures section of this catalog to identify the specific adjustments for this degree program or contact your major advisor for more details.

Major-Specific Graduation Requirements

All courses in the Preparation and Required in the Major (all courses in preparation, core, and concentration) must be completed with a grade of "C- or better".

University Graduation Requirements	27

Core Lower Division General Education	18

Of the 39 units required by the university, 21 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

Upper Division General Education	3

Of the 9 units required by the university, 6 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions	6

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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COMPLETE ONE SEQUENCE FROM:

African American Studies **6**

AFAM 002A. African Americans and the Development of America's History and Government	D2	3
AFAM 002B. African Americans and the Development of America's History and Government	M7	3

Asian American Studies **6**

AAS 033A. Asian Americans in U.S. History I	D2	3
AAS 033B. Asian Americans in U.S. History II	M7	3

U.S. History and Government **6**

HIST 015. Essentials of U.S. History	M12	3
POLS 015. Essentials of U.S. & California Government	M11	3

Chicana and Chicano Studies **6**

CCS 010A. Mexican Americans and the Development of U.S. History and Government	D2	3
CCS 010B. Mexican Americans and the Development of U.S. History and Government	M7	3

Physical Education

Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Preparation for the Major 26

CHEM 001A. General Chemistry	B1+B3	5
TECH 030. Introduction to Python Programming		3
MATH 071. Calculus for Business and Aviation	B4	3
MATH 30 or MATH 30P may be used in lieu of MATH 71		
ECON 001B. Principles of Economics: Microeconomics	D1	4
ENGR 010. Introduction to Engineering	E	3

COMPLETE ONE SEQUENCE FROM:

Physics A

PHYS 002A. Fundamentals of Physics	B1+B3	4
PHYS 002B. Fundamentals of Physics	B1+B3	4

Physics B

PHYS 050. General Physics/Mechanics	B1+B3	4
PHYS 051. General Physics/Electricity and Magnetism	B1+B3	4

Students may use PHYS 2B instead of PHYS 51

Major Requirements 52

Additional requirement for graduation: To qualify for a baccalaureate degree in Industrial Technology with a concentration in Manufacturing, students must earn a grade of "C-" or better in each major and preparation courses.

Core **21**

ENGR 100W. Engineering Reports	Z+R	3
TECH 060. Introduction to Electronics		3
TECH 065. Networking Theory and Application		3
TECH 145. Lean Manufacturing		3
TECH 190A. Senior Project I		3
TECH 190B. Senior Project II		3
TECH 198. Technology and Civilization	V	3

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Manufacturing Systems Concentration	**30**
TECH 020A. Computer-Aided-Graphics	2
TECH 025. Introduction to Materials Technology	3
TECH 031. Quality Assurance and Control	3
TECH 041. Machine Shop Safety	1
TECH 045. Sustainable Facilities Design & Planning	3
TECH 046. Machine Operation and Management	3
TECH 115. Automation and Control	3
TECH 140. Green & Sustainable Product Design	3
TECH 143. Polymers and Composites Fabrication Technology	3
TECH 147. Green Manufacturing Analysis & Management	3
TECH 149. Computer Integrated Manufacturing Systems	3
Technical Electives	**1**
Complete one unit from any advisor approved upper division TECH or ENGR courses	
Minor in Business (Required for this major)	**15**
BUS5 142. Total Quality Management	3
BUS3 160. Fundamentals of Management and Organizational Behavior	3
COMPLETE ONE COURSE FROM:	
BUS1 020. Financial Accounting	3
BUS1 020N. Survey of Accounting	3
COMPLETE ONE COURSE FROM:	
BUS5 141. Procurement and Supply Management	3
BUS5 144. Supply Chain Management	3
COMPLETE ONE COURSE FROM:	
BUS5 140. Fundamentals of Operations Management	3
BUS5 145. Global Operations Strategy	3
Total Units Required	**120**

Supplementary Authorizations for Teaching Credential

Students who want to teach Industrial Technology Education but are completing or have completed a credential in another area should apply for a supplementary authorization. See a Department of Aviation and Technology advisor who specializes in teacher preparation for specific content requirements for a supplementary authorization approved by the California Commission on Teacher Credentialing.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

Minor - Electronics

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Requirements of the Minor	12
Required Courses	**6**
COMPLETE TWO COURSES FROM:	
TECH 060. Introduction to Electronics	3
TECH 062. Analog Circuits	3
TECH 063. Analog and Digital Circuits	3
Other Courses	**6**
COMPLETE SIX UNITS FROM:	
TECH 115. Automation and Control	3
TECH 160. Microprocessors Theory and Applications	3
TECH 163. Telecommunications Systems	3
TECH 165. Wireless Communications Technologies	3
TECH 167. Control Systems	3
Total Units Required	**12**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

Minor - Industrial Technology

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Requirements of the Minor	**18**
Required Courses	**9**
TECH 031. Quality Assurance and Control	3
TECH 145. Lean Manufacturing	3
TECH 198. Technology and Civilization V	3
Other Courses	**9**
At least 9 units of technical courses chosen from either the core or the Manufacturing Systems or CENT concentrations (a maximum of 6 units of lower division courses)	
Total Units Required	**18**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

Minor - Manufacturing

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Requirements of the Minor	12
Required Courses	**3**
TECH 046. Machine Operation and Management	3
Manufacturing Electives	**9**
COMPLETE NINE UNITS FROM:	
TECH 041. Machine Shop Safety	1
TECH 045. Sustainable Facilities Design & Planning	3
TECH 140. Green & Sustainable Product Design	3
TECH 145. Lean Manufacturing	3
TECH 147. Green Manufacturing Analysis & Management	3
At least six units must be upper division	
Total Units Required	**12**

MS - Quality Assurance

The Master of Science in Quality Assurance degree program prepares students to perform at the master's level in the areas of Quality Systems development, Six-Sigma quality, and various quality system standards. The program emphasizes the acquisition of theoretical and analytical techniques in combination with management and communication skills. This program prepares students to earn globally-recognized Six-Sigma Certification through the American Society for Quality (ASQ).

Admissions Requirements

University Admissions

Applicants must submit a complete graduate application by applying through the CSU Cal State Apply system at calstate.edu/apply. Select the MS, Engineering (Special Session) program option. In the designated Statement of Purpose area, enter "Please redirect my application to the MS, Quality Assurance program." Applicants must meet all university admission requirements. See the Graduate Admissions section of this Catalog for general information about graduate admissions at SJSU.

Applicants from countries in which the native language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirements webpage at GAPE. For TOEFL Requirements, see the Policies and Procedures section, Graduate and Post-Baccalaureate Information in this Catalog.

Requirements for Admission to Classified Standing

The Department of Aviation and Technology admits students to the Master of Science in Quality Assurance program in Classified or Conditional Standing. Contact the department or see our admissions materials for specific application deadlines. For admission to classified standing the department requires the following:

1. A baccalaureate degree from an accredited academic institution in a technical or scientific discipline. Individuals from non-technical disciplines who demonstrate exceptional promise may be conditionally admitted to the graduate program;
2. Transcripts from an accredited academic institution which verify a minimum grade point average of 3.0 in the last 60 upper division university units;
3. Evidence of written and oral communication skills essential to meet the demands of graduate-level study and research. A well-written personal statement is often used for partial verification of these competencies; this statement should discuss the applicant's career plans and make note of how the master's degree will enhance career objectives; and
4. Foreign students must present a TOEFL score of at least 550.

Requirement for Admission to Conditionally Classified Standing

Applicants from non-technical disciplines may be conditionally admitted to the graduate program pending completion of additional undergraduate course work as prescribed by the program graduate coordinator. Students who are conditionally classified may seek admission to classified standing only after completion of nine units of graduate level course work with a minimum grade point average of 3.0. The individual admission letter will explain required terms and conditions for attaining Classified standing.

Requirements for Admission to Candidacy

General university requirements for admission to candidacy for the Master of Science degree are outlined in the Academic Regulations section of this catalog. After successfully completing a minimum of 12 graduate units, with a minimum grade point average of 3.0, and satisfied the university GWAR, students must finalize their programs of study with the guidance of the Program's Graduate Advisor.

The University requires that all graduate students complete the Graduation Writing Assessment Requirement (GWAR) as a condition for advancement to candidacy. Please refer to the SJSU catalog section titled "Graduation Writing Assessment Requirement" for details. Successfully passing Tech 200 course meets the GWAR requirement.

Requirements for Graduation

University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

In consultation with the department graduate coordinator, the candidate will develop and pursue a program of study. The candidate must successfully complete all requirements of the selected plan including the course work specified in the Master's Degree Approval Program.

Culminating Experience

Students choose a Plan A (Thesis) or Plan B (Project) option as their program culminating experience. Both options require a précis presentation prior to submission of the graduate proposal (TECH 298 or 299). Each précis shall include the following: An introduction, a literature review, a statement of the problem, research questions or hypothesis, and a methodology. Students must arrange the date of the précis presentation with the graduate coordinator and with reference to the program Deadlines and Due Dates sheet.

Plan A (Thesis)

Students opting to complete a thesis enroll in three units of TECH 299. They must secure the commitment of three faculty members of the department, college or university, two of whom must be members of the faculty (permanent or part-time), to serve as members of the student's Plan A (thesis) committee, with one permanent faculty member agreeing to serve as chair. The committee must approve the student's thesis proposal for the master's degree no later than one semester prior to the end of the semester preceding the one in which enrollment in the final thesis course is planned. The thesis will include original research on a topic approved by the thesis committee, and must meet university requirements as stipulated in this catalog and in the SJSU Master's Thesis and Doctoral Dissertation Guidelines. It will undergo a thorough review and revision process under the guidance of the candidate's thesis committee chair with the assistance of the thesis committee. In addition, the candidate for the MS degree must successfully pass a final oral defense of the thesis. This include a one-hour professional presentation with applicable slides outlining the worked performed including an introduction, background and review of the relevant previous published literature, methodology, analysis/experiment/simulation, results and discussion, followed by conclusion(s).

Plan B (Project)

Students opting to complete a project enroll in three units of TECH 298. They must secure the commitment of three faculty members of the department, college or university, two of whom must be members of the faculty (permanent or part-time), to serve as members of the student's Plan B (Project) committee, with one permanent faculty member agreeing to serve as chair. The committee must approve the student's project proposal for the master's degree no later than one semester prior to the end of the semester preceding the one in which enrollment in the final project course is planned. The project, will include original research on a topic approved by the project committee. It will undergo a thorough review and revision process under the guidance of the candidate's project committee chair and with the assistance of the committee members. In addition, the candidate for the MS degree must successfully pass a final oral defense of the project. This include a one-hour professional presentation with applicable slides outlining the worked performed including an introduction, background and review of the relevant previous published literature, methodology, analysis/experiment/simulation, results and discussion, followed by conclusion(s).

Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR). For information on the GWAR, please see http://info.sjsu.edu/gcw.html.

Requirements of the Masters 30

Required Courses 24

TECH 200. Research Methods for Engineering and Technology	3
TECH 230. Six-Sigma and Continuous Improvement Systems Management	3
TECH 231. Systems Reliability and Maintainability	3
TECH 232. Advanced Statistical Process Control	3
TECH 233. Design and Analysis of Experiments	3
TECH 234. Quality Systems Management: ISO 9000 and 14000	3
TECH 235. Measurement Systems and Analysis	3
TECH 239. Design Assurance in Product Development	3

Approved Electives 3

Three units electives selected in consultation with the graduate advisor.	0

Culminating Experience 3

COMPLETE ONE OPTION (PLAN A OR PLAN B):

Plan A (Thesis)

TECH 299. Master's Thesis	3

Plan B (Project)

TECH 298. Graduate Project	3

Total Units Required 30

Elective courses must be planned in consultation with the Graduate Advisor.

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU Cumulative grade point averages of 3.0 in order to graduate.

Undergraduate Studies

Curricula

BA, Special Major
BS, Special Major

Introduction

The courses offered by the Graduate and Undergraduate Programs Office under University Studies (UNVS) promote leadership, integrated and applied interdisciplinary academic experiences for students.

The office also sponsors undergraduate degrees as a Special Major, which is an individually designed course of study leading to a BA or BS degree. The Special Major is designed for situations in which an existing university-level SJSU undergraduate degree major does not adequately accommodate academic professional aims. Students who complete a Special Major shall be able to demonstrate the characteristics of "intentional learners" who can adapt to new environments, integrate knowledge from different sources, and continue learning throughout their life.

Special Major

The Special Major is an individually designed, interdisciplinary course of study leading to a BA or BS that gives a student who has a specific educational objective the opportunity to accomplish that goal. It is not to be used to bypass normal graduation requirements or projected programs of the University, nor to substitute for a major in which a student is having academic difficulty.

The proposed course of study must be a coherent program organized around an academic theme. Students who complete a Special Major shall be able to demonstrate: "the ability to analyze an issue or problem, integrating at least two disciplinary perspectives." In addition, students identify two or more student learning outcomes related to their specific areas of study in consultation with a major faculty advisor. They demonstrate their attainment of the learning outcomes through a portfolio or senior project completed in a capstone course.

Applicants must have both a cumulative and SJSU GPA of at least 2.75 and have sixty units (upper division standing) and at least one year of academic work still to be completed to meet minimum degree requirements. Special Majors are considered on a case-by-case basis. Approval is based on the academic merit of the proposed course of study, the applicant's proposed rationale and potential for successful completion of the program, and the ability of the university to support the proposed program. Students apply for consideration for the Special Major through the Office of Graduate and Undergraduate Programs, ADM 159. For more information visit http://www.sjsu.edu/gup/docs/UGS/2016-Present-Special%20Major_Guidelines.pdf

Urban and Regional Planning Department

College of Social Sciences

WASHINGTON SQUARE HALL 216A
408-924-5882
urbplan@sjsu.edu

Professors

Asha Weinstein Agrawal
Colleen Haight, Interim Chair
Shishir Mathur

Assistant Professors

Serena Alexander
Gordon Douglas

Curricula

Minor, Urban Studies
Certificate, Affordable Housing and Community Development Finance
Certificate, Applications of Technology in Planning
Certificate, Community Design and Development
Certificate, Environmental Planning
Certificate, Real Estate Development
Certificate, Transportation and Land Use Planning
MUP, Urban Planning

Introduction

Urban planners manage and guide critical issues of growth and change while promoting environmental and social balance. Careers for urban and regional planners exist in city, county, regional, state and national government, private consulting firms, nonprofit organizations, and research and academic institutions.

SJSU's Department of Urban and Regional Planning is uniquely poised to educate planning professionals and generate innovative research, given its location in downtown San José, the largest city in Northern California and the capital of Silicon Valley. The department takes advantage of its location in a rapidly changing and socially complex region by collaborating with local planning agencies and community-based organizations. Faculty and students engage in public service projects designed to assist local communities in addressing topical planning issues, while also providing students with real-world professional experience.

We offer an undergraduate minor in urban studies, graduate certificate programs, and a Master of Urban Planning (MUP) degree.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

For Legend please see page 2

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CATALOG CONTENTS

Minor - Urban Studies

The minor in Urban Studies is a professionally oriented program designed to: 1) familiarize students with the social, economic, political and physical aspects of the major urban issues of our time; and 2) introduce students to basic professional skills and strategies used to improve our urban environment.

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Requirements of the Minor		14
Required Courses		**7**
URBP 101. The City	S	3
URBP 136. Intro to Land Use and Urban Planning		4
Minor Electives		**4**
COMPLETE FOUR UNITS FROM:		
URBP 120. Intro to Housing Economics and Policy		4
URBP 133. Introduction to Social Issues in Planning		4
URBP 142. Introduction to Environmental Planning		4
URBP 143. Intro Private Development and Planning		3
URBP 148. Intro Spatial Vis Tech in Urb Plan		1-4
URBP 151. Introduction to Urban Design		4
URBP 152. Introduction to Urban Design Studio		4
URBP 156. Introduction to Local Transportation Planning		4
URBP 160. Topics in Environmental Planning		4
URBP 175. Urban Studies Topics		1-4
URBP 178. Intro to Regional Transport Planning		4
URBP 179A. Fundamentals of GIS for Urban Planning		4
URBP 179B. Advanced GIS for Urban Planning		4
URBP 185. Environmental Impact Analysis		4
Other courses may be substituted with permission of advisor		
Additional Electives		**3**
COMPLETE ONE COURSE FROM:		
AFAM 145. Urban Policy and Its Impact on Inner City Residents		4
ANTH 125. Urban Anthropology		3
ANTH 132. Creating Built Worlds		3
ARTH 163. Twentieth Century Urban Design		3
CE 121. Transportation Engineering		3
ECON 166. Urban Economics		4
ENVS 010. Life on a Changing Planet	B2	3
ENVS 124. Introduction to Environmental Law		3
ENVS 187. Environmental Restoration		4
GEOG 105. Urban Geography		3
POLS 103. Local Government and Politics		4
STAT 095. Elementary Statistics	B4	3
SOCI 161. City Life		3
Other courses may be substituted with permission of advisor		
Total Units Required		**14**

Certificates

The Department of Urban and Regional Planning at San José State University offers six certificate programs which lead to specialization in Affordable Housing and Community Development Finance, Applications of Technology in Planning, Community Design and Development, Environmental Planning, Real Estate Development, and Transportation and Land Use Planning.

The certificate programs are open to graduate degree students enrolled in any program at San José State University (SJSU). Members of the public who hold an undergraduate degree may also complete any of the graduate certificate programs through SJSU's Open University. To earn a certificate, students must complete a total of nine to sixteen units of course work, depending on the certificate. If course work is taken through Open University, the maximum number of units allowed by SJSU policy may be applied towards the MUP degree.

In addition, the student must:

- Maintain a minimum GPA of 3.0 over all semester credits of course work applied towards the certificate.
- Earn a minimum grade of "B Minus" in every course applied towards the certificate.
- Complete all the course work within seven years.

For detailed information on these programs, see the department's website at http://www.sjsu.edu/urbanplanning/ or contact the department's Graduate Student Advisor.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

For Legend please see page 2

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CATALOG CONTENTS

Certificate - Affordable Housing and Community Development Finance

In this certificate program, students gain domain-specific knowledge as well as a deep understanding of interrelationships between urban & regional development, housing markets (especially affordable housing market), and financing of public infrastructure and services.

Required Courses	12
URBP 223. Housing Economics and Policy	4
URBP 225. Land Use Planning and Law	4
URBP 250. Urban Planning Public Finance	4

Electives	3-4
COMPLETE ONE COURSE FROM:	
URBP 205. Private Development and Urban Planning	3
URBP 255. Urban and Regional Growth Management	4

Total Units Required	15-16

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

For Legend please see page 2

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CATALOG CONTENTS

Certificate - Applications of Technology in Planning

In this certificate program, students develop their knowledge and skills at using information technologies in the planning process. Classes and studies draw on the rich agglomeration of technical applications and skills available in the Silicon Valley region.

Core Courses	**8**
URBP 225. Land Use Planning and Law	4
URBP 278. Introduction to GIS for Urban Planning	4
Electives	**1-4**
COMPLETE ONE COURSE FROM:	
URBP 232. Urban Design Studio	4
URBP 248. Spatial Visualization Tech in Urb Plan	1-4
URBP 276. Social Media in Planning	1-4
URBP 279. Advanced GIS for Urban Planning	4
Total Units Required	**9-12**

Certificate - Community Design and Development

In this certificate program, students gain the knowledge and skills required to address a community's needs through the design of the physical environment. Courses examine the interactions among social, economic, political, and cultural factors, and the built environment.

Core Courses	8
URBP 225. Land Use Planning and Law	4
URBP 231. Urban Design in Planning	4
Electives	**1-6**
COMPLETE ONE COURSES FROM:	
URBP 232. Urban Design Studio	4
URBP 233. Social Issues in Planning	4
URBP 248. Spatial Visualization Tech in Urb Plan	1-4
URBP 255. Urban and Regional Growth Management	4
URBP 295. Capstone Studio: Community Planning	6
Total Units Required	**9-14**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

For Legend please see page 2

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CATALOG CONTENTS

Certificate - Environmental Planning

In this certificate program, students develop the knowledge and skills needed to successfully carry out planning and development activities with consideration of the environmental impacts and a goal to achieve more sustainable development.

Core	**8**
URBP 225. Land Use Planning and Law	4
URBP 240. Environmental Planning	4
Electives	**4**
COMPLETE ONE COURSE FROM:	
URBP 185. Environmental Impact Analysis	4
URBP 260. Environmental Planning Topics	4
Total Units Required	**12**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

Certificate - Real Estate Development

In this certificate program, students develop the knowledge and skills needed to initiate, navigate, and manage real estate development projects, with a special emphasis on Northern California.

Requirements of Certificate	13
URBP 205. Private Development and Urban Planning	3
URBP 206. Market Analysis, Appraisal, & Finance of Real Estate Development	3
URBP 208. Urban Real Estate Development Studio	3
URBP 225. Land Use Planning and Law	4
Total Units Required	**13**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

For Legend please see page 2

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CATALOG CONTENTS

Certificate - Transportation and Land Use Planning

In this certificate program, students learn the principles of transportation and land-use planning at the location and regional levels. In today's rapidly growing regions, planners recognize that transportation and land use planning are intricately connected and must be planned together to allow residents and freight carriers to access destinations quickly and efficiently, improve accessibility options for residents who cannot or choose not to drive, and build economically and environmentally sustainable communities.

Core	**8**
URBP 225. Land Use Planning and Law	4
URBP 226. Regional Transportation Planning	4
Electives	**4**
COMPLETE ONE COURSE FROM:	
URBP 250. Urban Planning Public Finance	4
URBP 255. Urban and Regional Growth Management	4
URBP 256. Sustainable Transportation Planning	4
Total Units Required	**12**

MUP - Master of Urban Planning

The MUP program trains skilled professionals who graduate with a strong education in general planning practice and theory as well as specialized training in planning sub-fields. The program allows students to develop professional skills in an area of specialization such as Affordable Housing and Community Development Finance, Applications of Technology in Planning, Community Design and Development, Environmental Planning, Real Estate Development, or Transportation and Land Use Planning.

Graduates leave the program prepared with practical skills and theoretical knowledge that they can employ in jobs working to improve the quality of life and economic opportunity for all residents of urban regions as well as improving the quality of the natural environment.

A special mission of the program is to provide planning education opportunities for a diverse student population, including working students who prefer to attend the program on a part-time basis.

The MUP is an accredited professional degree program nationally recognized by the Planning Accreditation Board.

Information about the program and important dates can be obtained at the department website: www.sjsu.edu/urbanplanning.

Admissions Requirements

Candidates must meet all the university admissions requirements. To complete your application, you must submit materials to two distinct bodies: the SJSU Graduate Admissions and Program Evaluation (GAPE) Office through the online CSU application process and the Urban and Regional Planning Admissions Committee. Each has its own timetable. Approval by both offices is necessary to gain admission to the program. Applicants from countries in which the native language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirements webpage at GAPE.

1. Materials to be submitted to the SJSU Graduate Admissions and Program Evaluations Office

- Fill out the on-line application form. The Master of Urban Planning (MUP) program at SJSU is listed on the online application form under Urban Planning.
- Domestic Students - Submit one set of official transcripts from all higher educational institutions attended (even those where you did not get a degree) to the Graduate Admissions Office. Do not send transcripts to the Department of Urban & Regional Planning.
- International Students - International students are advised to closely follow guidelines for submitting transcripts and any other supporting documents, including demonstrating competence in English, available on the Graduate Admissions & Program Evaluation website.

2. Materials to be submitted to the Department of Urban and Regional Planning (Admissions Committee)

- Three original, signed letters of recommendation that come from either university instructors who taught you or supervisors who managed you in paid or volunteer work. It is highly recommended that at least one letter come from a university instructor. If this is not possible, ask your letter writers to include an evaluation of your writing and analysis skills. These letters must be submitted to the Urban and Regional Planning Admissions Committee, not to the SJSU GAPE Office. The department will accept only original, signed letters; faxed or emailed letters will not be accepted.
- A short biographical statement of purpose (approximately 1.5 single-spaced typed pages) that indicates how a Master of Urban Planning degree will help you to achieve your career objectives. This can be the same statement as included on your online application.
- Graduate Record Examination (GRE) scores are required for applicants with a GPA below 3.0. Original scores from the testing office must be submitted in a sealed, unopened envelope or sent directly by ETS (the code for SJSU is 4687).

Requirements for Advancement to Candidacy

Students must complete all university requirements for advancement to candidacy for the master's degree as outlined in the Graduate Policies and Procedures section of this catalog. Candidacy includes successful completion of the Graduation Writing Assessment Requirement (GWAR). For graduate courses that meet the GWAR, refer to the GWAR Course List on the College of Graduate Studies website. In addition, candidates must pass the Writing Skills Test (WST) at SJSU. Candidates with a previous degree from a California State University campus are exempt from the WST requirement.

Requirements for Graduation

University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR). For information on the GWAR, please see http://info.sjsu.edu/gcw.html.

Requirements of the Masters 48

Core 26

URBP 200. Seminar on Urban and Regional Planning	GWAR	4
URBP 204. Quantitative Methods		4
URBP 225. Land Use Planning and Law		4
URBP 236. Urban and Regional Planning Policy Analysis: Tools and Methods	GWAR	4

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

URBP 241. Planning Sustainable Cities 2
URBP 275G. Geographic Information Systems Overview: Urban Planning Applications 1
URBP 295. Capstone Studio: Community Planning 6
URBP 297P. Planning Report Preliminary Proposal 1

Electives **16**

Sixteen units of coursework chosen from Urban and Regional Planning courses. Students are strongly encouraged to take at least 12 units from within a single MUP specialization. Electives from outside the Urban & Regional Planning Department (either upper-division undergraduate or graduate courses) may be taken, but must first be approved by the Graduate Advisor.

URBP 103. Local Government and Politics 4
URBP 125. Urban Anthropology 3
URBP 132. Creating Built Worlds 3
URBP 145. Urban Policy and Its Impact on Inner City Residents 4
URBP 163. Twentieth Century Urban Design 3
URBP 185. Environmental Impact Analysis 4
URBP 190. Advanced Environmental Impact Assessment 4
URBP 203. Collaborative Neighborhood Planning 4
URBP 205. Private Development and Urban Planning 3
URBP 206. Market Analysis, Appraisal, & Finance of Real Estate Development 3
URBP 208. Urban Real Estate Development Studio 3
URBP 214. Introduction to Public Management 3
URBP 223. Housing Economics and Policy 4
URBP 226. Regional Transportation Planning 4
URBP 231. Urban Design in Planning 4
URBP 232. Urban Design Studio 4
URBP 233. Social Issues in Planning 4
URBP 240. Environmental Planning 4
URBP 248. Spatial Visualization Tech in Urb Plan 1-4
URBP 250. Urban Planning Public Finance 4
URBP 255. Urban and Regional Growth Management 4
URBP 256. Sustainable Transportation Planning 4
URBP 260. Environmental Planning Topics 4
URBP 275. Urban Planning Topics 1-4
URBP 276. Social Media in Planning 1-4
URBP 278. Introduction to GIS for Urban Planning 4
URBP 279. Advanced GIS for Urban Planning 4
URBP 280. Planning Research Topics 1-4

Culminating Experience (Plan B only) **6**

URBP 298A. Special Study: Planning Report 3
URBP 298B. Special Study: Planning Report Completion 3

Total Units Required **48**

All electives must be 100-level or 200-level courses as arranged and approved in conference with the student's advisor. Electives to be taken will depend on the student's background and interests.

Students must earn a "B" or better grade in 100-level classes in order for the department to give credit for those classes towards the MUP degree.

URBP 298A and URBP 298B are graded on a Credit/No credit (CR/NC) basis. Receiving an NC in URBP 298A or URBP 298B has the following implications:

- An "NC" is the equivalent of failing the class. The "NC" will remain permanently on the student's record, although the student GPA is not affected by the "NC.".
- Students who receive an "NC" in URBP 298A or URBP 298B can enroll again in the class only if there is space available, with the department giving enrollment priority to students who meet the prerequisites and have not previously taken the class.
- Students who receive an "NC" in URBP 298A or URBP 298B will be placed on administrative-academic probation. To return to good standing, a student must re-enroll in the class and receive a grade of "CR."
- Students who receive a second "NC" in URBP 298A or URBP 298B will be disqualified from the MUP program.

The maximum number of upper-division undergraduate units that can be applied toward the master's degree is 15.

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU cumulative grade point averages of 3.0 in order to graduate.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

Women, Gender and Sexuality Studies

College of Social Sciences

DUDLEY MOORHEAD HALL 241
408-924-5320

Curricula

BA, Sociology, Concentration in Women, Gender and Sexuality Studies
Minor, Women, Gender and Sexuality Studies

Introduction

The Women, Gender, and Sexuality Studies Program at San Jose State is committed to interdisciplinary scholarship and teaching based on global feminist frameworks. WGSS curriculum investigates how lives are shaped by gender and gender identity, race, class, sexuality, and nation. The program emphasizes the importance of understanding gender as integral to social and political structures of power. Students will obtain skills to cultivate critical thinking, cultivation of dialogue, coalition building, appreciation of diversity, and contribution to social change based on feminist frameworks. The goal of the WGSS program includes integrating the academic and experiential, thereby contributing to social change and justice

BA - Sociology, Concentration in Women, Gender and Sexuality Studies

This degree is listed with the Sociology and Interdisciplinary Social Sciences Department.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

Minor - Women, Gender and Sexuality Studies

This degree is listed with the Sociology and Interdisciplinary Social Sciences Department.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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CATALOG CONTENTS

World Languages and Literatures

College of Humanities and the Arts

CLARK HALL 421
408-924-4602

Professors

Damian Bacich, Chair
Jean-Luc Desalvo
Seiichiro Inaba
Romey Sabalius
Juan Antonio Sempere-Martinez

Associate Professors

Eleanor Marsh
Yasue K. Yanai

Assistant Professors

Vanessa Fernandez
Avizia Long
Chunhui Peng
Ruby Ramirez
Cheyla Samuelson

Curricula

BA, Chinese
BA, French
BA, French, Concentration in Preparation for Teaching (Not Accepting Students)
BA, Japanese
BA, Spanish
Minor, Chinese
Minor, French
Minor, German
Minor, International Business
Minor, Italian
Minor, Japanese
Minor, Latin American Studies
Minor, Portuguese
Minor, Spanish
MA, Spanish

Introduction

Connect with the world. Study abroad. Become multilingual. Deepen your understanding of other cultures. Read great works of literature. The Department of World Languages and Literatures helps students communicate effectively and thrive in a global context. Our programs are multifaceted, our faculty and students are multicultural, our curriculum is international.

We offer majors and minors in four of the most widely spoken languages in the world: Mandarin Chinese, Japanese, French, and Spanish, and an M.A. program in Spanish. We also offer language minors in International Business, Italian, Portuguese, German, and Latin American Studies, and a single subject teaching credential program in French, Japanese, Mandarin Chinese and Spanish.

We offer language and culture courses in Assyrian, Hebrew and Vietnamese, and classes in Greek and Latin. Our graduates work as teachers, executives, translators, interpreters, civil servants, journalists, and hold many other occupations in global business and finance.

Proficiency Examination

A proficiency examination in the language is required of candidates for a teaching credential and is a prerequisite for enrollment in any graduate course.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

For Legend please see page 2

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CATALOG CONTENTS

BA - Chinese

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

University Graduation Requirements 41

Core Lower Division General Education 27

Of the 39 units required by the university, 12 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

NOTE: STUDENTS WHO HAVE COMPLETED THE ADT TRANSFER DEGREE (UNDER SB 1440) FOR THIS MAJOR WILL HAVE COMPLETED ALL LOWER DIVISION GE REQUIREMENTS AND SHOULD FOLLOW THE 60 UNIT GUARANTEE ROADMAP. MEET WITH AN ADVISOR PRIOR TO REGISTERING FOR YOUR FIRST SEMESTER FOR THE 60 UNIT ROADMAP OR SPECIFIC QUESTIONS.

Upper Division General Education 6

Of the 9 units required by the university, 3 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 6

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

COMPLETE ONE SEQUENCE FROM:

African American Studies 6

AFAM 002A. African Americans and the Development of America's History and Government	D2	3
AFAM 002B. African Americans and the Development of America's History and Government	M7	3

Asian American Studies 6

AAS 033A. Asian Americans in U.S. History I	D2	3
AAS 033B. Asian Americans in U.S. History II	M7	3

U.S. History and Government 6

HIST 015. Essentials of U.S. History	M12	3
POLS 015. Essentials of U.S. & California Government	M11	3

Chicana and Chicano Studies 6

CCS 010A. Mexican Americans and the Development of U.S. History and Government	D2	3
CCS 010B. Mexican Americans and the Development of U.S. History and Government	M7	3

Physical Education 2

Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Preparation for the Major		**20**
CHIN 025A. Intermediate Chinese	C2	4
CHIN 025B. Intermediate Chinese	C2	4
(Or CHIN 25A/B equivalent)		
FOREIGN LANGUAGE REQUIREMENT		
12 units of a second world language		12
Requirements of the Major		**37-38**
CHIN 101A. Advanced Chinese		4
CHIN 101B. Advanced Chinese		4
CHIN 140. Chinese Culture and Politics Through Literature	V	3
FORL 100W. Writing Workshop	Z	3
COMPLETE SIX COURSES FROM:		
CHIN 102. Chinese Culture		4
CHIN 110. Structure of the Chinese Language		4
CHIN 120A. Modern Chinese Literature (1900-1949)		4
CHIN 120B. Introduction to Classical Chinese Literature		4
CHIN 130. Readings in Chinese Culture		4
CHIN 132. Special Topics in Chinese for Careers		4
RELS 144. Chinese Traditions		3
University Electives		**21-22**
Total Units Required		**120**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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BA - French

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

University Graduation Requirements 41

Core Lower Division General Education 27

Of the 39 units required by the university, 12 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

NOTE: STUDENTS WHO HAVE COMPLETED THE ADT TRANSFER DEGREE (UNDER SB 1440) FOR THIS MAJOR WILL HAVE COMPLETED ALL LOWER DIVISION GE REQUIREMENTS AND SHOULD FOLLOW THE 60 UNIT GUARANTEE ROADMAP. MEET WITH AN ADVISOR PRIOR TO REGISTERING FOR YOUR FIRST SEMESTER FOR THE 60 UNIT ROADMAP OR SPECIFIC QUESTIONS.

Upper Division General Education 6

Of the 9 units required by the university, 3 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 6

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

COMPLETE ONE SEQUENCE FROM:

African American Studies 6

AFAM 002A. African Americans and the Development of America's History and Government	D2	3
AFAM 002B. African Americans and the Development of America's History and Government	M7	3

Asian American Studies 6

AAS 033A. Asian Americans in U.S. History I	D2	3
AAS 033B. Asian Americans in U.S. History II	M7	3

U.S. History and Government 6

HIST 015. Essentials of U.S. History	M12	3
POLS 015. Essentials of U.S. & California Government	M11	3

Chicana and Chicano Studies 6

CCS 010A. Mexican Americans and the Development of U.S. History and Government	D2	3
CCS 010B. Mexican Americans and the Development of U.S. History and Government	M7	3

Physical Education 2

Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Preparation for the Major		**20**
FREN 025A. Intermediate French: Reading	C2	4
FREN 025B. Intermediate French: Writing	C2	4
(Or equivalent)		
FOREIGN LANGUAGE REQUIREMENT		
12 units of a second world language (or equivalent)		12
Requirements of the Major		**34**
Core Courses		**34**
FORL 100W. Writing Workshop	Z	3
FREN 102B. Francophone Cultures: Through Literature and Cinema	V	3
COMPLETE 2-3 COURSE FROM:		
FREN 101A. Advanced French: Reading and Writing		4
FREN 101B. Advanced French: Written Communication		4
FREN 101C. Advanced French: Oral Communication		4
COMPLETE 1-3 COURSES FROM:		
FREN 105. Advanced Grammar: Phonetic Analysis		4
FREN 110. Advanced Grammar: Grammatical Analysis		4
FREN 132. Special Topics in French for Careers		4
FREN 170. Translation and Comparative Stylistics		4
COMPLETE 2-4 COURSE FROM:		
FREN 120A. French Literature from the Middle Ages to 1600		4
FREN 120B. French Literature of the Seventeenth through the Eighteenth Centuries		4
FREN 140A. French Literature of the Nineteenth Century		4
FREN 140B. French Literature 20th-21st Centuries		4
COMPLETE 0-2 COURSE FROM:		
FREN 102A. French Culture		4
FREN 102C. French Culture		4
FREN 160. Masters of French Literature		4
University Electives		**25**
Total Units Required		**120**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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BA - French, Preparation for Teaching (Not Accepting Students)

This major is designed for students interested in teaching world languages in high school or middle school. The following course work satisfies San José State University's requirements for a BA in French. A minimum grade point average (GPA) criteria may be required for verification of subject matter competency. Completion of the program will not guarantee admission to the credential program. Like all other applicants, students must meet credential program standards and undergo screening for admission. See "Teaching: How to Become a Teacher in California" (see Teaching) for information on application and admission to credential programs.

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here.

University Graduation Requirements 44

Core Lower Division General Education 27

Of the 39 units required by the university, 12 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

Upper Division General Education 9

Of the 9 units required by the university, 0 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 6

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

COMPLETE ONE SEQUENCE FROM:

African American Studies 6

AFAM 002A. African Americans and the Development of America's History and Government	D2	3
AFAM 002B. African Americans and the Development of America's History and Government	M7	3

Asian American Studies 6

AAS 033A. Asian Americans in U.S. History I	D2	3
AAS 033B. Asian Americans in U.S. History II	M7	3

U.S. History and Government 6

HIST 015. Essentials of U.S. History	M12	3
POLS 015. Essentials of U.S. & California Government	M11	3

Chicana and Chicano Studies 6

CCS 010A. Mexican Americans and the Development of U.S. History and Government	D2	3
CCS 010B. Mexican Americans and the Development of U.S. History and Government	M7	3

Physical Education 2

Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Preparation for the Major		**15-19**
FREN 025A. Intermediate French: Reading	C2	4
FREN 025B. Intermediate French: Writing	C2	4
FREN 025C. Intermediate French: Oral Communication		4
(Or FREN 25 A/B/C equivalent)		
FOREIGN LANGUAGE REQUIREMENT		
One year of a second world language, ancient or modern (or equivalent)		6-10
Requirements of the Major		**36**
FREN 101A. Advanced French: Reading and Writing		4
FREN 101B. Advanced French: Written Communication		4
FREN 101C. Advanced French: Oral Communication		4
FREN 102A. French Culture		4
FREN 102C. French Culture		4
FREN 105. Advanced Grammar: Phonetic Analysis		4
FREN 110. Advanced Grammar: Grammatical Analysis		4
FORL 100W. Writing Workshop	Z	3
COMPLETE FOUR COURSES FROM:		
FREN 120A. French Literature from the Middle Ages to 1600		4
FREN 120B. French Literature of the Seventeenth through the Eighteenth Centuries		4
FREN 132. Special Topics in French for Careers		4
FREN 140A. French Literature of the Nineteenth Century		4
FREN 140B. French Literature 20th-21st Centuries		4
FREN 160. Masters of French Literature		4
FREN 170. Translation and Comparative Stylistics		4
including two from 120A, 120B, 140A, 140B, 170		
Required Minor		**12-18**
A minor in another world language is recommended		
University Electives		**3-13**
Total Units Required		**120**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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BA - Japanese

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here..

University Graduation Requirements 44

Core Lower Division General Education 27

Of the 39 units required by the university, 12 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

NOTE: STUDENTS WHO HAVE COMPLETED THE ADT TRANSFER DEGREE (UNDER SB 1440) FOR THIS MAJOR WILL HAVE COMPLETED ALL LOWER DIVISION GE REQUIREMENTS AND SHOULD FOLLOW THE 60 UNIT GUARANTEE ROADMAP. MEET WITH AN ADVISOR PRIOR TO REGISTERING FOR YOUR FIRST SEMESTER FOR THE 60 UNIT ROADMAP OR SPECIFIC QUESTIONS.

Upper Division General Education 9

Of the 9 units required by the university, 0 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 6

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

COMPLETE ONE SEQUENCE FROM:

African American Studies 6

AFAM 002A. African Americans and the Development of America's History and Government	D2	3
AFAM 002B. African Americans and the Development of America's History and Government	M7	3

Asian American Studies 6

AAS 033A. Asian Americans in U.S. History I	D2	3
AAS 033B. Asian Americans in U.S. History II	M7	3

U.S. History and Government 6

HIST 015. Essentials of U.S. History	M12	3
POLS 015. Essentials of U.S. & California Government	M11	3

Chicana and Chicano Studies 6

CCS 010A. Mexican Americans and the Development of U.S. History and Government	D2	3
CCS 010B. Mexican Americans and the Development of U.S. History and Government	M7	3

Physical Education 2

Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Preparation for the Major		**20**
JPN 025A. Intermediate Japanese	C2	4
JPN 025B. Intermediate Japanese	C2	4
(Or JPN 25A/B equivalent)		
FOREIGN LANGUAGE REQUIREMENT		
12 units of a second world language (or equivalent)		12
Requirements of the Major		**41-42**
JPN 101A. Advanced Japanese		4
JPN 101B. Advanced Japanese		4
JPN 101C. Advanced Conversational Japanese		4
JPN 102. Japanese Culture		3
FORL 100W. Writing Workshop	Z	3
COMPLETE SIX COURSES FROM:		
JPN 103. Japanese Ideography and Calligraphy		4
JPN 105. Media Japanese		4
JPN 107. Japanese for Business Professionals		4
JPN 110. Japanese Linguistics		4
JPN 120. Japanese Literature and Translation		4
JPN 130. Readings in Japanese Culture		4
JPN 140. Japanese Drama and Lyrics		4
JPN 150. Japanese Narratives and Life stories		4
JPN 160. Special Topics in Japanese Studies		3
University Electives		**14-15**
Total Units Required		**120**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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BA - Spanish

The following course work satisfies San José State University's requirements for a BA in Spanish. A minimum grade point average (GPA) criteria may be required for verification of subject matter competency.

University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

4-Year Program Roadmap

Students may find a roadmap for this program here. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Transfer Degrees (ADT) pathway roadmaps can be found here..

University Graduation Requirements 41

Core Lower Division General Education 27

Of the 39 units required by the university, 12 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

NOTE: STUDENTS WHO HAVE COMPLETED THE ADT TRANSFER DEGREE (UNDER SB 1440) FOR THIS MAJOR WILL HAVE COMPLETED ALL LOWER DIVISION GE REQUIREMENTS AND SHOULD FOLLOW THE 60 UNIT GUARANTEE ROADMAP. MEET WITH AN ADVISOR PRIOR TO REGISTERING FOR YOUR FIRST SEMESTER FOR THE 60 UNIT ROADMAP OR SPECIFIC QUESTIONS.

Upper Division General Education 6

Of the 9 units required by the university, 3 units may be satisfied by coursework outlined below. Consult with major advisor for details.

American Institutions 6

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

COMPLETE ONE SEQUENCE FROM:

African American Studies 6

AFAM 002A. African Americans and the Development of America's History and Government	D2	3
AFAM 002B. African Americans and the Development of America's History and Government	M7	3

Asian American Studies 6

AAS 033A. Asian Americans in U.S. History I	D2	3
AAS 033B. Asian Americans in U.S. History II	M7	3

U.S. History and Government 6

HIST 015. Essentials of U.S. History	M12	3
POLS 015. Essentials of U.S. & California Government	M11	3

Chicana and Chicano Studies 6

CCS 010A. Mexican Americans and the Development of U.S. History and Government	D2	3
CCS 010B. Mexican Americans and the Development of U.S. History and Government	M7	3

Physical Education 2

Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. For additional information on the WST, please see http://testing.sjsu.edu/wst. Exceptions to the GWAR may be found at http://info.sjsu.edu/gwar.html.

A grade of C or better (C- not accepted) is required to meet graduation requirement.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Preparation for the Major		20
SPAN 025A. Intermediate Spanish	C2	4
SPAN 025B. Intermediate Spanish	C2	4
(or SPAN 25 A/B equivalent)		
FOREIGN LANGUAGE REQUIREMENT		
12 units of a second language (or equivalent)		12
Requirements of the Major		**42**
Core Courses		**42**
FORL 100W. Writing Workshop	Z	3
SPAN 101A. Advanced Spanish		4
SPAN 101B. Advanced Spanish		4
SPAN 102A. Spanish Culture		4
SPAN 102B. Hispanic American Culture	V	3
SPAN 105. Spanish Phonology		4
SPAN 110. Spanish Morphology and Syntax		4
SPAN 115. Introduction to Literary Studies in Spanish		4
COMPLETE TWO COURSES FROM:		
SPAN 120A. Spanish Literature I		4
SPAN 120B. Spanish Literature II		4
SPAN 140A. Spanish American Literature		4
SPAN 140B. Spanish American Literature II		4
SPAN 160C. Hispanic Literature		4
COMPLETE ONE COURSES FROM:		
SPAN 111. Advanced Spanish Conversation		4
SPAN 160A. Hispanic Culture		4
SPAN 160B. Hispanic Linguistics		4
SPAN 170. Spanish Translation: Theory and Practice		4
University Electives		**0-17**

Electives must be selected with advisor approval.

Total Units Required	**120**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Minor - Chinese

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Proficiency for the Minor		
CHIN 001A. Elementary Chinese	C2	4
CHIN 001B. Elementary Chinese	C2	4

Requirements of the Minor		19-20
CHIN 025A. Intermediate Chinese	C2	4
CHIN 025B. Intermediate Chinese	C2	4
CHIN 101A. Advanced Chinese		4
CHIN 101B. Advanced Chinese		4
COMPLETE ONE COURSE FROM:		
CHIN 102. Chinese Culture		4
CHIN 140. Chinese Culture and Politics Through Literature	V	3
RELS 144. Chinese Traditions		3
Total Units Required		**19-20**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Minor - French

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Proficiency for the Minor		
FREN 001A. Elementary French	C2	4
FREN 001B. Elementary French	C2	4

Requirements of the Minor		19-20
FREN 025A. Intermediate French: Reading	C2	4
FREN 025B. Intermediate French: Writing	C2	4
COMPLETE TWO COURSES FROM:		
FREN 101A. Advanced French: Reading and Writing		4
FREN 101B. Advanced French: Written Communication		4
FREN 101C. Advanced French: Oral Communication		4
COMPLETE ONE COURSE FROM:		
FREN 102B. Francophone Cultures: Through Literature and Cinema	V	3
FREN 132. Special Topics in French for Careers		4
Total Units Required		**19-20**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Minor - German

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Proficiency for the Minor			
GERM 001A. Elementary German	C2	4	
GERM 001B. Elementary German	C2	4	
Requirements of the Minor			**21**
GERM 025A. Intermediate German	C2	5	
GERM 025B. Intermediate German	C2	5	
GERM 101A. Advanced German		4	
GERM 101B. Advanced German		4	
COMPLETE ONE COURSE FROM:			
GERM 102A. German Culture until 1871		3	
GERM 102B. German Culture from 1871 to the Present		3	
Total Units Required			**21**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Minor - Italian

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Proficiency for the Minor	
ITAL 001A. Elementary Italian	5
ITAL 001B. Elementary Italian	5

Requirements of the Minor	20
ITAL 002. Basic Reading and Writing	3
ITAL 101A. Advanced Italian	4
ITAL 101B. Advanced Italian	4
ITAL 102. Italian Culture	3
Six additional upper division units in Italian	6
Total Units Required	**20**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Minor - Japanese

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Proficiency for the Minor			
JPN 001A. Elementary Japanese	C2	4	
JPN 001B. Elementary Japanese	C2	4	
Requirements of the Minor			**19**
JPN 025A. Intermediate Japanese	C2	4	
JPN 025B. Intermediate Japanese	C2	4	
JPN 101C. Advanced Conversational Japanese		4	
JPN 102. Japanese Culture		3	
COMPLETE ONE ADVANCED COURSE FROM:			
JPN 101A. Advanced Japanese		4	
JPN 101B. Advanced Japanese		4	
Total Units Required			**19**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Minor - Portuguese

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Proficiency for the Minor			
PORT 001A. Elementary Portuguese I	C2	4	
PORT 001B. Elementary Portuguese II	C2	4	
Requirements of the Minor			**18**
PORT 020A. Intermediate Portuguese		3	
PORT 020B. Intermediate Portuguese		3	
PORT 101A. Advanced Portuguese		3	
PORT 101B. Advanced Portuguese		3	
PORT 102A. Special Topics in Lusophone Cultures		3	
PORT 102B. Brazilian Culture		3	
Total Units Required			**18**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Minor - Spanish

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Proficiency for the Minor		
SPAN 001A. Elementary Spanish	C2	4
SPAN 001B. Elementary Spanish	C2	4

Requirements of the Minor		19-20
SPAN 025A. Intermediate Spanish	C2	4
SPAN 025B. Intermediate Spanish	C2	4
SPAN 101A. Advanced Spanish		4
SPAN 101B. Advanced Spanish		4
COMPLETE ONE COURSE FROM:		
SPAN 102A. Spanish Culture		4
SPAN 102B. Hispanic American Culture	V	3
Total Units Required		**19-20**

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Minor - Latin American Studies

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Requirements of the Minor	19

Novice high proficiency (ACTFL scale) as determined by the LAS advisor in Spanish, Portuguese or French.

Core Courses			10
SPAN 102B. Hispanic American Culture	V	3	
Any LAS advisor-approved Latin American History Course		4	
COMPLETE ONE COURSE FROM:			
FREN 102B. Francophone Cultures: Through Literature and Cinema	V	3	
PORT 102B. Brazilian Culture		3	
Three courses approved by the LAS advisor from the list of electives			

Other Courses			9
Humanities			
ARTH 182A. Art of the Americas		3	
DANC 102. Dance in World Cultures	V	3	
SPAN 140A. Spanish American Literature		4	
SPAN 140B. Spanish American Literature II		4	
SPAN 160A. Hispanic Culture		4	
SPAN 160B. Hispanic Linguistics		4	
SPAN 160C. Hispanic Literature		4	
Spanish sequence (SPAN 160A, SPAN 160B and SPAN 160C) when focus is on Latin American Studies.			
Social Sciences			
HIST 162. Colonial Latin America		4	
HIST 163. Modern Latin America, 1800-Present		4	
HIST 181. Advanced Topics in American History		4	
CCS 105. Chicanos: United States/Mexico Relations		3	
POLS 146. Latin American Politics		4	
GEOG 150. Central and South America and the Caribbean		3	
Business			
BUS3 161A. Applied Organizational Behavior		3	

Total Units Required	19

New courses, or courses not listed above, with content directly relevant to the study of Latin America, may be substituted for any of the electives on approval of coordinator.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

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Minor - International Business

Students in International Business have the option to select one of the following world languages: Chinese, French, German, Japanese and Spanish for a minor. International Business Majors who are interested in selecting courses in this minor that are most appropriate for their major should contact the respective World Language Faculty Member to advise them regarding their minor. For further information please see the World Languages and Literatures website: http://www.sjsu.edu/wll/programs/intlbusminors/

University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Requirements of the Minor 15-17

Choose a language

Chinese 15-16

CHIN 025A. Intermediate Chinese	C2	4
CHIN 025B. Intermediate Chinese	C2	4

COMPLETE ONE COURSE FROM:

CHIN 101A. Advanced Chinese		4
CHIN 101B. Advanced Chinese		4

COMPLETE ONE COURSE FROM:

CHIN 102. Chinese Culture		4
CHIN 140. Chinese Culture and Politics Through Literature	V	3
RELS 144. Chinese Traditions		3

French 15-16

FREN 025A. Intermediate French: Reading	C2	4
FREN 025B. Intermediate French: Writing	C2	4

COMPLETE ONE COURSE FROM:

FREN 101A. Advanced French: Reading and Writing		4
FREN 101B. Advanced French: Written Communication		4
FREN 101C. Advanced French: Oral Communication		4

COMPLETE ONE COURSE FROM:

FREN 102B. Francophone Cultures: Through Literature and Cinema	V	3
FREN 132. Special Topics in French for Careers		4

German 17

GERM 025A. Intermediate German	C2	5
GERM 025B. Intermediate German	C2	5

COMPLETE ONE COURSE FROM:

GERM 101A. Advanced German		4
GERM 101B. Advanced German		4

COMPLETE ONE COURSE FROM:

GERM 102A. German Culture until 1871		3
GERM 102B. German Culture from 1871 to the Present		3

Japanese 15-16

JPN 025A. Intermediate Japanese	C2	4
JPN 025B. Intermediate Japanese	C2	4
JPN 101C. Advanced Conversational Japanese		4

COMPLETE ONE COURSE FROM:

JPN 102. Japanese Culture		3
JPN 107. Japanese for Business Professionals		4

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

For Legend please see page 2

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Spanish		15-16
NON-HERITAGE SPEAKERS:		
SPAN 025A. Intermediate Spanish	C2	4
SPAN 025B. Intermediate Spanish	C2	4
HERITAGE SPEAKERS:		
SPAN 020A. Spanish for Spanish Speakers		4
SPAN 020B. Spanish for Spanish Speakers		4
COMPLETE ONE COURSE FROM:		
SPAN 101A. Advanced Spanish		4
SPAN 101B. Advanced Spanish		4
SPAN 111. Advanced Spanish Conversation		4
COMPLETE ONE COURSE FROM:		
SPAN 102A. Spanish Culture		4
SPAN 102B. Hispanic American Culture	V	3
SPAN 132. Special Topics in Spanish for Careers		4
SPAN 160A. Hispanic Culture		4
SPAN 170. Spanish Translation: Theory and Practice		4
Total Units Required		**15-17**

MA - Spanish

The Master of Arts Degree in Spanish offers students the opportunity to pursue studies in Hispanic literature, linguistics, and culture. The program prepares students for doctoral studies and for careers in the teaching of Spanish, bilingual education, international business, social and governmental services, and other related areas.

See the Department of World Languages and Literatures website for more information: www.sjsu.edu/wll

Admissions Requirements

University Admissions

Applicants must submit a complete graduate application by applying through the CSU Cal State Apply system at calstate.edu/apply and meet all the university admission requirements. Applicants apply separately to the department to obtain admission into the MA, Spanish degree program. See the GAPE Graduate Admissions website and this Catalog for general information about graduate admissions at SJSU.

Applicants from countries in which the native language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirements webpage at GAPE. For TOEFL Requirements, see the Policies and Procedures section, Graduate and Post-Baccalaureate Information in this Catalog.

Requirements for Admission to Classified Standing

Minimum requirements for admission to the Graduate Division are outlined in this catalog. In order to be admitted to classified standing in the M.A. program in Spanish, students should possess the following:

1. A bachelor's degree (or its equivalent, as assessed by the department), with a major in Spanish, and including at least 15 units of upper division work in the major with a grade of "B" or better; and
2. Evidence of college-level proficiency in Spanish.

Requirements for Admission to Conditionally Classified Standing

A student may be admitted to conditionally classified standing if he or she meets minimum requirements for admission to the Graduate Division but does not fully meet requirements for Classified admission to the MA, Spanish program. The individual admission notification will explain required terms and conditions for attaining Classified standing.

Requirements for Admission to Candidacy for the MA - Spanish

Admission to candidacy requires favorable action by both the departmental graduate committee and the university graduate committee. All applicants meet institutional requirements as set forth in this catalog. The University requires that all graduate students complete the Graduation Writing Assessment Requirement (GWAR) as a condition for advancement to candidacy. Please refer to the SJSU catalog section titled "Graduation Writing Assessment Requirement" for details. For graduate courses that meet the GWAR, please refer to the Graduate Admissions and Program Evaluations website at www.sjsu.edu/gape.

Culminating Experience

Each candidate for the master's degree must successfully complete a final comprehensive written examination.

Completing Requirements for the MA - Spanish

The minimum program for a Master of Arts in Spanish degree includes the following:

1. The 30 unit program for a Master of Spanish requires at least 18 semester units of 200-level courses. Included in these 30 units, students must take FORL 200, which satisfies the Graduation Writing Assessment Requirement (GWAR);
2. Up to 12 units of approved upper division (100-level) courses not used to meet a requirement for the BA degree in Spanish at San José State University may be taken in the Graduate Division to complete the minimum 30-unit program;
3. Final comprehensive examination conducted in Spanish; and
4. Demonstration of competence in written English.

Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR). For information on the GWAR, please see http://info.sjsu.edu/gcw.html.

Courses that meet General Education/American Institution requirements are noted with area designation for required area.

For Legend please see page 2

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Requirements of the Masters 30

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FORL 200. Graduate Research & Writing ..... GWAR 3

COMPLETE 15 UNITS FROM:

SPAN 201. Modern Spanish 3
SPAN 202. Seminar in Hispanic Civilization and Culture 3
SPAN 210. Old Spanish 3
SPAN 220. Historical Spanish Linguistics 3
SPAN 225. Spanish Dialectology 3
SPAN 250. Seminar in the Siglo de Oro 3
SPAN 260. Seminar in "Modernismo" and the Generation of '98 3
SPAN 270. Seminar in Contemporary Literature of Spain and Spanish America 3
SPAN 280. Seminar in Romanticism in Spain and Spanish America 3
SPAN 298. Special Study 1-6

Electives 12

A MAXIMUM OF 12 UNITS MAY BE TAKEN FROM THE FOLLOWING:

Elective courses must be planned in consultation with the Graduate Advisor.

SPAN 111. Advanced Spanish Conversation 4
SPAN 120A. Spanish Literature I 4
SPAN 120B. Spanish Literature II 4
SPAN 132. Special Topics in Spanish for Careers 4
SPAN 140A. Spanish American Literature 4
SPAN 140B. Spanish American Literature II 4
SPAN 160A. Hispanic Culture 4
SPAN 160B. Hispanic Linguistics 4
SPAN 160C. Hispanic Literature 4
SPAN 170. Spanish Translation: Theory and Practice 4
FORL 205. Romance Linguistics 3

Culminating Experience 3

Plan B (Comprehensive Exam)

Written Comprehensive Examination

Total Units Required 30

Elective courses must be planned in consultation with the Graduate Advisor.

The maximum number of upper-division undergraduate units that can be applied toward the master's degree is 12.

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU Cumulative grade point averages of 3.0 in order to graduate.

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Fall 2019 - Policies and Procedures

Welcome to the listing for San José State University policies and procedures. This listing was created to organize important campus information that is critical to student success. Please suggest ways in which this section can better serve the SJSU community by contacting grad-undergrad-programs@sjsu.edu.

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Calendar - Fall 2019

APRIL 2019

Monday, April 1
Fall 2019 Graduate Application for Candidacy Deadline

Monday, April 15
Fall 2019 Enrollment appointments posted on MySJSU (for continuing students)
Fall 2019 Schedule of Classes goes live at info.sjsu.edu

Saturday, April 20
WST Exam

Friday, April 25
Financial Aid Priority File Documentation Completion Date

Tuesday, April 30
Advance Registration for Fall 2019 (for continuing students)

MAY 2019

Wednesday, May 1
Frosh and Transfer Intent to Enroll deadline
Housing requirement application deadline (Freshmen Only)

Monday, May 27
Memorial Day - campus closed

JUNE 2019

Monday, June 3
Deadline to Clear Spring 2018 Incomplete Grades

Monday, June 10
Fall 2019 Enrollment appointments posted on MySJSU (for newly admitted students)
Academic standing posted on MySJSU

Saturday, June 15
WST Exam

Monday, June 17
Advance Registration for Fall 2019 for newly admitted students begins

Tuesday, June 18
Frosh Orientation - Session 1

Thursday, June 25
Frosh Orientation - Session 2

Friday, June 28
Deadline to submit all requested financial aid documents and to qualify for Fall 2019 tuition fee deferral

JULY 2019

Thursday, July 4
Independence Day - campus closed

Friday, July 5
Payment Due Date

Tuesday, July 19
Frosh Orientation - Session 3

Friday, July 12
Frosh Orientation - Session 4

Monday, July 15
Final Transcript for Newly Admitted Students Due

Tuesday, July 16
Frosh Orientation - Session 5

Tuesday, July 23
Frosh Orientation - Session 6

Saturday, July 20
WST Exam

Tuesday, July 30
Frosh Orientation - Session 7

AUGUST 2019

Saturday, August 3
Payment Due Date

Sunday, August 11
International House opens to all residents

Thursday, August 15
Graduate Student Orientation

Saturday, August 17
On campus residence halls and apartments open

Sunday, August 18
Fall 2019 Advance Registration closes at 11:59 pm
Last day to withdraw for 100% refund of Fall 2019 fees

Monday, August 19 - Tuesday, August 20
No registration activity on MySJSU

Wednesday, August 21 - Tuesday, September 10
Late Registration period (Registration via MySJSU starts after 7 a.m.)

Wednesday, August 21
First day of instruction
Late registration begins
Late add fee of $25 assessed

SEPTEMBER 2019

Monday, September 2
Labor Day - Campus Closed

Tuesday, September 3
Last day to Drop a Class without a "W" grade

Wednesday, September 4
Payment Due Date

Tuesday, September 10
Last day to add courses
Last day to request grade options - CR/NC, Audit
Last day to submit instructor drops
Fall 2019 Master's Degree Graduation Application Deadline

Saturday, September 14
WST Exam

Wednesday, September 18
Enrollment Census Date

OCTOBER 2019

Friday, October 5
Payment Due Date

Thursday, October 10
Graduate Programs & Professional Fair

Saturday, October 19
WST Exam

NOVEMBER 2019

Monday, November 11
Veteran's Day - campus closed

Friday, November 15
Last day to submit late drop/withdrawal requests for Fall 2019

Wednesday, November 27
Non-instructional holiday (no classes held)

Thursday - Friday, November 28 - 29
Thanksgiving Holiday - campus closed

DECEMBER 2019

Monday, December 9
Last day of instruction

Tuesday, December 10
Study/Conference Day (no classes or exams)

Wednesday - Tuesday, December 11-17
Fall 2019 final examinations

Tuesday, December 17,
Fall 2019 final examinations make-up day

Friday, December 20
Grades due from faculty (Preliminary Deadline)
End of Fall semester

Saturday, December 21
Fall 2019 grades available at http://my.sjsu.edu

Wednesday, December 25, 2019 - Tuesday, January 1, 2020
Holiday Observed - campus closed

Wednesday, December 25, 2019 - Monday, January 20, 2020
Winter Recess

JANUARY 2020

Wednesday, January 1, 2020
New Year's Day - Campus Closed
Fall 2019 Grades Due from Faculty (Final Deadline).
Grade Roster will be Closed at 11:59pm

Thursday, January 2, 2020
Deadline to clear Fall 2017 Incomplete Grades

Thursday, January 9, 2020
Academic Standing posted on MySJSU

Tuesday, January 14, 2020
Graduate Thesis Publication Deadline

Final Exam Schedule - Fall 2019

Classes with meeting times other than those identified in the Final Examination Schedule, or which cannot be held at the scheduled time, should utilize the "Make-Up" period provided.

Group I Classes

Group I classes are those classes which meet M, W, F, MTW, MWR, MTWF, MWRF, MTWRF, MW, WF, MWF, MF, WR, MT.

REGULAR CLASS START TIME	FINAL EXAMINATION DAY	FINAL EXAMINATION TIME
0730 or 0800	Wednesday, December 11	0715-0930
0830 or 0900	Friday, December 13	0715-0930
0930 or 1000	Tuesday, December 17	0715-0930
1030 or 1100	Thursday, December 12	0945-1200
1130 or 1200	Monday, December 16	0945-1200
1230 or 1300	Wednesday, December 11	1215-1430
1330 or 1400	Friday, December 13	1215-1430
1430 or 1500	Tuesday, December 17	1215-1430
1530 or 1600*	Thursday, December 12	1445-1700
1630* or 1700*	Monday, December 16	1445-1700

*Classes with start time between 1600 and 1725, which meet only once per week for more than two hours, will follow the same schedule as "Late Afternoon Classes." Classes with meeting times other than those identified in the Final Examination Schedule, or which cannot be examined at the scheduled time, should utilize the "Make-Up" period provided.

Group II Classes

Group II classes are those classes which meet TR, T, R, TWR, MTR, TRF, MTRF, MTWR, TWRF, RF, TF.

REGULAR CLASS START TIME	FINAL EXAMINATION DAY	FINAL EXAMINATION TIME
0730 or 0800	Thursday, December 12	0715-0930
0830 or 0900	Monday, December 16	0715-0930
0930 or 1000	Wednesday, December 11	0945-1200
1030 or 1100	Friday, December 13	0945-1200
1130 or 1200	Tuesday, December 17	0945-1200
1230 or 1300	Thursday, December 12	1215-1430
1330 or 1400	Monday, December 16	1215-1430
1430 or 1500	Wednesday, December 11	1445-1700
1530 or 1600*	Friday, December 13	1445-1700
1630* or 1700*	Tuesday, December 17	1445-1700

*Classes with start time between 1600 and 1725, which meet only once per week for more than two hours, will follow the same schedule as "Late Afternoon Classes." Classes with meeting times other than those identified in the Final Examination Schedule, or which cannot be examined at the scheduled time, should utilize the "Make-Up" period provided.

Late Afternoon Classes

Late afternoon and night classes meeting more than once per week should schedule their final exam on the earliest possible date. Example: final exam for ENGL 001A which meets on MWF from 17:30-18:45 should be scheduled on Wednesday, December 11 from 17:15-19:30 (not Monday, December 16).

REGULAR CLASS START TIME	FINAL EXAMINATION DAY	FINAL EXAMINATION TIME
1730 or 1800-Monday	Monday, December 16	1715-1930
1730 or 1800-Tuesday	Tuesday, December 17	1715-1930
1730 or 1800-Wednesday	Wednesday, December 11	1715-1930
1730 or 1800-Thursday	Thursday, December 12	1715-1930
1730 or 1800-Friday	Friday, December 13	1715-1930

Night Classes

Late afternoon and night classes meeting more than once per week should schedule their final exam on the earliest possible date. Example: final exam for ENGL 001A which meets on MWF from 18:30-19:45 should be scheduled on Wednesday, December 11 from 19:45-22:00 (not Monday, December 16).

REGULAR CLASS START TIME	FINAL EXAMINATION DAY	FINAL EXAMINATION TIME
Monday Night (1830 or later)	Monday, December 16	1945-2200
Tuesday Night (1830 or later)	Tuesday, December 17	1945-2200
Wednesday Night (1830 or later)	Wednesday, December 11	1945-2200
Thursday Night (1830 or later)	Thursday, December 12	1945-2200
Friday Night (1830 or later)	Friday, December 13	1945-2200

Saturday Classes

All Saturday classes will administer final exams on Saturday, December 14, 2019, at the regularly scheduled class start time, for 2 hours and 15 minutes.

Online Classes

Online class final exams are to be administered during any of the following time periods

Thursday, December 12	1715-1930
Thursday, December 12	1945-2200
Friday, December 13	1715-1930
Friday, December 13	1945-2200
Wednesday, December 18	All day

Make-Up

Any make-up examinations	Wednesday, December 18, 2019	All day

MATH 001, MATH 008, and MATH 019 Final Exam Schedule- Fall 2019

Note: These three courses administer common finals which do not follow the standard schedule for final exams. Questions should be addressed to the Department of Mathematics & Statistics.

COURSE	EXAMINATION DAY	EXAMINATION TIME
MATH 001	Saturday, December 14	0900-1115
MATH 008	Saturday, December 14	0900-1115
MATH 019	Saturday, December 14	1300-1515

Final Examination Policy

In accordance with University Policy S17-1, faculty members are required to have a culminating activity for their courses, which can include a final examination, a final research paper or project, a final creative work or performance, a final portfolio of work, or other appropriate assignment. Supervision, Internship and individual study courses are not required to have a culminating activity.

Time Frame for Culminating Activities:

In the case where there is to be a timed, sit down final examination or an online synchronous final, it must occur during the scheduled final examination time for that course. The required submission date and time for take-home examinations, final papers or other culminating activities must fall no earlier than the beginning of the scheduled final examination time for the course. Online asynchronous final exams are to be treated like take-home exams. Final exams shall not be given, nor culminating activities due, during regularly scheduled class periods or on "Study/Conference Day." Supervision, Internship and individual study courses are not required to have a culminating activity.

Exceptions to Time Frame for Culminating Activities:

Exceptions for the above time frame are justified in the following circumstances:

- Performance courses in which it is impractical to examine each student individually in the time period assigned for final examinations; e.g. performance courses in theater arts, music, or athletics.
- Other such circumstances as approved by the chair with notification and rationale to be provided to the dean.

Circumstances in which students may request the rescheduling of a culminating activity:

a. A student may request the rescheduling of a culminating activity if there is a verifiable emergency.

b. A student may request the rescheduling of a culminating activity if three or more are scheduled/due within a 24-hour period. Requests must be made at least three weeks prior to the last class meeting of the semester.

- If one of the three or more culminating activities scheduled for the same day is a paper or project, the deadline for the paper/project will be moved to a mutually agreeable time within the final examination period.
- If three or more finals are scheduled on the same day, the student may request an alternative exam date and/or time from any one of the instructors.
- Final exam makeup day may be used for rescheduled exams.

c. Regarding a and b above: if a student and instructor are unable to reach agreement on rescheduling, the chair will first be consulted. If no agreement can be found through the chair, the dean (or designee) will be consulted.

d. Graduate students should refer to section on Master's Examinations - Finals.

Oversight of Culminating Activities

The department chairperson will oversee culminating activities (examinations; portfolios; research or creative projects) in a manner that assures that the rules for culminating activities are followed. If a dispute arises, the dean (or designee) will be consulted.

Admission - Undergraduate Procedures and Policies

Admission - CSU Application Procedures and Policies for Undergraduate

Requirements for admission to San José State University are in accordance with Title 5, Chapter 1, Subchapter 3, of the California Code of Regulations. Complete information is available at www.calstate.edu/apply.

All CSU applications must be submitted online at www.calstate.edu/apply. An acknowledgement will be sent to the applicant when the online application has been submitted.

Importance of Filing Complete, Accurate, and Authentic Application Documents

San José State University advises prospective students that they must supply complete and accurate information on the application for admission, residency questionnaire, and financial aid forms. Further, applicants must, **when requested**, submit authentic and official transcripts of all previous academic work attempted. Failure to file complete, accurate, and authentic application documents may result in denial of admission, cancellation of registration or academic credit, suspension, or expulsion (Section 41301, Article 1.1, Title 5, California Code of Regulations).

Prospective students applying for part-time or full-time undergraduate programs of study must submit a completed undergraduate application. The $55 nonrefundable application fee should be paid on-line at the time of application via credit card, e-check, or PayPal and may not be transferred or used to apply to another term. An alternate major may be requested on the application if desired from the campus. The applications of persons denied admission to an impacted and/or closed campus may be redirected to another campus at no cost, but only if the applicant is CSU eligible. Upper Division Transfer applicants are required to complete a supplemental application to be considered for admission. More information can be found at sjsu.edu/admissions/impaction

Admission - Impacted Programs

The CSU designates programs as impacted when more applications from CSU regularly eligible students are received in the initial filing period (October and November for fall terms and August for spring terms) than can be accommodated. Some programs are impacted at every campus where they are offered; others are impacted only at a few campuses. Candidates for admission must meet supplementary admission criteria if applying to an impacted program.

The CSU will announce during the fall filing period those campuses or programs that are impacted. Detailed information on campus and programs impaction will be available at www2.calstate.edu/attend/impaction-at-the-csu

Campuses will communicate supplementary admission criteria for all impacted programs to high schools and community colleges in their application service area and will disseminate this information to the public through appropriate media. This information will also be published on the CSU campus websites and made available at www.calstate.edu.

Applicants must file applications for admission to an impacted program during the initial filing period. Applicants who wish to be considered for impacted programs at more than one campus should file an application at **each campus** for which they seek admission consideration.

Admission - Supplemental Criteria

Each campus with impacted programs or class-level admission categories uses supplementary admission criteria in screening applicants. Supplementary criteria may include rank-ordering of freshman applicants based on the CSU eligibility index or rank-ordering of transfer applicants based on verification of the Associate in arts for Transfer (AA-T) or Associate in Science Transfer (AS-T) degrees, the overall transfer grade point average (GPA), completion of specified prerequisite courses, and a combination of campus-developed criteria. Applicants for freshman admission to impacted campuses or programs are required to submit scores on either the SAT or the ACT, regardless of GPA. For fall admission, applicants should take tests as early as possible, but no later than November or December of the preceding year. Applicants who wish to be considered for admission to SJSU as an upper division transfer must complete a supplemental application. Details regarding the supplemental application process are posted to sjsu.edu/admissions/impaction

The supplementary admission criteria used by individual campuses to screen applicants are made available by the campuses to all applicants seeking admission to an impacted program.

Admission - Application Filing Periods

Note: Not all terms/programs are open for admission.

TERMS	APPLICATIONS FIRST ACCEPTED	INITIAL FILING PERIOD
Spring Semester	August 1	August 1 - 31
Fall Semester	October 1	October 1 - November 30

Admission to San José State is competitive in all majors because SJSU continues to have more qualified applicants than available new student spaces. This situation is called "impaction" and it means that meeting the minimum California State University (CSU) requirements does not guarantee admission to SJSU. We will no longer have the enrollment capacity to accept all CSU eligible applicants, including some from local high schools and community colleges.

San José State gives preference in the competitive admission process to "local" applicants. For freshmen, you are considered a "local" applicant if you will graduate from a high school in Santa Clara County. For transfer applicants, you are considered a "local" applicant if you will earn the majority of your transferable units at a college located in Santa Clara or Santa Cruz county.

All applicants are strongly encouraged to apply to an alternative campus that offers your preferred major. If applying after the initial filing period, consult http://info.sjsu.edu for current information. Similar information is conveniently available at www.calstate.edu/apply.

Admission - Application Acknowledgment

About a week after applying at Cal State Apply, you will receive an email with your nine-digit SJSU ID included. This nine-digit number will be your primary university identification throughout your career at SJSU. Make sure the spam filters on your email account are set to accept email from @sjsu.edu.

For more information regarding the process go to www.sjsu.edu/admissions

Admission - Hardship Petitions

At the present time, because of severe budget limitations and the resulting campus-wide impaction, SJSU does not accept hardship petitions.

Admission - Notification

The Office of Undergraduate Admissions normally begins sending acceptance letters to applicants late February for admission to the fall semester and beginning in September for admission to the spring semester. Letters from departments or faculty do not constitute admission to the university.

Applicants are not admitted as students in the regular session of the university until they have received an official letter of admission from the Office of Undergraduate Admissions. In addition to the official letter of admission, International student applicants for F-1 and J-1 status will be issued the appropriate form I-20 or DS-2019 for immigration processing.

Admission - Selection

The university reserves the right to select its students and deny admission to the university or any of its programs as the university, in its sole discretion, determines appropriate based on an applicant's suitability and the best interests of the university.

Admission - California Promise

The California Promise Program enables a specific number of campuses of the California State University (CSU) to establish pledge programs for entering first-time students who are both interested and able to complete baccalaureate degrees in four years. Many campuses have also established programs for students with Associate Degrees for Transfer from any California Community College to complete their baccalaureate degrees in two years. The program is limited to students who are residents of California.

Students who commit to enter either the four-year or two-year pledge will be given an early registration appointment for each state-supported enrollment period and will be provided with routine and thorough academic advisement. In order to remain in the program, students must meet with their advisors as prescribed, develop an enrollment plan, and complete 30 semester units or quarter equivalent units within each academic year, including summer. Students must fill out the SJSU pledge form, have a two or four-year plan in place in MyPlanner and started in Fall 2017 or later, form can be found at website: http://www.sjsu.edu/californiapromise/. Interested students entering the CSU in the fall 2019 term should contact the campus offices or visit www.calstate.edu/sas/california-promise.

Admissions - Other Applicants

Fully matriculated students enrolled at any CSU campus have access to courses at other CSU campuses on a space available basis unless those campuses/programs are impacted. This access is offered without students being required to be formally admitted to the host campus and in most cases without paying additional fees. Students should consult their home campus academic advisors to determine how such courses may apply to their specific degree programs before enrolling at the host campus.

CSU Fully Online Courses - Matriculated students in good standing may request enrollment in one course per term, offered by a CSU host campus. Enrollment requests will be granted based on available space, as well as completion of any stated prerequisites. Credit earned at the host campus is electronically reported to the student's home campus to be included on the student's transcript at the home campus.

CSU Visitor Enrollment - Matriculated students in good standing enrolled at one CSU campus may enroll at another CSU campus for one term. Credit earned at the host campus is reported at the student's request to the home campus to be included on the student's transcript at the home campus.

Intersystem Cross Enrollment - Matriculated CSU, UC, or community college students may enroll on a "space available" basis for one course per term at another CSU, UC, or community college and request that a transcript of record be sent to the home campus.

Admission - Appeal of Admission Decision

Section 89030.7 of the California Education Code requires that the CSU establishes specific requirements for appeal procedures for a denial of admission. Each CSU campus must publish appeal procedures for applicants denied admission to the University. The procedure is limited to addressing campus decisions to deny an applicant admission to the University.

Admissions appeal procedures must address the basis for appeals, provide 15 business days for an applicant to submit an appeal, stipulate a maximum of one appeal per academic term, provide specific contact information for the individual or office to which the appeal should be submitted, and indicate a time estimate for when the campus expects to respond to an appeal. The appeal procedures must be included in all denial of admission notifications to students, and must also be published on the campus website. For freshmen applicants please visit: www.sjsu.edu/freshmanadmissions/have-applied/freshman-applicant/index.html. For transfer applicants, please visit: www.sjsu.edu/transferadmissions/have-applied/transfer-applicant/index.html

Admission - Orientation

Frosh Orientation

Orientation is an important first step to help new students learn to navigate SJSU, register for classes, and make the connections they need to be successful! These mandatory programs assist new students with making the transition to college. Orientation is delivered collaboratively by two SJSU departments, Academic Advising and Retention Services and New Student and Family Programs. These departments work with new students at Orientation and beyond by utilizing student leaders who are trained in issues of transition. At the program, professional staff advise students about required General Education courses, major courses, and prerequisites. Orientation staff who are knowledgeable about the campus will guide students and parents/guardians through experiences that educate them about campus programs and services.

Graduate Orientation

Graduate and Undergraduate Programs presents an all-day program designed to inform incoming graduate students of university-wide policies and resources beyond those of individual departments and colleges and to integrate students into the SJSU campus community. Attendance is not mandatory but is highly encouraged. New F-1 international students are required to report to the Office of International Student and Scholars Services (ISSS). Students must check-in with ISSS in order to meet U.S. government requirements.

Transfer Orientation

Transfer Orientation is a mandatory one-day program that acquaints students with the campus, introduces them to their colleges and major departments, and provides them with critical academic planning information. This program will be managed by New Student and Family Programs in collaboration with AARS and other campus offices.

Admission - Freshman Requirements

Generally, applicants will qualify for consideration for first-time freshman admission if they meet the following requirements:

1. Have **graduated** from high school, or have earned a Certificate of General Education Development (GED) or have passed the California High School Proficiency Examination;
2. Have a qualifiable minimum eligibility index (see Eligibility Index); and
3. Have completed with grades of C- or better each of the courses in the comprehensive pattern of college preparatory subject requirements also known as the "a-g" pattern (see "Subject Requirements").

Admission - Freshmen - Eligibility Index

The eligibility index is the combination of the high school GPA and scores on either the ACT or the SAT. GP is based on grades earned in courses taken during the final three years of high school. Included in calculation of GPA are grades earned in all college preparatory "a-g" subject requirements, and bonus points for approved honors courses. Up to eight semesters of honors courses taken in the last three years of high school, including up to two approved courses taken in the tenth grade can be accepted. Each unit of A in an honors course will receive a total of 5 points; B, 4 points; and C, 3 points.

Note: CSU campuses will accept current and redesigned SAT scores (beginning in spring 2016) for admission eligibility. Applicants may submit scores from either test.

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A CSU Eligibility Index can be calculated by multiplying a GPA by 800 and adding the total score on the SAT exam **(mathematics and critical reading on the old SAT, or mathematics and Evidence-Based Reading and Writing on the new SAT).** For students who took the ACT, multiply the GPA by 200 and add 10 times the ACT composite score. Persons who are California high school graduates (or residents of California for tuition purposes) need a minimum index of 2900 using the old SAT or 2950 using the new SAT or 694 using the ACT. The Eligibility Index Table illustrates several combinations of required test scores and averages. The university has no current plans to include the writing scores from either of the admission tests in the computation of the CSU Eligibility Index.

Freshmen applicants to programs in the College of Engineering will be ranked using a modified eligibility index that will weigh the math section of the SAT more heavily that the evidence-based reading and writing/critical reading section.

If you apply for admission before you graduate from high school, you should compute your GPA using grades earned in a-g courses completed after the 9th grade. Do not include grades you expect to earn in courses during the remainder of 12th grade.

Persons who neither graduated from a California high school nor are a resident of California for tuition purposes, need a minimum index of 3502 using the old SAT, 3570 using the new SAT or 842 using the ACT. Graduates of secondary schools in foreign countries must be judged to have academic preparation and abilities equivalent to applicants eligible under this section. An applicant with a grade point average of 3.00 or above (3.61 for nonresidents) is not required to submit test scores. However, all applicants for admission are **urged to take the SAT or ACT and provide the scores of such tests to each CSU campus to which they seek admission**. Campuses use these test results for advising and placement purposes and may require them for admission to impacted majors or programs. Impacted CSU campuses require SAT or ACT scores of all applicants for **freshman** admission.

Eligibility Index Table for California High School Graduates or Residents of California

The CSU uses only the ACT score or the SAT mathematics and critical reading scores in its admission eligibility equation. The SAT or ACT writing scores are not currently used by CSU campuses.

GPA	ACT SCORE	SAT SCORE
3.00 and above	qualifies with any score	
2.99	10	560
2.98	10	570
2.97	10	580
2.96	11	590
2.95	11	590
2.94	11	600
2.93	11	610
2.92	11	620
2.91	12	630
2.90	12	630
2.89	12	640
2.88	12	650
2.87	12	660
2.86	13	670
2.85	13	670
2.84	13	680
2.83	13	690
2.82	13	700
2.81	14	710
2.80	14	710
2.79	14	720
2.78	14	730
2.77	14	740
2.76	15	750
2.75	15	750
2.74	15	760
2.73	15	770
2.72	15	780
2.71	16	790
2.70	16	790
2.69	16	800
2.68	16	810
2.67	16	820
2.66	17	830
2.65	17	830
2.64	17	840
2.63	17	850
2.62	17	860
2.61	18	870
2.60	18	870
2.59	18	880
2.58	18	890
2.57	18	900
2.56	19	910
2.55	19	910
2.54	19	920
2.53	19	930
2.52	19	940
2.51	20	950
2.50	20	950
2.49	20	960
2.48	20	970
2.47	20	980
2.46	21	990
2.45	21	990
2.44	21	1000
2.43	21	1010
2.42	21	1020
2.41	22	1030
2.40	22	1030
2.39	22	1040
2.38	22	1050
2.37	22	1060
2.36	23	1070
2.35	23	1070
2.34	23	1080
2.33	23	1090
2.32	23	1100
2.31	24	1110
2.30	24	1110
2.29	24	1120
2.28	24	1130
2.27	24	1140
2.26	25	1150
2.25	25	1150
2.24	25	1160
2.23	25	1170
2.22	25	1180
2.21	26	1190
2.20	26	1190
2.19	26	1200
2.18	26	1210
2.17	26	1220
2.16	27	1230
2.15	27	1230
2.14	27	1240
2.13	27	1250
2.12	27	1260
2.11	28	1270
2.10	28	1270
2.09	28	1280
2.08	28	1290
2.07	28	1300
2.06	29	1310
2.05	29	1310
2.04	29	1320
2.03	29	1330
2.02	29	1340
2.01	30	1350
2.00	30	1350
GPA Below 2.00 does not qualify for regular admission		

Admission - Freshmen - Provisional Admissions

The offer of provisional admission is based on the academic information that applicants report on the CSU Apply application. All academic information must be verified before the admitted student will be allowed to enroll and register for classes at SJSU. The admission status will remain "provisional" until an official, final transcript(s) passes verification and confirmation of graduation from high school has made. The offer of provisional admission to the academic plan (major) listed on the admission letter is only valid for the admit term and may not be deferred to another semester. In addition, it is not possible to change majors prior to enrollment at SJSU.

Applicants will qualify for regular (non-provisional) admission when the university verifies that they have graduated and received a high school diploma, have earned a qualifying minimum eligibility index, have completed the comprehensive pattern of college preparatory "a-g" subjects, and, if applying to an impacted program or campus, have met all supplementary criteria.

Admission - Freshmen - SAT and ACT Tests

The CSU uses only the ACT composite score, the **mathematics and critical reading scores on the old SAT, or the mathematics and Evidence-Based Reading and Writing scores on the new SAT** in its admission eligibility equation. The SAT or ACT writing scores are not currently used by CSU campuses.

Admission - Freshmen - Subject Requirements

The California State University requires that first-time freshman applicants complete, with grades of "C-" or better, a comprehensive pattern of college preparatory study totaling 15 units. A "unit" is one year of study in high school.

2 years of social science, including 1 year of U.S. history, or U.S. history and government.

4 years of English

3 years of math (algebra, geometry and intermediate algebra).

2 years of laboratory science (1 biological and 1 physical, both must include laboratory instruction).

2 years in the same foreign language (subject to waiver for applicants demonstrating equivalent competence).

1 year of visual and performing arts: art, dance, drama/theater, or music.

1 year of electives: selected from English, advanced mathematics, social science, history, laboratory science, foreign language, visual and performing arts or other courses approved and included on the UC/CSU "a-g" list.

Admission - Placement Measures for First-Year GE Written Communication and Mathematics/Quantitative Reasoning Courses

Freshman skills assessment and placement for general education written communication and mathematics/quantitative reasoning shall be based on systemwide skills assessment standards that include the Early Assessment Program/ Smarter Balanced Achievement Levels, ACT scores and/or SAT scores, high school coursework, high school GPA and math GPA.

Skills assessments are not a condition for admission to the CSU; they are a condition of enrollment. These skills assessments are designed to inform entering freshmen of placement in appropriate baccalaureate-level courses based on their skills and needs.

First-time freshmen in need of support as determined by the skills assessment will be placed in supported instruction. Supported instruction is designed to assist students in credit bearing courses. Students may also be required to participate in the Early Start Program. The Early Start Program gives students the opportunity to earn college credit in written communication and mathematics/ quantitative reasoning the summer before their first term.

More information on supported instruction is found at www.sjsu.edu/supportedinstruction.

Assessments and Placement for GE Written Communication

Has Fulfilled the GE Subarea A2 Writing Requirement

The student has met the requirement via completion of one of the following:

Advanced Placement (AP) Test

- 3 or above: AP Language and Composition
- 3 or above: AP Composition and Literature

International Baccalaureate (IB) Exam

- 4 or above: IB Language A - Language and Literature (HL)
- 4 or above: IB Literature (HL)
- 4 or above: IB Language A1 (HL)

College Level Examination Program (CLEP)

- 50 or above: CLEP College Composition
- 50 or above: CLEP College Composition Modular

College Transfer Coursework

- Completed approved college course that satisfies CSU GE Area A2 (written communication) with a grade of C- or better

Placement in a GE Subarea A2 Writing Course

The student has met examination standards and/or multiple measures- informed standards via one of the criteria below:

English CAASPP/EAP Test:

- Standard Exceeded
- Standard Met and completed 12th grade approved year-long English course (CSU ERWC, AP, Weighted Honors English) with grade of C- or better

***English New SAT Test:**

- 550 or above
- 510 - 540 and completed 12th grade approved year-long English course (CSU ERWC, AP, Weighted Honors English) with grade of C- or better English

ACT English Test:

- 22 or higher
- 19-21 and completed 12th grade approved year-long English course (CSU ERWC, AP, Weighted Honors English) with grade of C- or better

High School Courses and GPA:

- Weighted GPA 3.3 or above
- GPA 3.0 or above and completed approved 12 grade year-long English course (AP, CSU ERWC, Weighted Honors English)
- GPA 3.0 or above and completed Honors English
- GPA 3.0 or above and 5 or more years of high school English

Placement in a Supported GE Subarea A2 Writing Course and Participation in the Early Start Program Recommended

The student has met examination standards and/or multiple measures- informed standards via one of the criteria below:

***English New SAT Test:**

- 510 - 540 and 4 or more years of high school English

ACT English Test:

- 19-21 and 4 or more years of high school English

High School Courses and GPA:

- Weighted GPA 3.0 or above and 4 or more years of high school English

*SAT score conversion for scores prior to March 2016 (old SAT): https://collegereadiness.collegeboard.org/sat-scoring-beforemarch-2016

Placement in a Supported GE Subarea A2 Writing Course and Participation in the Early Start Program Required

Based on multiple measures evaluation, student needs additional academic support including participation in the Early Start Program. Visit the Early Start Page to learn about the Early Start Program.

Assessments and Placement for GE Mathematics/Quantitative Reasoning: Non-Math Intensive Majors (Algebra and Statistics Disciplines, Non-STEM and Undecided Majors)

Has Fulfilled the GE Subarea B4 Math/Quantitative Reasoning Requirement

The student has met the requirement via completion of one of the following:

Advanced Placement (AP) Test:

- 3 or above: Calculus AB
- 3 or above on AP Calculus BC
- 3 or above on AP Statistics
- 3 or above on AP Computer Science Principles

International Baccalaureate (IB) Test:

- 4 or above on Math Higher Level (HL)

College Level Examination Program (CLEP):

- 50 or above on: Calculus, College Algebra, College Algebra-Trigonometry, Pre-Calculus or Trigonometry

College Transfer Coursework:

- Completed math/quantitative reasoning college course with a C- or better that satisfies CSU GE Area B4

Placement in a GE Subarea B4 Math/Quantitative Reasoning Course

The student has met examination standards and/or multiple measures-informed standards via one of the following criteria:

CAASPP/EAP Math Exam:

- Standard Exceeded
- Standard Met and completed 12th grade approved year-long math course beyond Algebra 2 with a C- or better
- Standard Met and 4 or more years of high school math or quantitative reasoning

***New SAT Math Test:**

- 570 or above
- 550 or above on Subject Test in Math Level 1 or 2
- 520 - 560 and completed 12th grade approved year-long math course beyond Algebra 2 with a C- or better

ACT Math Test:

- 23 or above
- 20-22 and completed 12th grade approved year-long math course beyond Algebra 2 with a C- or better

High School Courses and GPA:

- Weighted math GPA 3.0 or above and completed 12th grade approved year-long math course beyond Algebra 2 with a C- or better
- Weighted math GPA 3.0 or above and 5 or more years of high school math or quantitative reasoning
- Weighted high school GPA 3.7 or above
- Weighted high school GPA 3.5 or above and 4 or more years of high school math or quantitative reasoning

*SAT score conversion for scores prior to March 2016 (old SAT): https://collegereadiness.collegeboard.org/sat-scoring-beforemarch-2016

Placement in a Supported GE Subarea B4 Math/ Quantitative Reasoning Course and Participation in the Early Start Program Recommended

The student has met examination standards and/or multiple measures- informed standards via one of the criteria below:

High School GPA:

- Weighted math GPA 3.3 or above
- Weighted high school GPA 3.0 or above

Placement in a Supported GE Subarea B4 Math/ Quantitative Reasoning Course and Participation in the Early Start Program Required

Based on multiple measures evaluation, student needs additional academic support including participation in the Early Start Program. Visit the Early Start page to learn about the Early Start Program.

Assessments and Placement for GE Mathematics/Quantitative Reasoning: Pre-STEM/STEM and Other Math-Intensive Majors

Has Fulfilled the GE Subarea B4 Math/Quantitative Reasoning Requirement

The student has met the requirement via completion of one of the following:

Advanced Placement (AP) Test:

- 3 or above on AP Calculus AB
- 3 or above on AP Calculus BC
- 3 or above on AP Statistics
- 3 or above on AP Computer Science Principles

International Baccalaureate (IB) Test:

- 4 or above on Math Higher Level (HL)

College Level Examination Program (CLEP):

- 50 or above on: Calculus, College Algebra, College Algebra-Trigonometry, Pre-Calculus or Trigonometry

College Transfer Coursework:

- Completed math/quantitative reasoning college course with a C- or better that satisfies CSU GE Area B4

Placement in a GE Subarea B4 Math/Quantitative Reasoning Course

The student has met examination standards and/or multiple measures- informed standards via one of the criteria below:

CAASPP/EAP Math Exam:

- Standard Exceeded
- Standard Met and completed 12th grade approved year-long math course beyond Algebra 2 with a C- or better

***New SAT Math Test:**

- 570 or above
- 550 or above on Subject Test in Math Level 1 or 2
- 520 - 560 and completed 12th grade approved year-long math course beyond Algebra 2 with a C- or better

ACT Math Test:

- 23 or above
- 20-22 and completed 12th grade approved year-long math course beyond Algebra 2 with a C- or better

High School Courses and GPA:

- Weighted math GPA 3.5 or above and completed 12th grade approved year-long math course beyond Algebra 2 with a grade of C- or better
- Weighted math GPA 3.5 or above and 5 or more years of high school math or quantitative reasoning
- Weighted high school GPA 3.7 or above

*SAT score conversion for scores prior to March 2016 (old SAT): https://collegereadiness.collegeboard.org/sat-scoring-beforemarch-2016

Placement in a Supported GE Subarea B4 Math/ Quantitative Reasoning Course and Participation in the Early Start Program Recommended

The student has met examination standards and/or multiple measures- informed standards via the criteria below:

High School Math GPA:

- Weighted math GPA 3.3 or above

Placement in a Supported GE Subarea B4 Math/ Quantitative Reasoning Course and Participation in the Early Start Program Required

Based on multiple measures evaluation, student needs additional academic support including participation in the Early Start Program. Visit the Early Start page to learn about the Early Start Program.

Admission - Early Start Program

The goal of the Early Start Program (ESP) is to:

- Better prepare students in written composition and mathematics/quantitative reasoning before the fall term of freshman year, improving students' chances of successful completion of a baccalaureate degree.
- If required to participate in ESP, as determined by multiple measures, students will begin in the summer before the start of the freshman year.
- For general information about ESP including fees and course listings, visit csusuccess.org/earlystart. Students are encouraged to visit the campus website for ESP information once admitted.
- Eligible financial aid applicants with an Estimated Family Contribution (EFC) of $5,000 or less will be eligible for waiver of the per unit ESP fee.

For more information on assessments, placements and the Early Start Program, please visit www.csusuccess.org

To facilitate appropriate first-year course placement, the CSU evaluates entering students for academic preparation in two areas: quantitative reasoning and written communication. The evaluation process takes into account several factors, including grade point average, completed high school coursework, transfer-level coursework, and scores on standardized tests such as the SAT, ACT, CAASPP/EAP, and Advanced Placement and International Baccalaureate examinations.

On the basis of this evaluation, some students who may benefit from additional academic preparation are required to participate in summer skill-building activities through the Early Start Program. The Early Start program provides students with an opportunity to take college level courses in the summer. This will allow the student to begin earning units towards their degree and have an early transition to SJSU. This requirement may be satisfied through live or online Early Start courses offered by any CSU campus. Students with an Early Start requirement will receive information about the program, including specific course options, through MySJSU starting in the first week of May and continuing throughout the summer. Regular financial aid packages may not be applied to Early Start classes; however, fee waivers are automatically given to qualifying students. For more information, go to www.sjsu.edu/earlystart.

Students who need sign language interpreters or other accommodations should contact the Accessible Education Center (AEC) at (408) 924-6000 as soon as possible, or at least two weeks prior to the first day of Early Start classes. For more information about obtaining accommodations through the AEC, go to www.sjsu.edu/aec/prospective-aec-students/earlystart/.

Students who fall into one or more of the following categories are excused from the Early Start requirement, regardless of their academic record:

1. Non-residents of California (See www.sjsu.edu/registrar/students/Residency/Residency_FAQ.html for information on residency.)
2. International students (F-1 and J-1 visas only)
3. Students admitted after June 1st

In addition, students who have a serious and compelling reason for not participating in the program may petition for an exception to the requirement. Exceptions are granted only when program participation is impossible or would lead to undue hardship. (Summer vacation plans are not be considered grounds for an exception.) The petition can be found at www.sjsu.edu/earlystart/. For a petition to be approved, documentation will be required.

Students who do not satisfy their Early Start requirement may be sanctioned as outlined in the SJSU Early Start Expectations for Completion section of the web site, which can be found at www.sjsu.edu/earlystart/compliance/index.html.

Admission - Subject Requirement Substitution for Students with Disabilities

If you are unable to complete certain subjects because of your disability, please call the Accessible Education Center at 408-924-6000.

Admission - Step to College/Unitrack - High School Students

See Alternative Enrollment Programs

Admission - Transfer Requirements

Students who have completed fewer than 60 transferable semester college units (fewer than 90 quarter units) are considered lower division transfer students. Students who have completed 60 or more transferable semester college units (90 or more quarter units) are considered upper division transfer students. Applicants who complete college units during high school or through the summer immediately following high school graduation are considered first-time freshmen and must meet the CSU minimum eligibility requirements for first-time freshman admission. Transferable courses are those designated for baccalaureate credit by the college or university offering the courses and accepted as such by the campus to which the applicant seeks admission.

Admission - Transfer Policies of CSU Campuses

Most commonly, college level credits earned from an institution of higher education accredited by a regional accrediting agency recognized by the United States Department of Education is accepted for transfer to campuses of the CSU; however, authority for decisions regarding the transfer of undergraduate credits is delegated to each CSU campus.

California Community Colleges and other authorized certifying institutions can certify up to 39 semester (58.5 quarter) units of General Education-Breadth (GE-Breadth) or 37 semester (55.5 quarter) units of the Intersegmental General Education Transfer Curriculum (IGETC) for transfer students to fulfill lower-division general education requirements for any CSU campus prior to transfer.

"Certification" is the official notification from a California Community College or authorized institution that a transfer student has completed courses fulfilling lower-division general education requirements. The CSU GE-Breadth and the Intersegmental General Education Transfer Curriculum (IGETC) certification course lists for particular community colleges can be accessed at www.assist.org.

CSU campuses may enter into course-to-course or program-to-program articulation agreements with other CSU campuses, any or all of the California Community Colleges, and other regionally accredited institutions. Established CSU and California Community College articulations may be found on www.assist.org. Students may be permitted to transfer no more than 70 semester (105 quarter) units to a CSU campus from an institution that does not offer bachelor's degrees or their equivalents, for example, community colleges. Given the university's 30-semester (45-quarter) unit residency requirement, no more than a total of 90-semester (135-quarter) units may be transferred into the University from all sources.

Admission - Lower Division Transfer Requirements

Due to increased enrollment demands, most CSU campuses - including San José State - do not admit lower division transfer applicants.

Generally, applicants will qualify for admission as a lower division transfer student if they have a cumulative GPA of at least 2.0 (C or better) in all transferable units attempted, are in good standing at the last college or university attended, and meet any of the following standards:

1. Will meet the freshman admission requirements (GPA and subject requirements) in effect for the term to which they are applying (see "Freshman Requirements"); or
2. Were eligible as a freshman at the time of high school graduation except for the subject requirements, and have been in continuous attendance in an accredited college since high school graduation, and have made up the missing subjects.

Applicants who graduated from high school prior to 1988 should contact the Admissions Office to inquire about alternative admission programs.

Admission - Making Up Missing College Preparatory Subject Requirements

San José State University does not allow students to make up missing college preparatory (a-g) subjects over the summer sessions. All work must be completed by the end of the 8th semester of high school with a "C- or Better" grade.

Admission - Upper Division Transfer Requirements

Generally, applicants will qualify for consideration for upper-division transfer admission if they meet all of the following requirements:

1. Cumulative grade point average of at least 2.0 (C or better) in all transferable units attempted;
2. In good standing at the last college or university attended; and
3. Completed at least sixty (60) transferable semester (90 quarter) units of college level coursework with a grade point average of 2.0 or higher and a grade C- or better in each course used to meet the CSU general education requirements in written communication, oral communication, critical thinking, and quantitative reasoning, e.g. mathematics.

The 60 units must include at least 30 units of courses that meet CSU general education requirement including all of the general education requirements in communication in the English language (both oral and written) and critical thinking and the requirement in mathematics/quantitative reasoning (usually 3 semester units) OR the Intersegmental General Education Transfer Curriculum (IGETC) requirements in English communication and mathematical concepts and quantitative reasoning.

All applicants for transfer will be required to complete a supplemental application including grades for all coursework completed and a list of all coursework in progress.

Any transfer applicant who wishes to be considered for admission must complete and submit the supplemental application by the deadline posted to his or her MySJSU To Do List.

For more information about the way that this information will be considered for admission and a list of major-specific coursework, please see Program Specific Supplemental Coursework section.

Questions about the Supplemental Application can be answered by consulting our help guide.

Admission - Associate Degrees for Transfer (AA-T or AS-T)

Student Transfer Achievement Reform (STAR) Act (SB 1440)

The Associate in Arts for Transfer (AA-T) and the Associate in Science for Transfer (AS-T) degrees offered at the California Community Colleges (CCC) are designed to provide California Community College students with the optimum transfer preparation and a clear admission pathway to those CSU degree majors. Students who have completed these transfer degrees and are admitted to a similar CSU major program or option for that discipline will be able to complete the Baccalaureate Degree within 60 semester or 90 quarter units providing that all remaining required courses are completed successfully without a break in attendance and providing that no supplemental courses for minors or areas of emphasis are undertaken.

CCC students who earn an Associate Degree for Transfer (AA-T or AS-T) are guaranteed admission with junior standing to a CSU and given priority admission over other transfer applicants when applying to a local CSU campus or non-impacted CSU program. AA-T or AS-T admission applicants are given limited priority consideration based on their eligibility ranking to an impacted campus/program or to campuses/programs that have been deemed similar to the degree completed at the community college. Students who have completed an AA-T/AS-T in a program deemed similar to a CSU major are able to complete remaining requirements for graduation within 60 semester (90 quarter) units. It is the responsibility of the student who has earned an AA-T/AS-T to provide documentation of the degree to the CSU campus.

Students who earn associate degrees for transfer and apply to a CSU campus but cannot be admitted due to impaction will be redirected to another CSU campus and offered admission for the same term. In order to qualify for the priority admission guarantee, transfer applicants must be conferred an approved Associate Degree for Transfer (AA-T/AS-T) by a California Community College, apply for admission to California State University campuses for an open term by the published deadline, submit all requested transcripts and documents, meet CSU admission eligibility requirements for the campus and/or program, and comply with any other prescribed admission requirements. It is the responsibility of these transfer students to provide documentation about the completion of the degree to each CSU campus that has received an application for admission.

Admission - Transfers - Provisional Admission

The offer of provisional admission is based on the academic information that applicants report on the CSU Apply application. All academic information must be verified before the admitted student will be allowed to enroll and register for classes at SJSU. The admission status will remain "provisional" until an official, final transcript(s) passes verification and confirmation of completion of any spring work in progress. The offer of provisional admission to the academic plan (major) listed on the admission letter is only valid for the admit term and may not be deferred to another semester. In addition, it is not possible to change majors prior to enrollment at SJSU.

Admission - Postbaccalaureate (Second Baccalaureate)

Due to enrollment restrictions and impaction, SJSU no longer accepts applications from post-baccalaureate/second baccalaureate students. The only exception is for Nursing.

Admission - International Student Requirements

The following information pertains to specific requirements for SJSU International Students.

Admission - International Student - Admission Requirements

The CSU must assess the academic preparation of international students. For this purpose, "international students" include those who hold U.S. temporary visas as students (F-1), exchange visitors (J-1), or in other nonimmigrant classifications.

The CSU uses separate requirements and application filing dates in the admission of "international students." Verification of English proficiency (see the section on the English Language requirement for undergraduate applicants), financial resources, and academic performance are each important considerations for admission. Academic records from international institutions must be on file by the posted deadlines and, if not in English, must be accompanied by certified English translations.

Admission - International Student - Insurance Requirement

Effective August 1, 1995, as a condition of receiving an I-20 or DS-2019 form, all F-1 and J-1 visa applicants must agree to obtain and maintain health insurance as a condition of registration and continued enrollment in the California State University. Such insurance must be in amounts as specified by the United States Department of State and San José State University. The campus president or designee shall determine which insurance policies meet these criteria. Further information may be obtained from International Student and Scholar Services, Student Union - CPGE. Visit http://www.sjsu.edu/isa/

Admission - International Student - English-Language Proficiency Exam Requirement

All undergraduate applicants whose native language is not English and who have not attended schools at the secondary level or above for at least three years full time where English is the principal language of instruction must present a score of 61 or above on the Test of English as a Foreign Language (TOEFL). Some majors and class levels may require a higher score. For graduate student applicants, please refer to www.sjsu.edu/graduateadmissions/admission-requirements/test-requirements/index.html. A few programs may also use alternative methods of assessing English fluency: Pearson Test of English Academic (PTE Academic) and the International English Language Testing System (IELTS).

SJSU will notify students after they apply when to submit scores.

SJSU MINIMUM PROFICIENCY STANDARDS	TOEFL INTERNET	TOEFL PAPER	PTE	IELTS
Undergraduate, except Engineering	61	500	44	6.0
All Engineering majors	80	550	53	6.5
All Graduate applicants	80	550	53	6.5

Admission - Transcript Requirements

Admission - Transcript Submission

All transcripts submitted must be official and sent directly from the originating school or college to the Office of Admissions. San Jose State University accepts electronic transcripts as the preferred method.If possible please request your school to send your transcripts electronically. Electronic transcripts save processing time. Transcripts submitted by the student are not acceptable unless submitted in a sealed envelope. All records submitted become the property of the university, part of the student's file, and will not be released. If a student does not complete the application or enroll, the records will be kept on file for one year only.

Undergraduate students with college transfer work who are accepted for admission, and who desire advising, will be required to present a set of college transcripts to their departmental advisor. It is suggested that you order a set of transcripts for yourself at the same time you order transcripts sent to the Office of Admissions.

Admission - Freshmen Applicant Transcripts

Students applying for admission to the university while still attending high school may be evaluated on their self-reported application information. A final high school transcript with the date of graduation must be sent to the Office of Admissions at the time of graduation.

Admission - Transfer Applicant Transcripts

Transfer applicants who have completed 60 or more semester units of transferable credits and who are applying to the university need not file the high school transcript. However, applicants are cautioned that if, during the evaluation process, it is determined that fewer than 60 semester units of transferable credit have been earned, processing will stop and the application will be withdrawn.

All undergraduate applicants must file one official transcript from each college in which they have enrolled. This includes USAFI, the Defense Language Institute, Special Sessions (Winter Session and Professional Development), correspondence and audited courses, as well as any college in which the student was enrolled and withdrew without earning credit.

Former students need not order transcripts of work completed at SJSU whether this work was accomplished in the regular session, Open University, Special Sessions, or through the university Professional Development Program. Similarly, they need not reorder transcripts that were previously forwarded to this university. But if they did college work in the interim, such transcripts must be filed with their papers. Students absent from the university for a period of seven years or longer must resubmit all documents required for admission.

Admission - Credential Applicant Transcripts

Applicants to credential programs are required to file one official transcript from each and every college in which they have enrolled. Transcripts must be sent directly from the originating institution to the Office of Graduate Admissions & Program Evaluations (GAPE). Transcripts submitted by the student are not acceptable unless submitted in an official sealed envelope.

All college work must be reported. Failure to comply with this requirement may void the student's application.

Test Requirements

EPT/ELM Placement Tests

EPT/ELM Placement Tests in English and Math

Prior to August 2017 the CSU required that each entering undergraduate, except those who qualified for an exemption, take the CSU Entry Level Mathematics (ELM) examination and the CSU English Placement Test (EPT) prior to enrollment. As of Spring 2018, these placement tests have been replaced by alternative assessments. See section on alternative assessments elsewhere in the policies.

Although the ELM/EPT are no longer offered, scores for students who previously took the ELM and EPT will be honored.

SAT and ACT

SJSU requires SAT or ACT scores from all freshman applicants.

Freshman and transfer applicants who have fewer than 60 semester or 90 quarter units of transferable college credit are strongly encouraged to submit scores, unless exempt (see "Eligibility Index"), from either the ACT or the SAT of the College Board. Persons who apply to an impacted program may be required to submit test scores and should take the test no later than November or December. Test scores also are used for advising and placement purposes. Registration forms and dates for the SAT or ACT are available from school or college counselors or from a CSU campus testing office. Or students may contact:

The College Board (SAT)
Registration Unit, Box 6200
Princeton, New Jersey 08541-6200
609-771-7588
www.collegeboard.org

ACT Registration Unit
P.O. Box 414
Iowa City, Iowa 52240
319-337-1270
www.act.org

Placement by Examination

Advanced Standing by Examination

Advanced standing by examination permits accelerated progress toward the degree and a wider selection of course work.

Advanced standing by examination is divided into three categories: (1) advanced placement by examination (no unit credit awarded); (2) waiver of requirements (no unit credit awarded); and (3) advanced credit by examination.

Course Placement by Examination

See the policies below and the respective departments for details about all placement examinations.

Mathematics

The Calculus Placement Exam is offered to students who would like to place into MATH 030, MATH 030P, MATH 030PL, or MATH 071, and have not yet satisfied the prerequisites (MATH 071: MATH 008/019 or SAT 570+ or ACT 23+; MATH 030: MATH 019 with B or better; Math 030P/030PL: MATH 019 with C- or better). See www.sjsu.edu/math/calculus/ for more information or contact the Testing Office; testing-office@sjsu.edu.

Foreign Language

Placement examinations in French, German and Spanish are recommended for those students who studied language in high school or acquired language skills through life experiences.

Students having completed college level foreign language (at SJSU or elsewhere) generally will not take the placement examination but will enroll in the course for which they qualify on the basis of units completed.

Music

All new and transfer music majors, including graduate students and returning former students, must report to the School of Music and Dance for auditions, advising and placement examinations. Music majors and minors must also audition for a major ensemble before completing registration.

Calculus Placement Examination (ALEKS)

The Calculus Placement Exam is offered to students who would like to place into MATH 030, MATH 030P, MATH 030PL, or MATH 071, and have not yet satisfied the prerequisites (MATH 071: MATH 008/019 or SAT 570+ or ACT 23+; MATH 030: MATH 019 with B or better; Math 030P/030PL: MATH 019 with C- or better). See testing.sjsu.edu/CalcPE, Testing Office, Industrial Studies Building Room 228; 408-924-5980; testing-office@sjsu.edu.

- Entering frosh who plan to take Calculus or Business Calculus their first semester should take the Calculus Placement Exam prior to attending orientation. Exams are offered throughout September through January for Spring admits and May through August for Fall admits. Check the Testing Office website for details at testing.sjsu.edu. {http://testing.sjsu.edu}
- For course registration information regarding Calculus I (MATH 030, MATH 030P, and Math 030PL) and MATH 071 see www.sjsu.edu/math/calculus.

Placement Through External Exams

- Any student who has earned a 3 or higher on the AP Calculus AB or Calculus BC/AB Subscore has credit for MATH 30 (Calculus I) and is eligible to enroll in Math 31 (Calculus II).
- Any student who has earned a 3 or higher on the AP Calculus BC have credits for Math 30 (Calculus I) and Math 31 (Calculus II) and is eligible enroll to in Math 32 (Calculus III).
- Any student who has earned a 50 or higher on the CLEP Calculus has credit for Math 30 (Calculus I) and is eligible to enroll in Math 31 (Calculus II).
- Any student who has earned a 50 or 70 on the CLEP Pre-Calculus have credit for Math 19 (Pre-Calculus) and is eligible to enroll in Math 30P or Math 30PL (Calculus I).
- Any student who has earned a 71 or 80 on the CLEP Pre-Calculus have credit for Math 19 (Pre-Calculus) and is eligible to enroll in Math 30 (Calculus I).
- Any student who has earned a 50 or higher on the CLEP College Algebra has credit for Math 008 and is eligible to enroll in Math 71.

Calculus Placement Exam Dates

The Calculus Placement Exam at SJSU is conducted through ALEKS PPL, an adaptive online program that uses artificial intelligence to map a student's strengths and weaknesses.

It consists of 3 parts:

1. Initial Assessment (30 questions, about 60-90 minutes to complete)
2. Prep and Learning Module (individualized, self-paced online review, with up to 2 practice tests)
3. Access to 2 Proctored Placement Assessments (proctored by the SJSU Testing Office)

For additional information on the CPE are posted at testing.sjsu.edu/CalcPE

Registration and Payment

See information on testing.sjsu.edu.

Accommodations

Students needing accommodations can take the Calculus Placement Exam through the AEC. Registration can be done after payment and directly through the AEC.

Foreign Language Placement Examination

The placement test is recommended for those students who studied a language in high school or acquired language skills through life experiences such as foreign travel or study abroad.

If you have taken college level foreign language courses (at SJSU, a community college, or other university), you do not need to be tested. Just enroll in the course for which you qualify on the basis of units accumulated. If you are unsure about course equivalencies, call 408-924-4602 and you will be referred to an advisor.

Students may also take the Placement Test for Chinese, French, German, Japanese, Spanish or Vietnamese on an individual basis for the following semester. For details, call the Carmen Sigler Media Center at 408-924-4696.

For other languages, call 408-924-4602.

Waiver Examinations

A satisfactory score on one or more of the following tests will result in a waiver of the requirement, but no unit credit will be awarded. Information on all waiver examinations is available in the Testing Office. There is a test fee associated with some of these exams.

American Institutions

A waiver examination (giving no unit credit) is available in the Testing Office to challenge the California Government graduation requirement (Area US3).

Written Communication II Course (100W)

Students who have earned a waiver-eligible score on the Writing Skills Test (WST) at SJSU, or who have satisfied the CSU Graduation Writing Assessment Requirement at another CSU campus, are not required to take a 100W course unless their degree programs do not accept a waiver of the course. Consult the General Education section for a list of majors that do not accept the waiver.

Credit by Exam (CBE) for Challenge Examinations

In accordance with University Policies F15-5 and F15-11, academic credit may be earned through CBE for any department-approved 0-100 level course for which an equivalent CLEP exam is not available. Credit earned from CBE is non-transferable and awarded on a Credit/No Credit basis. It can only be used to clear SJSU requirements and assist with progress towards a degree at SJSU.CBE can be attempted only once per course, up to a maximum of 30 units. This 30 unit maximum also includes course credit earned through CLEP examinations.

If you are seeking Credit By Examination, you must meet the following criteria:

- You are a currently matriculated student at SJSU.
- You cannot be enrolled in the course, and have never received a grade (other than W) for the course or an equivalent course.
- You can only use the course towards completion of degree requirements at SJSU.
- You have never attempted CBE for the course before.
- You have fewer than the maximum of 30 units allowed for CBE/CLEP credit.

Contact the Testing Office to request a petition form. Visit testing.sjsu.edu/CBE for more information.

Credit by Examination

Standardized Exams

SJSU grants credit toward its undergraduate degrees for successful completion of various standardized exams. The following are the guidelines for the credit that may be granted at SJSU for each standardized exam. Students may not earn duplicate credit by examination if they have previously taken or subsequently take equivalent exams or course work.

College Board Advanced Placement Program (AP)

AP (Advanced Placement) Exams

SJSU grants credit toward its undergraduate degrees for successful completion of examinations of the Advanced Placement Program of the College Board. Students who present scores of three or better will be granted up to six semester units (nine quarter units) of college credit for each exam (no duplicate credit granted). The number of units granted, course equivalence, and satisfaction of requirements vary.

Requires scores of 3-5 for credit to be granted

EXAM	UNITS	COURSE	GE CREDIT AND COMMENTS
Art History	6	ARTH 070A & 070B	Areas C1 or C2 (3 units)
Biology	6	BIOL 010	Area B2 & B3 (4 units)
Calculus AB*	3	MATH 030	Area B4 (3 units)
Calculus BC*	7	MATH 030 & 031	Area B4 (3 units)
Calculus BC/AB Subscore*	3	MATH 030	Area B4 (3 units)
Chemistry	6	CHEM 030A	Area B1 & B3 (4 units)
Chinese Language & Culture	6	CHIN 001A	Area C2 (4 units)
Comparative Govt & Politics	3	POLS 002	Area D (3 units)
Computer Science A	3	CS 046A	No GE
Computer Science Principles	3	Elective Credit	Area B4 (3 units)
English Language and Composition	6	ENGL 001A	Score 3 = Area A2 (3 units)
English Language and Composition	6	ENGL 001A & 001B	Score 4-5 = Areas A2 & C2 (6 units)
English Literature and Composition	6	ENGL 001A & 010	Score 3 = Area A2 & C2 (6 units)
English Literature and Composition	6	ENGL 001A & 001B	Score 4-5 = Areas A2 & C2 (6 units)
English Literature and Composition	6	ENGL 001A & 010	Score 4-5 = Areas A2 & C2 (6 units), **at student's request**
Environmental Science	4	Elective credit	Area B1 & B3 (4 units)
European History	6	HIST 010A & 010B	Areas C2 or D (3 units)
French Language & Culture	6	FREN 001A	Area C2 (5 units)
German Language & Culture	6	GERM 001A	Area C2 (4 units)
Human Geography	3	GEOG 010	Area D (3 units)
Italian Language & Culture	6	ITAL 001A	Area C2 (3 units)
Japanese Language & Culture	6	JPN 001A	Area C2 (5 units)
Latin	6	LATN 001A	Area C2 (3 units)
Macroeconomics	4	ECON 001A	Area D (4 units)
Microeconomics	4	ECON 001B	Area D (4 units)
Music Theory	6	Elective credit	No GE
Music Theory - Aural Subscore	0	No Credit	No GE
Music Theory - NonAural Subscore	0	No Credit	No GE
Physics 1**	4	PHYS 002A	Areas B1 & B3 (4 units)
Physics 2**	4	PHYS 002B	Areas B1 & B3 (4 units)
Physics C, Elec & Mag**	4	PHYS 051	Areas B1 & B3 (4 units)
Physics C, Mechanics**	4	PHYS 050	Areas B1 & B3 (4 units)
Psychology	3	PSYC 001	Area D (3 units)
Research	0	No Credit	No GE
Seminar	3	Elective Credit	No GE
Spanish Language and Culture	6	SPAN 001A	Area C2 (4 units)
Spanish Literature and Culture	6	SPAN 001B	Area C2 (4 units)
Statistics	3	STAT 095 or SOCI 015	Area B4 (3 units);
Studio Art, 2D Design	3	ART 012	No GE

Studio Art, 3D Design	3	Elective credit	No GE
Studio Art, Drawing	3	ART 024	No GE
U.S. Govt & Politics	3	Elective Credit	Area D & US 2 (3 units)
U.S. History	6	HIST 020A & 020B	Areas C2 or D; & US 1 (3 units)
World History	6	Elective credit	Areas C2 or D (3 units)

*Students may receive credit for only one calculus exam.

**If more than one AP Physics exam is taken then the total units granted will be 6 units, of which 4 units will apply to PHYS 2A satisfying GE Areas B1+B3, and 2 units to elective credit.

For historical AP credit by exam information, please visit the TES website.

College Level Exam Program - CLEP

Requires score of at least 50 for subject exams. Students may not receive more than 30 units of CLEP credit.

BUSINESS	UNITS	COURSE	GE CREDIT (COMMENTS)
Financial Accounting	3	Elective credit	No GE
Information Systems	3	Elective credit	No GE
Introductory Business Law	3	BUS3 080	No GE
Principles of Management	3	Elective credit	No GE
Principles of Marketing	3	Elective credit	No GE

COMPOSITION AND LITERATURE	UNITS	COURSE	GE CREDIT (COMMENTS)
American Literature	3	Elective credit	Area C2 (3 units)
Analyzing & Interpreting Literature	3	Elective credit	Area C2 (3 units)
College Composition*	6	ENGL 001A	Area A2 (3 units)
College Composition Modular*	3	ENGL 001A	Area A2 (3 units)
English Literature	3	Elective credit	Area C2 (3 units)
Humanities	3	Elective credit	Area C2 (3 units)

*Beginning July 2010 credit and GE may be earned for either College Composition or College Composition Modular, but not for both exams.

WORLD LANGUAGES	UNITS	COURSE	GE CREDIT (COMMENTS)
French Language (Level 1 = min score of 50)	6	Elective credit	No GE
French Language (Level 2* = min score of 59)	9	Elective credit	Area C2 (3 units)
German Language (Level 1 = min score of 50)	6	Elective credit	No GE
German Language (Level 2* = min score of 60)	9	Elective credit	Area C2 (3 units)
Spanish Language (Level 1 = min score of 50)	6	SPAN 001A	Area C2 (4 units)
Spanish Language (Level 2* = min score of 63)	9	SPAN 001A, 001B	Area C2 (8 units)

*If the student receives credit for Level 2 exam, they may not receive credit for Level 1 exam in the same language.

HISTORY AND SOCIAL SCIENCES	UNITS	COURSE	GE CREDIT (COMMENTS)
American Government	3	Elective credit	Areas US 2 & D (3 units)
History of the U.S. I	3	Elective credit	Areas US 1 & D (3 units)
History of the U.S. II	3	Elective credit	Areas US 1 & D (3 units)
Human Growth & Development	3	HS 015	Area D or E (3 units)
Introduction to Educational Psychology	3	Elective credit	No GE
Introductory Psychology	3	PSYC 001	Area D (3 units)

Introductory Sociology	3	SOCI 001	Area D (3 units)
Principles of Macroeconomics	3	ECON 001A	Area D (4 units)
Principles of Microeconomics	3	ECON 001B	Area D (4 units)
Social Sciences & History	6	Elective credit	Area D (6 units)
Western Civilization I	3	HIST 010A	Area C2 or D (3 units)
Western Civilization II	3	HIST 010B	Area D (3 units)

SCIENCE AND MATHEMATICS	UNITS	COURSE	GE CREDIT (COMMENTS)
Biology	6	BIOL 010	Area B2 (3 units, no lab)
Calculus	4	MATH 030	Area B4 (4 units)
Chemistry	6	CHEM 030A	Areas B1 and B3 (6 units)
College Algebra	3	MATH 008 (F'10 forward)	Area B4 (3 units)
College Mathematics	6	Elective credit	Area B4 (3 units)
Natural Sciences	6	Elective credit	Areas B1 & B2 (3 units each, no lab)
Precalculus	3	MATH 019	Area B4 (3 units)

For historical CLEP credit by exam information, please visit the TES website.

The International Baccalaureate (IB)

Students who present the following official higher level IB Exam scores of four or better, taken before college matriculation, will be granted up to six semester units of lower division baccalaureate credit. The course equivalence and satisfaction of requirements vary.

Requires score of 4-7 on higher level exams for any credit to be granted. Course equivalence dependent on major advisor for major, minor, or support credit.

EXAM	UNITS	COURSE	GE CREDIT (COMMENTS)
Biology HL	6	BIOL 010	Area B2 (3 units)
Chemistry HL	6	CHEM 030A	Area B1 (3 units)
Classical Languages HL	6	Elective credit	Area C2 (3 units)
Computer Science HL	6	Elective credit	No GE
Design Technology HL	6	Elective credit	No GE
Economics HL	6	ECON 001A & 001B	Area D (3 units)
Geography HL	6	Elective credit	Area D (3 units)
History (any region) HL	6	Elective credit	Area C2 or D (3 units)
Islamic History HL	6	Elective credit	Area D (3 units)
Language A: Language and Literature (English) HL - **beginning 2013**	6	ENGL 001A & ENGL 001B	Area A2 (3 units) & C2 (3 units)
Language A: Language and Literature (language other than English) HL - **beginning 2013**	6	Elective Credit	Area C2 (3 units)
Language A: Literature (English) HL - **beginning 2013**	6	ENGL 001A & ENGL 001B	Area A2 (3 units) & Area C2 (3 units)
Language A: Literature (language other than English) HL - **beginning 2013**	6	Elective Credit	Area C2 (3 units)
Language B (any language) HL	6	Elective Credit	Area C2 (3 units
Language A1 (English) HL **(last exam in 2012)**	6	ENGL 001A & ENGL 001B	Area A2 (3 units) & C2(3 units)
Language A1 (any other language) HL **(last exam in 2012)**	6	Elective credit	Area C2 (3 units)
Language A2 (any language) HL **(last exam in 2012)**	6	Elective Credit	Area C2 (3 units)
Mathematics HL	6	Elective credit	Area B4 (3 units)
Music HL	6	Elective credit	Area C1 (3 units)
Philosophy HL	6	PHIL 010	Area C2 (3 units)
Physics HL	6	Elective credit	Area B1 (3 units)
Psychology HL	3	Elective credit	Area D (3 units)
Social and Cultural Anthropology HL	6	Elective credit	Area D (3 units)
Theatre HL	6	Elective credit	Area C1 (3 units)
Visual Arts HL	6	Elective credit	Area C1 (3 units)

Writing Skills Test (WST)

All students, regardless of where they began their college studies, are required by the California State University to satisfy an upper division written communication requirement. At SJSU the writing requirement has two parts: passing the WST and passing a 100W course.

- A satisfactory score on the Writing Skills Test (WST) is required prior to enrollment in Written Communication II (100W courses) and all SJSU Studies (advanced general education, Areas R, S, and V) courses. To make timely progress to their degree, students should register for, and take, the first available WST they can after completing English 1A course (CSU GE Area A2) and a critical thinking course (CSU GE Area A3).
- The WST requirement cannot be waived.
- High WST scores may also be used to waive the required Written Communication II course (100W). Some majors do not permit waiving of 100W no matter what score the student receives on the WST. Individual score reports explain each student's status.

Beginning Fall 2014 the prerequisite for the WST is completion of English 1A (CSU GE Area A2) with a grade of "C- or Better". Completion of a second semester composition course (e.g. Area A3 courses or English 1B at SJSU) is strongly recommended for students prior to taking the WST. For SJSU students who completed their English composition courses at SJSU prior to Fall 2014, English 1A and English 1B (or equivalent) were prerequisites for the WST.

Once the writing courses have been completed with grades of "C- or Better", students should visit testing.sjsu.edu/wst to view upcoming test dates and register for the WST. Completion of the WST prior to reaching upper division standing will prevent any delays in registration for any courses which require the WST or 100W as a prerequisite for enrollment. Transfer students should complete the WST prior to their first semester at SJSU to prevent any delays in registration.

Consult testing.sjsu.edu for the most current information about the WST. The following students do not need to take the WST to enroll in any classes:

1. Students who have completed the Graduate Writing Assessment Requirement (GWAR) at SJSU or at another CSU campus as a matriculated student at the time of completion. Note: If you have satisfied the GWAR at another CSU campus, your department may still require that you take 100W to satisfy the requirements of the major, even though the university GWAR requirement has been met;
2. Post-baccalaureate students who have earned a baccalaureate degree from a regionally accredited U.S. college or university;
3. Students who have submitted a Written Communication II petition and received approval granting equivalency based on satisfactory completion of an upper division composition course completed at another university, or the submission of published work for which the student is the primary author.

For students who have failed the WST, SJSU offers, ENGL 100A and LLD 100A. Either course satisfies the WST requirement if passed with a "C or Better."

If you have questions about your status, contact the Testing Office at testing-office@sjsu.edu.

If you will not be in the U.S. for one of the spring or summer WST exams, take the first available exam in the fall semester.

If you will not be in the U.S. for one of the fall WST exams, take the first available exam in the spring semester. Students who live more than 50 miles away from campus may request to have their WST proctored at an approved testing center in the US. E-mail testing-office@sjsu.edu for more information.

Effective Fall 2012, students must take the WST no later than the term in which they reach 75 earned units (counting no more than 70 transfer units). If they do not pass, they must retake the WST or, if the WST has been failed once, take a 100A course each term until they pass. Students who reach 90 earned units without passing the test must enroll in 100A. (Updated - Presidential Directive 2009-05)

Graduate Students and the WST

All graduate students are required to satisfy the Graduation Writing Assessment Requirement (GWAR) through the completion of courses designed for this purpose in order to advance to candidacy and to graduate. The current list of courses can be found at http://www.sjsu.edu/cgs/current-students/policies/index.html. Some of these courses require the WST for registration. Waivers of the exam are issued for graduate students. The prerequisites described above (Eng 1A and a second semester composition course) are assumed to have been completed during the undergradute education. Exceptions to the course requirements can be found at www.sjsu.edu/gape/current_students/completing_masters/ and in the section on Graduation Writing Assessment Requirement - Graduate in this catalog. See your department graduate advisor for more information.

WST Scores

Scores will be reported on your MySJSU account. See testing.sjsu.edu/wst/wstscores/index.html for detailed WST score information.

How to prepare for this exam

- WST information sample test questions, and registration materials may be obtained from helpful links can be found at testing.sjsu.edu/wst/wstprep/index.html.
- The Writing Center offers tutorial help and workshops on various writing topics: see www.sjsu.edu/writingcenter/

To register

1. Register at least 4 weeks in advance at testing.sjsu.edu/wst, dates are available on testing website.

Students who require disability-related accommodations must register and contact AEC at least four weeks prior to the posted test date.

2. The non-refundable test fee is $38.00, payable online via credit card, or at the Testing Office (Industrial Studies 228) with cash or check.

Test Accommodations

Students requiring test accommodations must submit the appropriate documentation to the Accessible Education Center (AEC). To ensure accommodations can be made, an appointment must be scheduled with an AEC counselor at least one month prior to a standardized or placement exam to determine eligibility and prescribe test accommodations. Students unable to meet this deadline should contact the AEC as soon as possible. See http://www.sjsu.edu/aec/for details.

Transfer Credit

SJSU has extensive articulation with many colleges and universities in California. Course-to-course articulation agreements identify courses of comparable content for major and minor requirements for undergraduate degree programs at SJSU. The articulation agreement assures students that the approved transfer courses on the transfer campus will be accepted "in lieu of" the comparable SJSU courses. Information about the courses for each campus that SJSU has agreements with can be found at our comprehensive on-line transfer planning site: http://transfer.sjsu.edu.

Generally, transfer credit will be posted within the first semester of attendance or sooner in some cases. It is important to submit official transcript(s) from all institutions attended for work completed to ensure that transfer credit is posted.

San Jose State University accepts electronic transcripts as the preferred method. If possible please request your school to send your transcripts electronically. Electronic transcripts save processing time. If you have questions or need assistance with your transfer credit, please email eval@sjsu.edu.

Credit from Other Colleges and Universities

California Community Colleges will certify to The California State University those courses that are of baccalaureate level and therefore transferable for at least elective credit. Credits earned in accredited community colleges will be evaluated by the Office of Undergraduate Admissions in accordance with Title 5 of the California Code of Regulations, Section 40409: A maximum of 70 semester units earned in a community college may be applied toward the degree, with the following limitations:

(a) No upper division credit may be allowed for courses taken at a community college, though content equivalence to upper division courses may be approved so that lower division courses may be articulated for "content credit only."

(b) No credit may be allowed for professional courses in education taken at a community college, other than an introduction to education course.

Credits earned at a regionally accredited colleges will be evaluated by the Office of Undergraduate Admissions and advanced standing allowed on the basis of the evidence submitted. Credit toward the fulfillment of graduation requirements will be allowed only insofar as the courses satisfactorily completed meet the standards and the requirements of the basic course pattern of the college.

Credits earned at a non-accredited colleges may be accepted as a basis for advanced standing only to the extent that the applicant can demonstrate to the satisfaction of the university that a satisfactory degree of proficiency has been attained in the course in question.

For details on transferring graduate credits from other institutions, see the section on Transfer Credit in the Graduate Program.

Credit for Military Training in Non-Collegiate Settings

SJSU grants undergraduate degree credit for successful completion of non-collegiate instruction, either military or civilian, as recommended by the Commission on Educational Credit and Credentials of the American Council on Education. The number of units allowed is based on the recommendation in the Guide to the Evaluation of Educational Experience in the Armed Services and the National Guide to Educational Credit for Training Programs.

Six semester units of credit are awarded for being on active duty for at least one year in the Army, Navy, Air Force, Marines or Coast Guard. Three of these units can be used to complete Area E of the CSU General Education Program, two units will apply to the physical education requirement for SJSU graduation, and one unit is applied toward elective credit.

Documents that should be submitted to assess credit for military education are:

- Joint Service Transcripts (JTS; Army, Navy, Marines, Coast Guard)
- Community College of the Air Force transcript (CCAF)
- DD-214 (or DD-295 for students still in the military)

SJSU also awards credit for College Level Examination Program (CLEP) subject examinations. The specific credit for the 36 different CLEP exams can be found under credit by exam http://info.sjsu.edu/static/policies/cbe.html

The Office of Undergraduate Admissions will assist students with questions they may have about transfer credit in order to determine student level and admission eligibility.

Contact:

Office of Admissions and Outreach (Undergraduate)
One Washington Square
San José, CA. 95192-0016
Phone: 408-283-7500
Email: eval@sjsu.edu

Credit for Professional Education

Special Session

Courses numbered 100-399 earn degree and residence credit. While the university may accept this work toward baccalaureate and graduate degrees, it is a matter of individual department evaluation as to whether such work is accepted as applying toward the major or minor. A record of this work is maintained by the Registrar's Office. Transcripts are available once credit is posted.

Continuing Education Units (CEUs)

Courses numbered 400-499 offer Continuing Education Units (CEUs), a nationally-recognized unit of measurement for a variety of noncredit programs applying toward licensure, promotion or career advancement. CEUs are not applicable to a degree nor to residence unit requirements. A record of this work is maintained by the College of Professional and Global Education. Transcripts are available once credit is posted. Contact College of Professional and Global Education (PGE).

Credit for Noncollegiate Instruction

San José State University grants undergraduate degree credit for successful completion of noncollegiate instruction, either military or civilian, appropriate to the baccalaureate degree, that has been recommended by the Commission on Educational Credit and Credentials of the American Council on Education. The numbers of units allowed are those recommended in the

- *Guide to the Evaluation of Educational Experience in the Armed Services* and the
- *National Guide to Educational Credit for Training Programs.*

Credit for Home Study

The university does not offer and rarely accepts credit for correspondence (home study) courses.

Credit for Work Experience

No unit credit is allowed toward bachelors' degrees or master's degrees for teaching or other practical experience. Specific requirements in certain departments may be waived, however, on the basis of previous experience.

Undergraduate Information and Requirements

Change of Major/Degree Objective

Undergraduate students who wish to change their degree major objectives should obtain a change of major form at www.sjsu.edu/registrar/forms. The form requires the approval and signatures of the appropriate university official(s). The completed form for students with fewer than 90 or more units must be returned to the Registrar's Office. Students with 90 or more units must submit the change of major form to the major advisor, Department Chair, and Associate Dean of the major they wish to enter. Students changing to undeclared major must submit the completed form to Academic Advising and Retention Services (AARS). The forms are processed and filed with the Registrar's Office.

The change of major is not official until the approved form is on file with the Registrar's Office. This form may also be used to move from undeclared to a major; declare a second major, or change a minor. Change of undergraduate major and minor forms are downloadable from www.sjsu.edu/registrar/forms. For graduate change of major, see www.sjsu.edu/gape/forms.

Students who have earned more than 90 earned units (counting no more than 70 community college transfer units) are not likely to be approved and will need to appeal.

Change of major is not guaranteed.

Classification of Students

San José State University students are classified in the lower or upper division or in graduate standing based on the units completed. The basis of classification is as follows:

Lower Division

Freshmen are those who have earned a total of fewer than 30 semester units. Sophomores are those who have earned a total of 30 through 59 semester units.

Upper Division

Juniors are those who have earned from 60 through 89 semester units. Seniors are those who have earned 90 semester units or more. Second or Postbaccalaureate students are those possessing a recognized baccalaureate degree and enrolled in an undergraduate degree program. Unless otherwise noted, postbaccalaureate students follow the same policies and procedures as upper division undergraduates.

Graduate Standing

Graduate standing is the classification for those who possess a recognized baccalaureate degree and are enrolled in graduate studies or in school credential programs.

Undeclared Majors

The university accepts freshmen who are not ready to declare a major academic objective or who cannot get into their desired major objective into the undeclared category.

Students selecting the undeclared category for admission must declare a degree major objective prior to attaining junior standing (earning 60 units). Students must obtain prior approval from the department in which they ultimately choose to major in accordance with university regulations.

Students who are in doubt about their degree program are encouraged to seek assistance from Academic Advising and Retention Services in the Student Services Center. AARS serves as the major department for Undeclared students and does require advising every semester. AARS also serves as the major department for Undeclared-PreNursing students.

Trained counselors are also available in Counseling & Psychological Services and in the Career Center. Students will be assisted on an individual basis with the appropriate use of vocational assessment when necessary. Staff and resources exist in the Career Center to support major and career exploration.

Undeclared students should report to Academic Advising & Retention Services in the Student Services Center for General Education and other academic advisement aimed at eventually discovering an appropriate major degree program.

Disqualification and Probation - Undergraduate & Postbaccalaureate

Disqualification - Academic

Undergraduate students on academic probation are subject to academic disqualification if their subsequent Fall or Spring term GPA falls below 2.0. Freshmen on Academic Probation are allowed a second consecutive semester of probation if their SJSU cumulative GPA is in the range 1.50 to 1.99.

An undergraduate student reinstated on probation must achieve a grade-point average of 2.0 or better each semester following reinstatement until such time as he/she has achieved a cumulative SJSU GPA of 2.00. A student who fails to do so will be disqualified again (even if this occurs prior to readmission)

Undergraduate students are eligible to repeat a limited number of courses with grades of "C-", "D+", "D", "D-", "F", "NC", "WU", or "IC" through SJSU's Open University. All work taken through Open University is included in the cumulative record and is considered in the determination of probation and disqualification. Graduate students should see the section on University Disqualification in the graduate portion of this catalog.

Disqualified students should also refer to the section on reinstatement.

Unless otherwise noted, postbaccalaureate (second baccalaureate) students follow the same policies and procedures as upper division undergraduates.

Academic disqualification policies were revised in University Policy S16-16 and are effective with the determination of Academic Standing at the end of the Fall or Spring semester.

Disqualification - Administrative-Academic

A student who has been placed on administrative-academic probation may be disqualified from further attendance if:

1. The conditions for removal of administrative-academic probation are not met within the period specified;

2. The student becomes subject to academic probation while on administrative-academic probation;

3. The student becomes subject to administrative-academic probation for the same or similar reason for which he or she has been placed on administrative-academic probation previously, although not currently in such status.

When such action is taken, the student will receive written notification, including an explanation of the basis for the action.

In addition, an appropriate campus administrator may disqualify a student who at any time during enrollment has demonstrated behavior so contrary to the standards of the profession for which the student is preparing as to render him/her unfit for the profession. In such cases, disqualification will occur immediately upon notice to the student, which shall include an explanation of the basis for the action, and the campus may require the student to discontinue enrollment as of the date of the notification.

Administrative Academic Disqualification of Students

Section 41300 in Title 5 of the California Code of Regulations permits administrative-academic probation or disqualification from academic programs in the CSU for unsatisfactory scholastic progress regardless of cumulative GPA. See University Policy S16-16 for details.

Disqualification - Major

Each college, school, program and/or department has the option of employing a guideline for disqualification from the major. Those which opt to disqualify from the major must have published criteria for determining probation in the major, disqualification from the major, and reinstatement into the major. Such criteria may include individual course grades below "C" (2.0) or "CR", a major GPA below 2.0, or a university GPA below 2.0. Students disqualified under this guideline must be notified by the department, school or college when placed on probation in the major or disqualified by the major.

Students disqualified from their major are listed as Undeclared, report to Academic Advising and Retention Services, and may do academic work to be reinstated to the major (if permitted by guideline), or change to another major for which they are qualified. Appeals may be submitted to the Academic Disqualification and Reinstatement Review Committee via the Office of Graduate and Undergraduate Programs.

Impacted degree programs are those most likely to have policies for disqualification in the major, but even non-impacted programs may have such policies. The Office of Graduate and Undergraduate Programs will maintain current information about disqualification in the major.

Disqualification - Graduate

See Graduate Information and Requirements

Probation - Academic

An undergraduate student is placed on academic probation if the SJSU cumulative grade point average falls below a "C" average (2.0). Students will remain on academic probation until they return to good academic standing (SJSU cumulative GPA greater than or equal to 2.0) or are disqualified. All work taken through Open University is included in the cumulative record and is considered in the determination of probation and disqualification.

Unless otherwise noted, postbaccalaureate (second baccalaureate) students follow the same policies and procedures as upper division undergraduates.

Probation - Administrative-Academic

A student may be placed on administrative-academic probation by action of the Provost for any of the following reasons:

1. Withdrawal from all or a substantial portion of a program of studies in two successive terms or in any three terms. A student whose withdrawal is directly associated with a chronic or recurring disability or its treatment is not subject to administrative-academic probation for such withdrawal.

2. Repeated failure to progress toward the stated degree or other program objective, including that resulting from assignment of 15 units of "NC", when such failure appears to be due to circumstances within the student's control.

3. Failure to comply, after due notice, with an academic requirement or regulation which is routine for all students or a defined group of students (examples: failure to complete a required CSU or campus examination, failure to complete a required practicum, failure to satisfy GE Areas A2 and B4 by the beginning of the 2nd year, failure to comply with professional standards appropriate to the field of study, failure to complete a specified number of units as a condition for receiving student financial aid or making satisfactory progress in the academic program).

When such action is taken, the student will be notified in writing and provided with the conditions for removal from probation and the circumstances which would lead to disqualification, should probation not be removed.

Reinstatement - Undergraduate

Reinstatement of Undergraduate Students After Academic Disqualification

Reinstatement is a different process from readmission. Readmission of a disqualified student is not possible unless reinstatement has been approved, but students must note that reinstatement is not readmission nor does it guarantee readmission. There may even be some situations in which reinstatement is sought with no intention of reapplying to SJSU, such as for admission to another institution or program.

In most situations, students will need to apply for readmission prior to being reinstated. **All returning students must submit an application for admission to SJSU.** Reapply for the next available term at www.calstate.edu/apply by the published deadline. **If you miss the deadline for your desired term, you will need to submit an application for the next available term.** The major listed on your application must match the major on the Petition for Reinstatement. If the majors differ, the major listed on your application will be changed to reflect the major listed on the Petition for Reinstatement. For more information regarding Readmission, see Readmission - Former Students Returning (FSR).

Categories for Reinstatement

1. **SJSU cumulative GPA 2.0 or better.** This category is for disqualified students who have attended SJSU through Open University and brought their SJSU cumulative GPA up to 2.0 or better. Raising the GPA to 2.0 or better does not guarantee that a department will approve the petition. Many departments place restrictions on reinstatement to their major degree programs. Please consult with your major advisor(s) as early as possible.
2. **Extenuating Circumstances.** Reinstatements in this category will only be granted for serious and compelling reasons that were clearly beyond a student's control. Generally, all acceptable extenuating circumstances fall into one of the following eight categories: administrative error, employment, military, natural disaster, death of immediate family member, personal health or serious family illness, divorce, or personal/other (rarely approved). The following are not valid reasons for reinstatement under this category: Poor academic performance, non-attendance, change of major, or lack of prerequisite(s). In addition to the required documentation of extenuation, approvals will require demonstration that poor performance in a particular semester was atypical.
3. **Special Consideration.** This category is reserved for students whose petitions cannot be accommodated within the other categories. Typically, such students have spent substantial time away from SJSU since their disqualification (five years or more) and feel that their life experiences have prepared them for a successful return to school.
4. **Petitioned Grade Change.** This category is reserved for changes of grade approved under Section III (Grade Appeal) and Section IV (Change of Grade) of University Policy S09-7 (http://www.sjsu.edu/senate/docs/S09-7.pdf). If you are petitioning under this category, you must clearly explain which course grade was changed, when it was changed, and the reason for the change.

Reinstatement Petition Deadlines and Processing

1. Petitions for Reinstatement are accepted and evaluated on an ongoing basis. Allow at least fifteen business days for processing after submitting the completed petition form to the Registrar's Office. You may petition under more than one category, but if you do so, your personal statement and documentation must support each category you have selected. Your petition will not be processed if you are not using the current form. See http://www.sjsu.edu/registrar/forms/index.html to be certain that you are using the most recent version of this petition.

Professional Education Scholastic Regulations

Disqualified students may enroll in Professional Education programs; however, the university, in considering applications for readmission and reinstatement, does not accept 400-series course credit as evidence of qualification for reinstatement.

Students desiring to apply extension credit toward the requirements for any degree or teachers' credentials must secure approval from the department that is authorizing the reinstatement.

All students enrolling through Professional Education must meet course prerequisites and are bound by all applicable university regulations given in this catalog, or in the most recent Winter Session, Summer Session or Open University schedule of classes.

Information concerning tuition fees, admission and registration policies and procedures, withdrawal and refund policies, grading systems, academic standards and student advisement may be found in one or more of these publications. Regulations concerning the application of Professional Education credit toward bachelor's degrees and toward residence credit in the university are given elsewhere in this catalog under Credit for Professional Education.

State Authorization for Distance Education

Distance education authorization only impacts prospective students who are interested in completing a SJSU degree or certificate program while simultaneously residing in another state.

States expect institutions to obtain approval for regulated activities that occur in their state. These activities may include but are not limited to online learning, practical experiences, faculty teaching from another state, marketing, and advertising. The requirements as to which activities require authorization, the application processes, and the costs to comply vary greatly from state to state. An institution's compliance (or lack thereof) can affect its ability to receive federal financial aid.

Accreditation

San Jose State University is accredited by the Senior College and University Commission of the Western Association of Schools and Colleges (WASC). To view SJSU's most recent accreditation letter as well as learn more about visits and reports, please visit SJSU's WASC Accreditation website.

Resolving a Grievance

Students residing outside of California (while attending SJSU's distance education programs) wishing to resolve a grievance should contact the appropriate office (e.g. Bursar's Office, Financial Aid Office, etc.). If the issue persists, please follow the CSU Internal Complaint Process.

CSU Internal Complaint Process

Students are encouraged to utilize California State University's internal complaint or review policies and procedures prior to filing a complaint with a state agency. Should the student wish to file a complaint in his or her home state, please select the state contact from the Consumer Protection State Contacts list to file a complaint directly in his or her state.

Arkansas

Arkansas Higher Education Coordinating Board certification does not constitute an endorsement of any institution, course or degree program. Such certification merely indicates that certain minimum standards have been met under the rules and regulations of institutional certification as defined in Arkansas Code %A76-61-301.

Georgia

After exhausting the below CSU Student Internal Complaint Process, Georgia residents may also file a complaint with the State of Georgia Nonpublic Postsecondary Education Commission at the following website: https://gnpec.georgia.gov/webform/gnpec-student-complaint-form.

Maryland

1. Information on registration with the Commission can be found on the following website: http://mhec.maryland.gov/institutions_training/Pages/acadaff/oos_online/oos_online_reg_list.aspx
2. The process for Maryland students to make complaints can be found on the following website: http://mhec.maryland.gov/institutions_training/Pages/acadaff/acadaffairsdepartments.aspx

Minnesota

San Jose State University is registered with the office pursuant to sections 136A.61 to 136A.71. Registration is not an endorsement of the institution. Credits earned at the institution may not transfer to all other institutions.

Oregon

According to the Oregon Administrative Rules (OAR 583-030-0035(18)(c)), after classes begin for a term, an Oregon student who withdraws from a course is eligible for a partial refund through the middle week of the term. Refunds shall be based on unused instructional time and shall be prorated on a weekly basis for schools using a semester calendar.

Refund Policy

If SJSU plans to be authorized to offer a program in a particular state but does not obtain approval before the term starts, the student's application fee will be refunded.

For More Information

Visit the SJSU's State Authorization website, http://www.sjsu.edu/extend/state-auth, or contact stateauthorization@sjsu.edu.

Readmission - Former Students Returning (FSR)

Readmission is the process of reapplying to the next available application cycle through CSU Apply and it is dependent on meeting all eligibility criteria.

Those that are intending to return to SJSU whether in good academic standing or disqualified are encouraged to submit the Readmission Petition. This petition process is based upon University Policy F12-7 (http://www.sjsu.edu/senate/docs/F12-7.pdf) which outlines enrollment priorities for Former Students Returning (FSR). Former Students Returning may complete and submit this petition by the deadlines stated on the petition found on the Office of Registrar's website in order to receive priority consideration for admission prior to impaction processing for the term indicated by department administration.

TO BE ELIGIBLE TO SUBMIT THIS PETITION YOU MUST:

1. Have previously enrolled at SJSU as a fully admitted and matriculated student. (Students who have completed Open University units only are not eligible.) PLEASE NOTE: Students who left SJSU due to disqualification must complete the reinstatement process prior to submitting this petition.
2. Submit an application and application fee for admission by the deadline to apply via CSU Apply (http://www.calstate.edu/apply) for the term indicated on this petition. No exceptions.
3. Complete all the required steps for admission by the published deadlines for the term indicated. For example, transcripts must be submitted, intent to enroll must be completed, orientation must be attended, etc.

For the most up to date readmission information for former students returning, please visit Admissions website.

Former Students Returning - Disqualified

Students disqualified at the close of their last enrollment must petition for reinstatement. See the section titled *Disqualification and Probation* for detailed information. Students seeking reinstatement to the university are also advised to make early application for readmission and meet all application and admission deadlines posted at http://www.calstate.edu/apply. Contact the Student Services Center for details, or read the Petition for Reinstatement information on www.sjsu.edu/registrar/forms/index.htm.

A. Students disqualified from San José State University who wish to be considered for readmission should:

1. Read the section of this catalog titled Disqualification and Probation.
2. Complete a Petition for Reinstatement (http://www.sjsu.edu/registrar/forms/index.html). Petition guidelines can be found on page 1 of the petition form.

Approval for reinstatement to the University after disqualification does not assure readmission to any particular semester or specific degree objective.

1. Register and attend Transfer Orientation.

B. Students who have been disqualified from the college or university of last attendance (other than SJSU) will not be considered for admission to a regular session until:

1. They have reapplied for admission, as upper division transfers, during the next available admission application cycle and meet all posted deadlines.
2. The official transcript of record indicates eligibility to re-enroll
3. Former Students Returning (FSR) should complete an "FSR petition" from SJSU in addition to applying for admission. Details may be found at https://vpsaweb7.sjsu.edu/FSRpetition.pdf

Former Students Returning - Probation

Students on probation at the close of their last enrollment may be readmitted on probation as upper divisions transfers, provided they are otherwise eligible. They must meet all application and admission deadlines. Students must furnish transcripts of any college work taken during their absence.

Former Students Returning (FSR) should complete an "FSR petition" from SJSU in addition to applying for admission. Details may be found at https://vpsaweb7.sjsu.edu/FSRpetition.pdf

Former Students Returning - Good Standing

Undergraduates in good standing at the close of their last enrollment may be readmitted as upper divisions transfer provided they are otherwise eligible. They must meet all application and admission deadlines. All students must furnish transcripts of any college work taken during their absence.

Former Students Returning (FSR) should complete an "FSR petition" from SJSU in addition to applying for admission. Details may be found at https://vpsaweb7.sjsu.edu/FSRpetition.pdf

Leaves of Absence and Withdrawal

One Semester Leaves

Students who have attended at least one semester as a matriculated student and who are in good or probationary standing may choose to leave SJSU ("stop out") for one semester (Fall or Spring) without a formal leave. Students choosing this option must return the following semester and continue their enrollment as matriculated students. If a student does not return in the semester following the one semester leave, he or she will be required to apply for re-admission to resume study at SJSU.

The exception to this rule is that graduate students who have completed all degree requirements except their culminating experience and who either have an RP grade in a project or thesis course or will be taking comprehensive exams may not stop out but must maintain continuous enrollment (see University Policy S17-5). They can do so by taking a 1-unit special session course designed for this purpose. Students should consult their department website or this catalog under the appropriate academic program to determine the course to take. Also consult the section in this catalog entitled Thesis and Project Work - RP Status - Graduate. At this stage of the graduate student career, leaves of absence other than medical or military will rarely be permitted.

Students in cohort programs may also be restricted in the semester of their return following a stop out or formal leave of absence. The individual program director or graduate advisor of the cohort program should be consulted before and after an absence to determine the semester of eligibility to return.

Leaves of Absence

By University Policy S15-3, a formal leave of absence for undergraduate or graduate students in the first or subsequent semesters for medical, care-giving, military service, personal hardship, or educational reasons may be requested by submission of the fully signed and documented Leave of Absence Petition. Submission to the Registrar's Office (Window R at the Student Services Center) must precede the leave period except in the rarely granted cases of retroactive leaves. Leaves can be 1-4 semesters in length (with some exceptions). If a stop-out semester is taken prior to the formal leave, that semester counts in the 4-semester maximum period. Following the leave period, re-enrollment is required to avoid application for re-admission. An early return from leave must be accompanied by written notice to the Registrar's Office. Students granted a leave are guaranteed a return to their department even if it is or becomes a program restricting the number of applicants.

Graduate students are eligible for all leaves of absence except when finished with all degree requirements other than their culminating experience (thesis, project, and/or comprehensive exam plus any other components required of the major). At that point, neither stopping out (voluntary absence for a semester) nor financial leaves are permissible.

Review University Policy S15-3**, for specific information regarding:**

- Categories of Leaves of Absence
- The process
- Leave Durations and Extensions
- Retroactive Leaves of Absence
- Exceptions

First-Semester Leaves

These leaves, which are rarely awarded, are for students accepted into the university, but unable to attend because of an exceptional trauma prior to the start of instruction. Once the semester begins, this type of leave is no longer applicable.

Medical Leaves

Matriculated students unable to continue their enrollment by reason of health are eligible for health leave as long as a minimum of one semester has been attended as a matriculated student prior to the leave. The leave request must be supported by a personal statement and documentation that details the health concern or the Healthcare Provider Verification of Medical Condition form signed by a California-registered physical or mental healthcare professional.

Primary Caregiver Leaves

A student can take a leave when responsible for taking care of a loved one in ill health. The Healthcare Provider Verification of Medical Condition form must also be submitted to confirm the medical condition of the patient.

Personal Hardship Leaves

If a student's scholastic performance is affected by financial hardship, changes in work schedule, or other similar circumstances, he or she may seek a leave. The personal statement must include a plan to being oneself to financial security or to resolve the other personal hardship to be able to successfully return to one's studies.

Military Leaves

Students called to U.S. military active duty and provide a copy of the military orders, may request a military deployment leave at any time for as long as five years.

Planned Student Educational Leaves

An Educational Leave permits a student to be absent from regular attendance for one or more terms while maintaining continuing enrollment status. Applicants must have an intention to return to formal study within a specified period and a plan for how the time is to be spent. There must be a clear educational objective for award of the leave. At least one supporting letter from an advisor, mentor, or chair from SJSU as well as the consent of the associate dean of the college is also necessary.

The opportunity to apply for such leave is available to all non-international students except those attending their first semester and those in disqualified status.

Leave arrangements must be made in advance with the department in which the student is majoring. Undergraduate students in undeclared status will make leave arrangements with Academic Advising and Retention Services (AARS) in the Student Services Center. Graduate students will make leave arrangements with the graduate program coordinator in their department.

Leave forms and additional information may be downloaded at www.sjsu.edu/registrar/forms.

International Student Leaves

International students must be enrolled in a full course of study (12 units for undergraduate students; 9 units for graduate students) for two semesters annually (summer and winter breaks not included). International students are eligible for leaves of absence only when authorized by International Student and Scholar Services (ISSS). Lack of enrollment for any reason other than prevention of the ability to pursue one's studies by severe medical circumstances shall result in the student having to leave the US. If the student is able to return from abroad at the expiration of the leave period, he or she shall derive the benefits of having had the formal leave, such as avoiding the re-admission process. However, other restrictions, such as in the ability to work within the US, may be imposed by federal immigration regulations. International students in need of a leave of absence must first speak with an international student advisor. Walk in advising is available at ISSS in Student Union CPGE.

Withdrawal from the University

Students may withdraw officially from all courses during the first two weeks of instruction without academic penalty (no "W" grade on academic record). Students who have compelling reasons to cancel their registration or who wish to withdraw from all classes after the last day to drop without a "W" grade should consult their instructors, department chair or school director, academic advisor, and, for undergraduates, Academic Advising and Retention Services in the Student Services Center. Counseling & Psychological Services might also be sought for assistance.

A completed Petition for Withdrawal form (www.sjsu.edu/aars/forms/) for undergraduates or a Graduate Petition for Course Drop/Semester Withdrawal (www.sjsu.edu/gape/forms/Withdrawal.pdf) for graduate students must be submitted. Failure to follow formal university procedures may result in an obligation to pay fees as well as the assignment of failing grades in all courses. Students who leave the university but who do not officially withdraw will receive a grade of "WU" (denotes failure for unauthorized drop or withdrawal) in all of their classes. No personnel actions, grades, or transcript services will be permitted until all financial obligations, such as unpaid fines have been settled. If a student fails to return the semester immediately following withdrawal, reapplication for admission at http://www.calstate.edu/apply will be required.

Students who receive financial aid must consult with the Financial Aid and Scholarship Office prior to withdrawing from the university regarding any required return or repayment of grant or loan assistance received for that academic term or payment period. If a recipient of student financial aid withdraws from the institution during an academic term or a payment period, the amount of grant or loan assistance received may be subject to return and/or repayment provisions.

Students holding visas must consult with ISSS (International Student and Scholar Services) regarding effects on their visa status before submitting a withdrawal petition.

Refer to the section on *Continuous Attendance and Catalog Rights* for information about the possible effect a break in attendance may have on requirements for graduation.

Grade Appeals and Grade Assignments

University Policy S14-3

Assignment of Grades and Provisions for Appeals

The following principles support the minimum standards governing the assignment of grades and provisions for appeals (per CSU Executive Order 1037):

A. Faculty have the sole right and responsibility to provide careful evaluation and timely assignment of appropriate grades.

B. There is a presumption that grades assigned are correct. It is the responsibility of anyone appealing an assigned grade to demonstrate otherwise.

C. In the absence of compelling reasons, such as instructor or clerical error, prejudice or capriciousness, the grade assigned by the instructor of record is to be considered final.

D. Process for student appeal

1. Students who believe that an appropriate grade has not been assigned should first seek to resolve the matter informally with the instructor of record (per Change of Grade section).
2. If the matter cannot be resolved informally, the student may pursue a grade appeal and present his or her case to the Student Fairness Committee (according to University Policy S14-3, Student Fairness Dispute Resolution), have it reviewed and, where justified, receive a grade correction.

E. If the instructor of record does not assign a grade, or if he or she does not change an assigned grade when the necessity to do so has been established by appropriate campus procedures, it is the responsibility of other qualified faculty as determined by the appropriate campus entity. "Qualified faculty" means one or more persons with academic training comparable to the instructor of record who are presently on the faculty at that campus.

F. SJSU shall maintain and implement existing policy and procedures covering the assignment of grades and grade appeals that include the following provisions:

1. The time and manner of reporting course grades including provisions for assuring that such grades have been assigned by the instructor of record.
2. Circumstances under which the instructor of record may change a grade once assigned, and procedures for making such changes.
3. A means for preliminary review of potential appeals that may resolve differences before initiation of formal proceedings.
4. Grounds for which a grade appeal is permitted.
5. One or more committees for hearing grade appeals that shall provide safeguards to assure due process for both student and instructor. Such committees shall include student membership. Student members shall not participate in assignment of grades.
6. Procedures whereby grades are assigned by other qualified faculty in circumstances where the instructor of record does not do so, including those instances where a grade change is recommended by a grade appeals committee and the instructor of record does not carry out that recommendation.
7. Specification of time limits for completion of various steps in the appeal process and of the time period during which an appeal may be brought.
8. Description of the extent of the authority of appeal committee(s), including provisions that clearly limit grade changes to instances where there is a finding that the grade was improperly assigned.
9. Limitation of committee authority to actions that are consistent with other campus and system policy.
10. A statement that there is a presumption that grades assigned are correct. Thus, the burden of proof rests with the individual who is appealing.
11. Procedures for dealing with allegations of improper procedure.
12. Assignment of authority to revise policies and procedures for grade appeals to the campus Academic Senate. The campus president is responsible for ensuring that such revisions conform to the principles and provisions of this executive order.
13. Provision for annual reporting to the President and Academic Senate on the number and disposition of cases heard.

Change of Grade (Not Resulting from a Grade Appeal)

A. The basic principle underlying changes of grade is that all students be treated fairly and be given equal opportunities to demonstrate their academic learning and earn course grades representing that learning. Application of this criterion precludes the assignment of extra credit unless such assignments were made known and available to all students in the class. It further precludes rejudgment, afterthought, or reconsideration of an individual's graded work unless such opportunity for change of grade is made equally available to all students in the class.

B. Unless a rejudgment, afterthought, or reconsideration is applied fairly and equally for all students in a class, a change of grade request may be submitted only when there is an error in grading an assignment or course component, or in the case of a clerical, computational, transcriptional, or other administrative error. The specific nature of the error shall be recorded on the form requesting the change of grade. Once approved, the original grade will be removed from the transcript and the new (changed) grade will replace it.

C. A change of grade request must be submitted by the department office directly to the Office of the Registrar in a timely fashion. Normally, such requests must be received by the drop deadline of the following Spring or Fall semester and will require the signatures of the instructor and the department chair. Further extension of this deadline will be considered only when there is documentation of the student's attempt(s) to contact both the instructor and the department chair, and the late submission of the change of grade form is clearly beyond the student's control.

D. A change of grade request received after the drop deadline of the following Spring or Fall semester and within one calendar year after the posting of the grade requires the signature of the appropriate college Associate Dean in addition to those of the instructor and the department chair.

E. A change of grade request received more than one year after the posting of the grade will require, additionally, the approval of the Associate Dean for Undergraduate Studies or Graduate Studies, as appropriate.

F. If a request for a change of grade is approved by the instructor but denied at a subsequent level of review, a written explanation for the denial shall be provided to the student, the faculty member, and the department chair.

Integrity of the Academic Record

A. All grades reported at the end of each semester are final, unless changes have been made according to the provisions given above, or those of University Policy F08-2. Students are responsible for reviewing their grades for accuracy before the beginning of the subsequent term. They are also responsible for verifying their transcripts for changes, e.g., from grade forgiveness, withdrawals, clearance of Incomplete grades, or clearance of Report Delayed (RD) grades.

B. A student who believes he or she has received a grade in error should contact the instructor to verify and, if appropriate, correct the grade. If an instructor is unavailable or absent during the subsequent semester, the student should promptly consult with the department chair about the grade in question. If the department chair is unable to contact the instructor, he or she shall notify the Associate Dean of the College in writing, requesting that an extension of the grade correction deadline be granted. The Associate Dean will then contact the Office of the Registrar if the request for an extension is deemed valid.

C. After a degree has been posted, no further adjustments can be made on the record except under extraordinary circumstances as determined by Undergraduate Studies or Graduate Studies.

Grade Disputes and Grievances

What is a Grievance?

A grievance is an allegation of an unauthorized or unjustified act or decision by a of the faculty or staff or an administrative officer (hereafter referred to as university employee(s), that in any way adversely affects the status, rights or privileges of a student.

What is a Grade Dispute?

There is a presumption that grades assigned are correct. It is the responsibility of anyone appealing an assigned grade to demonstrate otherwise (EO 1037).

We encourage you to contact the University Ombudsperson with questions or concerns related to a grievance or dispute. The Ombudsperson is a neutral, confidential, and impartial resource accessible to students, faculty, and staff.

For more information, please visit: http://www.sjsu.edu/ombudsperson/

Timely Feedback on Class Assignments

Students' Rights to Timely Feedback on Class Assignments, University Policy F13-1

Every student has the right to know, within reasonable time, his academic test scores, to review his papers and examinations, and to be provided with an explanation of the determination of his course grade.

With changing pedagogical perspectives and increasing use of technology, instructors give a much wider range of assignment types - presentations, online discussion, group projects, etc. - and students should be granted the same expectation for feedback on all assignments within a reasonable period as with papers, tests, and examinations.

View the policy in its entirety here: http://www.sjsu.edu/senate/docs/F13-1.pdf

Grading System for Undergraduate

SJSU does not mail grades. Grades from Spring 1991 to the present are available at MySJSU (http://one.sjsu.edu). SJSU ID and Password required.

Fall 2019 Grades

Grades for Fall 2019 term will initially be posted on Saturday, December 21, 2019.

Academic standing will be posted on Wednesday, January 8, 2020.

See Transcripts in the Directory for information on official transcript requests.

Grades - Letter Grading

The grading policy of SJSU provides that A, B, C, D, F, shall be the basic grading system and shall apply to all course work acceptable toward a degree program except for those courses in which it is mandatory or permissible that Credit/No Credit grades be used.

GRADE	POINTS PER UNIT
A+	4.0
A	4.0
A-	3.7
B+	3.3
B	3.0
B-	2.7
C+	2.3
C	2.0
C-	1.7
D+	1.3
D	1.0
D-	0.7
F	0.0
WU	0.0
NC	0.0
CR	0.0
I	0.0
IC	0.0
AU	0.0
W	0.0
WB	0.0
RP	0.0

The scholarship average is based on courses in which letter grades are earned (the total number of grade points divided by the number of units in letter-graded courses). Grade points are assigned as follows.

The grades of "CR," "NC," "AU" (audit), "I," "W," "WB," and "RP" (report in progress) receive no grade points and the units are not considered in computing grade point average. A plus or minus sign following a grade of "A," "B," "C," or "D" will affect the grade points allowed as indicated in the table. A grade of "A+" cannot exceed 4.0 grade points per California Code of Regulations, Title 5, Division 5, Chapter 1, SubChapter 2, Article 2, 40104.

Undergraduate and postbaccalaureate students must maintain a an SJSU Cumulative GPA of 2.0 or better (calculated by dividing grade points (GP) by units graded (UG)).

Grades - Auditing a Class - "AU"

An auditor must be officially enrolled in the course. Enrollment as an auditor is subject to permission of the instructor provided there is space available in the course. **Auditors are subject to the same fee structure as credit students and regular class attendance is expected.** Once enrolled as an auditor, a student may not change to credit status unless such a change is requested no later than the last day to add classes in that term. A student who is enrolled for credit may not change to audit after the last day to add classes in that term.

Grades - Credit/No Credit (CR/NC) - Elective

An upper-division (Junior or Senior) student shall have the option of taking a maximum of 12 semester units as long as the units are not in the major or minor, or in support of, preparation for or prerequisite to the major or minor, or for General Education on the basis of Credit/No Credit for courses under the basic letter grade system. Eligible students may choose this option by turning in the CR/NC option form, available at www.sjsu.edu/registrar/forms, by the add deadline. Students may accumulate a maximum of 60 semester units of Credit/No Credit grades toward a baccalaureate degree.

In addition to turning in the CR/NC Option form, you must have officially added the class.

CAUTION: Credit = A, A-, B+, B, B-, C+, C; No Credit = C-, D+, D, D-, F, IC, WU.

Grades - Credit/No Credit (CR/NC) - Mandatory

"CR/NC" grades are mandatory for thesis and remedial course work. It is also normally used in projects, field work, internships, individual studies, or directed reading. As recommended by departments and approved by the college dean, credit/no credit grades may be used in activity and laboratory courses, workshops, and selected seminars (colloquia). Students may accumulate a maximum of 60 semester units of Credit/No Credit grades toward a baccalaureate degree (excluding any remedial course work). A maximum of 40 percent of the units required in a graduate degree can be credit/no credit (e.g., 12 units in a 30 unit program).

CAUTION: Credit = A, A-, B+, B, B-, C+, C; No Credit = C-, D+, D, D-, F, IC, WU.

Grades - Incomplete - "I / IC "

The symbol "I" (Incomplete Authorized) indicates that a portion of required course work has not been completed and evaluated in the prescribed time period due to unforeseen, but fully justified, reasons and that there is still a possibility of earning credit. The student cannot reenroll in the course. It is the responsibility of the student to bring pertinent information to the attention of the instructor (regarding the unforeseen reason(s) for requesting an Incomplete) and to determine from the instructor the remaining course requirements that must be satisfied to remove the Incomplete. A final grade is assigned when the work agreed upon has been completed and evaluated. Clearing an incomplete grade does not permit retaking previously completed portions of the course, nor does it permit assignment of additional graded work (e.g., extra credit) that was not available to other students in the class.

An "I" must normally be made up within one calendar year immediately following the end of the term during which it was assigned.

This limitation prevails whether or not the student maintains continuous enrollment. Failure to complete the assigned work will result in an "I" being converted to an "IC" symbol, or an "NC" for non-traditionally graded courses, unless the faculty member assigns a specific letter grade at the time the Incomplete is assigned, which would replace the "I" in the student's record after the calendar year deadline.

Failure to complete the assigned work within the established calendar year period for an "I" grade will result in an automatic grade change to an "IC" grade which calculates as a failing grade for grade point average and progress point computation.

Grades - Report Delayed - "RD"

The "RD" symbol may be used where a delay in the reporting of a grade is due to circumstances beyond the control of the student. The symbol may be assigned by the registrar only and, if assigned, shall be replaced by a substantive grading symbol as soon as possible.

Grades - Report in Progress - "RP"

The "RP" symbol is used in connection with courses that typically extend beyond one academic term. It indicates that work is in progress but that assignment of a final grade must await completion of additional work. Work is to be completed within one year except for graduate degree projects and theses (supervised courses, e.g., 298 & 299 courses), which have a two-year time limit. Failure to complete the assigned work for an "RP" grade will result in an automatic grade change to an "NC" grade unless a request for an extension has been made and approved.

A final grade will be assigned to all segments of the course on the basis of overall quality. Any extension of this time period must receive prior authorization by the instructor and department chair or school director.

Grades - Withdrawal - "W"

The symbol "W" on the official transcript indicates that the student was permitted to withdraw from the course after the drop deadline for the term with the approval of the appropriate campus administrator. It carries no connotation of quality of student performance and is not used in calculating grade point average or progress points. However, there are limits on the number of allowable units of "W" on the unofficial transcript. Undergraduate students may withdraw from no more than 18 units. Postbaccalaureate students may withdraw from no more than 12 units. Graduate students may withdraw from no more than 9 units. Exceptions to these unit limits are granted when the cause of withdrawal is due to circumstances clearly beyond the student's control and the assignment of an Incomplete is not practicable. Such exceptions are designated "WB" for internal processing of drops and withdrawals, and will revert to "W" on the transcript (University Policy S09-7).

Undergraduates may download the appropriate petition (course drop or withdrawal from all courses) at www.sjsu.edu/aars/forms.

Graduate Students may download the Course Drop/Semester Withdrawal petition at www.sjsu.edu/gape/forms.

Grades - Withdrawal Unauthorized - "WU"

The symbol "WU" indicates that an enrolled student did not officially withdraw from the course and also failed to complete course requirements. It is used when, in the opinion of the instructor, completed assignments or course activities or both were insufficient to make normal evaluation of academic performance possible. For purposes of grade point average and progress point computation this symbol is equivalent to an "F."

Unit of Credit

The unit of credit is the semester unit. Transferred work from a quarter system college or university will be converted to semester system units and grade points. Each semester unit is equal to one and one-half quarter units.

Change of Grade

The basic principle underlying changes of grade is that all students be treated fairly and be given equal opportunities to demonstrate their academic learning and earn course grades representing that learning. Application of this criterion precludes the assignment of extra credit unless such assignments were made known and available to all students in the class. It further precludes rejudgment, afterthought, or reconsideration of an individual's graded work unless such opportunity for change of grade is made equally available to all students in the class.

Unless a rejudgment, afterthought, or reconsideration is applied fairly and equally for all students in a class, a change of grade request may be submitted only when there is an error in grading an assignment or course component, or in the case of a clerical, computational, transcriptional, or other administrative error. The specific nature of the error shall be recorded on the form requesting the change of grade. Once approved, the original grade will be removed from the transcript and the new (changed) grade will replace it.

A change of grade request must be submitted by the department office directly to the Office of the Registrar in a timely fashion. Normally, such requests must be received by the drop deadline of the following Spring or Fall semester and will require the signatures of the instructor and the department chair. Further extension of this deadline will be considered only when there is documentation of the student's attempt(s) to contact both the instructor and the department chair, and the late submission of the change of grade form is clearly beyond the student's control.

A change of grade request received after the drop deadline of the following Spring or Fall semester and within one calendar year after the posting of the grade requires the signature of the appropriate college Associate Dean in addition to those of the instructor and the department chair.

A change of grade request received more than one year after the posting of the grade will require, additionally, the approval of the Associate Dean for Undergraduate Studies or Graduate Studies, as appropriate.

Maximum Unit Loads

An undergraduate student who takes 12 or more units is classified as full-time for the purposes of financial aid. An average unit load of at least 30 units per academic year (15 units per semester without summer or winter coursework) is required to complete an undergraduate degree in four years. Advising is essential to be able to complete a degree in a timely and efficient manner. Students with work or family responsibilities outside of school should consult with an advisor and reduce their study loads appropriately.

The maximum load for graduate students is normally 15 semester units. Reasonable exceptions beyond this number up to 18 units may be approved, by the graduate advisor and department chair, for sufficient cause, and department chair, but permission must also be garnered from the Associate Dean of Graduate Studies by means of the **Graduate Petition for Excess Units**. Loads beyond 18 units for graduate students, are prohibited by the CSU. The Graduate Studies & Research Committee strongly recommends that graduate students carry no more than 12 units of 200-level work in any one semester. There is no official minimum load for graduate students other than for those who wish to receive financial assistance or other benefits.

Immigration and Customs Enforcement (ICE) regulations on international students require that undergraduates maintain full-time status of 12 semester units and graduate students 9 semester units, excluding summer in both cases. To appeal this regulation, go to International Student and Scholar Services (ISSS).

Excess Units

Enrollment limits for undergraduate students will be set on a semester by semester basis. Petitions and information are available at www.sjsu.edu/registrar/forms.

Verification of Unit Load

In verifying enrollments to the Veterans' Administration, scholarship boards and loan agencies, the university reports the total number of units enrolled as the official unit load for an undergraduate.

The definition of "full-time student" made by the United States Citizenship and Immigration Service (USCIS), Veteran's Administration and other agencies may vary. Students who are concerned with their status are urged to contact the specific agency involved to determine its policies. Full veterans' subsistence payments require a course load of 12 weighted semester units for both graduate and undergraduate students. Graduate students from foreign countries who are in the U.S. on student visas must normally carry nine semester units to maintain full-time student status, while undergraduate international students must carry 12 semester units to maintain the required full-time status.

Students may request verification of unit load from the Registrar's office located in the Student Services Center.

Course Numbering System

Course Numbers

Lower division (freshman and sophomore) courses are numbered 001-099 and cannot be used for credit in graduate or credential programs; upper division (junior and senior) courses are numbered 100-199; graduate courses are numbered 200-299.

Methods or professional courses given by or for other departments are allowed upper division credit are numbered 300-399 and doctoral courses are numbered 500-599. Courses in the NURS 574-597 series is a part of the joint Doctor of Nursing Practice (DNP) with CSU Fresno.

180, 184, 096, 196 and 296 Courses

Individual Studies (180) and Directed Reading (184) are used for independent study and are generally reserved for majors within a department. Normally, no more than four units of 180 and/or 184 may be taken for baccalaureate credit (see Unit Requirements). Courses numbered 96, 196 and 296 are offered to meet special demands for experimental courses on a temporary basis and are listed in the SJSU Schedule of Classes, but not in this catalog.

400-499 Continuing Education Units

Courses in the 400-series are especially designed for professional in-service and relicensure purposes. Continuing Education Units (CEU) are given for these courses. Courses are not applicable to degree programs and units earned do not affect grade point totals or average.

1000 No Degree Credit

Courses in the 1000-series do not earn credit toward any degree program. Examples: remedial courses and units devoted to thesis, project, or dissertation beyond minimum required units. (Effective May 30, 2016)

Transcript of Record

Transcript Requests

Current and former San Jose State students have several ways to order official and unofficial transcripts

1. Official transcripts through the E-transcript portal (preferred)
2. Official paper transcripts through MySJSU
3. Official paper transcripts by mail request
4. Unofficial transcripts through MySJSU

For more information on Transcripts visit http://www.sjsu.edu/registrar/students/transcripts/index.html

Holds

If there is any financial hold or administrative obligation on your student records, it must be cleared with the department that placed the hold before transcripts can be processed. Holds may be placed on your student records by other campus departments for various reasons (e.g. fees, books, housing, equipment or documents).

General Transcript Regulations:

1. Transcripts are a complete record of all courses and/or degrees completed at San José State University. Transcripts do not include course work completed at other institutions. Only the transferable units are reflected on transcripts under "Transfer Credit". Transcripts from high schools or other colleges cannot be duplicated. You must apply directly to each school for copies of their transcripts.
2. For students who have undergraduate and post-baccalaureate or graduate course work, please be aware that it is not possible to separate undergraduate course work from the post-baccalaureate or graduate course work. All careers will appear on the transcript as it is considered one official record.
3. Transcript requests will not be accepted by fax or e-mail.
4. We do not accept requests for unofficial transcripts. Unofficial transcripts can be obtained through your Student Center page on the mySJSU portal (current and newly graduated students only). If you need assistance with your mySJSU account, please contact the IT Help Desk via e-mail: ithelpdesk@sjsu.edu

Repetition of Courses

Undergraduate and postbaccalaureate students (regular enrollment and Open University) may repeat courses only if they earned grades lower than a "C" (including "WU", "IC", and "NC").

Special programs, such as credential programs, that are governed by external standards may require grades higher than a C. In courses specific to those programs, a course repeat may be permitted when the grade does not meet the necessary standard.

Graduate students may repeat courses only if they earned grades lower than a "B" (including "WU", "IC", and "NC").

Repeating a course with an Incomplete ("I") grade is not allowed; a grade must be assigned or the "I" must revert to an "IC" prior to repeating the course. Repeating a course with an "RP" is allowed, although the course instructor and individual departments should be consulted for their requirements in this regard.

The limits on course repetition apply only to units completed at SJSU.

1. See Repeating a class- Registration Restrictions for more information.
2. Courses designated "Repeatable for Credit" may be repeated even though the original grade was "C" or better.
3. The policies regarding repetition of courses with Grade Forgiveness or Grade Averaging (as described below) apply only to courses taken and repeated at SJSU.

Grade Forgiveness

Grade Forgiveness (Formerly known as "Academic Renewal")

Course Repeats with "Grade Forgiveness."

Formerly known as "Academic Renewal" at SJSU, Grade Forgiveness is the circumstance in which the new grade replaces the former grade with respect to the calculation of GPA. The original grade remains on the transcript.

1. Undergraduate and postbaccalaureate students may repeat a maximum of 16 units of total Grade Forgiveness, consisting of a combination of up to 9 units (maximum) of lower division (numbered 0-99) course work, and up to 9 units (maximum) of upper division (numbered 100-199) course work.
2. Graduate (numbered 200-299) course work is not eligible for Grade Forgiveness. Graduate students are not eligible for Grade Forgiveness, but may repeat up to 9 units of upper division or graduate course work through Grade Averaging.
3. Grade Forgiveness will be assigned automatically for all eligible courses as soon as a student registers. Eligible courses include those courses with earned grades lower than a "C" (including "WU", "IC"; but excluding "NC"). Once the pool of available units is insufficient for the next repeated course, unused units may be applied to a future course of lower unit value or simply left unused in the pool. If a repeated course is dropped prior to the Drop Deadline or a "W" is recorded for a repeated course, then the Grade Forgiveness units return to the pool of available lower division or upper division units, as appropriate.
4. **To opt out of grade forgiveness:** A student may petition to have a repeated course NOT be granted Grade Forgiveness. Such petitions must be submitted prior to the Census Date for the term in which the course is repeated. See www.sjsu.edu/ugs for instructions and forms.
5. Students may repeat an individual course for Grade Forgiveness only once.
6. Grade Forgiveness shall not be applicable to courses for which the original grade was the result of a finding of academic dishonesty.

Grade Forgiveness that results in a higher GPA will not remove a prior academic standing.

The policy regarding repetition of courses with Grade Forgiveness apply only to courses taken and repeated at SJSU (University Policy F08-2)

Course Repeats with Grades Averaged

1. Undergraduate and postbaccalaureate students may repeat a maximum of 28 units for graduation credit (including units repeated for Grade Forgiveness; excluding grades of "W"). After the pool of Grade Forgiveness units have been depleted or used to the fullest extent allowable, the repeat grade shall not replace the original grade. Instead grade points and units from all attempts shall be calculated in the student's SJSU cumulative GPA and overall GPA.
2. Graduate students may repeat a maximum of 9 units of upper division or graduate course work for graduation credit.
3. Course repeats with Grades Averaged will be assigned automatically for all eligible courses as soon as a student registers. Once the pool of available units is insufficient for the next repeated course, unused units may be applied to a future course of lower unit value or simply left unused in the pool. If a repeated course is dropped prior to the Drop Deadline or a "W" is recorded for a repeated course, then the Grade Averaged units return to the pool of available units

Students who (1) have repeated the maximum allowable units, (2) are otherwise making appropriate progress to degree, and (3) still need to repeat courses to fulfill specific major or minor requirements necessary for graduation may petition for an exception to the 28-unit limit. Graduate & Undergraduate Programs and the Registrar's Office will administer the petition process. Any course(s) approved for repeating by this petition process will be Grade Averaged.

Duplicate Credit - Inadmissible Repeats

Unless a course is designated "Repeatable for Credit" in the catalog, repeating a course in which a "C or better" was earned on the first attempt is not admissible. This restriction applies whether the first attempt was at another institution and the second attempt at SJSU, or the reverse. Articulation agreements determine if the course at another institution is considered equivalent to an SJSU course. See the course-to-course articulation information at http://artic.sjsu.edu/web-dbgen/artic/all-course-to-course.html.

If the "inadmissible repeat" (second attempt) is taken at SJSU before the transfer record from the first non-SJSU attempt is posted, the units and grade points will appear on the transcript and the grade will initially be calculated into the SJSU and All College grade point averages. Students should be aware that units completed and grade points cannot be earned for "inadmissible repeats" and will be removed at any time prior to graduation. The grade earned will be indicated on the student's record. Students should keep track of these units and not count them twice for graduation purposes.

This same restriction about duplicate credit applies to credit earned by AP, CLEP and IB exams. AP, CLEP and IB exams articulate to specific SJSU courses. See credit by exam articulation information at http://artic.sjsu.edu/static/policies/cbe.html. When an exam and a course duplicate credit, the exam credit shall be removed or reduced according to the amount of overlap (EO-1036).

Residency

Residency - Determination

University requirements for establishing residency are independent from those of other types of residency, such as for tax purposes, or other state or institutional residency. These regulations were promulgated not to determine whether a student is a resident or nonresident of California, but rather to determine whether a student should pay tuition on an in-state or out-of-state basis. A resident for tuition purposes is someone who meets the requirements set forth in the Uniform Student Residence Requirements. These laws governing residence for tuition purposes at the California State University (CSU) are California Education Code sections 68000-68085, 68120-68134, and 89705-89707.5, and California Code of Regulations, Title 5, Subchapter 5, Article 4, sections 41900-41916. This material can be viewed on the Internet by accessing the CSU's website at www.calstate.edu/GC/resources.shtml.

Each campus's Registrar's Office is responsible for determining the residence status of all new and returning students based on the Application for Admission, Residency Questionnaire, Reclassification Request Form, and, as necessary, other evidence furnished by the student. A student who fails to submit adequate information to establish eligibility for resident classification will be classified as a nonresident.

Generally, establishing California residence for tuition purposes requires a combination of physical presence and intent to remain indefinitely. An adult who, at least 366 days prior to the residence determination date for the term in which enrollment is contemplated, can demonstrate both physical presence in the state combined with evidence of intent to remain in California indefinitely may establish California residence for tuition purposes. A minor normally derives residence from the parent(s) with whom they reside or with whom they most recently resided.

Evidence demonstrating intent may vary from case to case but will include, and is not limited to, the absence of residential ties to any other state, California voter registration and voting in California elections, maintaining California vehicle registration and driver's license (or California identification card), maintaining active California bank accounts, filing California income tax returns and listing a California address on federal tax returns, owning residential property or leasing an apartment where permanent belongings are kept, maintaining active memberships in California professional or social organizations, and maintaining a permanent military address and home of record in California.

Nonresident students seeking reclassification are required to complete a supplemental questionnaire that includes questions concerning their financial independence. Financial independence is required, along with physical presence and intent, to be eligible for reclassification. Financial independence is established if in the calendar year the reclassification application is made and in any of the three calendar years preceding the reclassification application the student:

- has not and will not be claimed as an exemption for state and federal tax purposes by his/her parent;
- has not and will not receive more than seven hundred and fifty dollars ($750) per year in financial assistance from his/her parent; and
- has not lived and will not live longer than six (6) weeks in the home of his/her parent.

A nonresident student who has been appointed as a graduate student teaching assistant, a graduate student research assistant, or a graduate student teaching associate on any CSU campus and is employed on a 0.49 or more time basis is exempt from the financial independence requirement.

Non-citizens establish residence in the same manner as citizens, unless precluded by the Immigration and Nationality Act from establishing domicile in the United States.

Exceptions to the general residence requirements are contained in California Education Code sections 68070-68085 and California Code of Regulations, Title 5, Subchapter 5, Article 4, sections 41906-41906.6, and include, but are not limited to, members of the military and their dependents, certain credentialed employees of school districts and most students who have attended three or more years of high school in California and graduated from a California high school or attained the equivalent of graduation. Whether an exception applies to a particular student cannot be determined before the submission of an application for admission and, as necessary, additional supporting documentation. Because neither campus nor Chancellor's Office staff may give advice on the application of these laws, applicants are strongly urged to review the material for themselves and consult with a legal advisor.

Residency - Appeals

Students classified as non-residents may appeal a final campus decision within 120 days of notification by the campus. For more information please visit the Residency website from the Office of the Registrar.

Residency Determination Dates

At San José State University, the residence determination dates are:

Fall - September 20
Spring - January 25
Summer - June 1

The Office of General Counsel can either decide the appeal or send the matter back to the campus for further review.

Students incorrectly classified as residents or incorrectly granted an exception from nonresident tuition are subject to reclassification as nonresidents and payment of nonresident tuition in arrears. If incorrect classification results from false or concealed facts, the student is subject to discipline pursuant to Section 41301 of Title 5 of the California Code of Regulations.

Resident students who become nonresidents, or who no longer meet the criteria for an exception, must immediately notify the Registrar's Office.

Changes may have been made in the rate of nonresident tuition and in the statutes and regulations governing residence for tuition purposes in California between the time this information is published and the relevant residence determination date. Students are urged to review the statutes and regulations stated above.

Open University - Courses

San José State University's Open University program permits enrollment by non-matriculated students in specified regular curriculum classes on a space-available basis. Formal admission to the university is not required. Registration is not possible prior to the first class meeting. A maximum of 24 semester units may be applied toward bachelor degree and not more than nine units for a 30-unit master degree (30% of the degree program total) . Units earned in Open University may not be used to meet residence unit requirements for a degree. For undergraduate students, exceptions to these restrictions may be granted by petition (http://www.sjsu.edu/gup/allForms/index.html#studentPetitions).

Regular (matriculated) students in good standing may not enroll as Open University students. Matriculated students are those who have been admitted to San José State University as a regular student for the current semester or were registered as a matriculated student in the previous semester and who have not graduated.

Disqualified students who seek reinstatement following disqualification must see their advisor to develop a plan to meet the required GPA standard for readmission to the university. In addition to reinstatement, disqualified students must reapply and be readmitted in order to become regular (matriculated) students once again.

All prerequisites, including WST are enforced when enrolling through Open University.

International Students

International students must be regular full-time matriculated students admitted to a degree program. Enrollment in Open University does not qualify international students for the immigration document necessary to enter the United States, to transfer to SJSU from another U.S. university, or to maintain their legal F-1 status. Academically disqualified international students are eligible to enroll through Open University but must transfer to another I-20 issuing institution to maintain their F-1 student status, or apply for reinstatement to F-1 student status from the U.S. Citizenship and Immigration Services after being re-admitted to SJSU.

Summer Session

Summer Session allows both matriculated and non-matriculated (i.e. Open University) students to enroll in summer classes at San José State University.

Winter Session

Both matriculated and non-matriculated students may enroll in this session. Credit earned may be applied to residence unit requirements for previously matriculated students, and is not subject to the 24-unit limitation in applying toward bachelor's degree requirements at San José State University.

Honors

The university recognizes outstanding academic achievement of its students through a variety of different honors.

Honors - Departmental

Students who have completed an approved departmental honors program receive "honors at graduation" as distinct from "university honors at graduation." The following departments offer departmental honors programs (for details see under each department in the university course catalog).

- Aviation
- Biological Sciences
- Business
- Chemistry
- Child Development
- Computer Science
- Economics
- English
- Environmental Studies
- Geography
- Geology/Earth Science
- History
- Journalism and Mass Communications
- Mathematics
- Music
- Political Science
- Psychology
- Sociology
- Theatre Arts

Honors - President and Dean Scholars

Each spring the Honors Convocation recognizes and encourages superior undergraduate academic achievement of President's and Deans' Scholars. There are two levels of Honors Scholars:

President's Scholars: Any undergraduate student who has earned a 4.0 grade point average at San Jose State University during Fall or Spring terms.

Deans' Scholars: Any undergraduate student who has earned a 3.65 or higher grade point average at San Jose State University during Fall or Spring terms.

The minimal load allowed for the award of academic honors is the student's full program of graded courses or 12 units, CR (Credit) grades are not counted toward the calculation of the grade point average nor toward the 12 unit minimum. Only SJSU courses for which grades are posted, including the clearance of incompletes made during that time period, shall be used.

Recognition of these Honors Scholars through the Honors Convocation was inaugurated at the university in 1962 by the three honor societies - Phi Kappa Phi, Sigma Xi and the Phi Beta Kappa Faculty Club. It is currently under the sponsorship of the University Honors and Honors Programs Committee.

Note. Certain grades are not counted for honors: credit by examination, "overseas" grades, extension courses, "credit" grades and incompletes. Designation as a President's or Dean's Scholar does not apply to second baccalaureate, credential or graduate students.

Honors - Outstanding Graduating Senior Awards

Announced each year at Commencement by the University President, the Outstanding Graduating Senior Awards recognize exceptional scholarship and service to the university and community based on the following criteria:

- An overall cumulative GPA of at least 3.75;
- Significant demonstrated SJSU leadership area(s) of university life and/or;
- Significant contributions to the welfare of the university and/or the community, and/or;
- Evidence of a high level of intellectual, artistic, or academic accomplishment, and/or personal contribution as an undergraduate student;

- At least one professional nomination letter submitted by a SJSU faculty or staff member.

To be considered for this honor, visit the Student Affairs website at www.sjsu.edu/studentaffairs and follow the link for Outstanding Graduating Senior Awards or contact the Office of the Vice President for Student Affairs at 408-924-5900.

Honors - University Honors at Graduation

Criteria used to determine honors at graduation are those in effect as of the date of graduation. Honors at graduation are only bestowed upon undergraduates.

Summa Cum Laude is awarded to those undergraduate students achieving a cumulative grade point average in all university and college work and a cumulative grade point average in all work undertaken at SJSU of not less than 3.85.

Magna Cum Laude is awarded to those undergraduate students achieving a cumulative grade point average in all university and college work and a cumulative grade point average in all work undertaken at SJSU of not less than 3.70.

Cum Laude is awarded to those undergraduate students achieving a cumulative grade point average in all university and college work and a cumulative grade point average in all work undertaken at SJSU of not less than 3.50.

Graduation Requirements - Undergraduate

Candidates for graduation with a baccalaureate degree must satisfy the regulations described in this section, and those outlined by the major department. The Bachelor of Arts and the Bachelor of Science degrees are offered with majors in the several fields listed under Curricula Offered. In addition to the BA and the BS, the Bachelor of Music (BM), the Bachelor of Fine Arts (BFA) degrees are also offered. Specific requirements for degrees in each field are outlined in the departmental sections of this catalog. All candidates for graduation must satisfy the general regulations described on the following pages in this section, as well as those outlined by the major department.

Graduation Requirement - Academic

An "All College" average of "C or Better" (2.0), a "C or Better" average earned in all units taken at SJSU (as indicated on the transcript by "SJSU Cum"), a "C or Better" average in both the requirements for the major and the minor (if applicable), a "C- or better" in each of the four GE basic skills courses (Areas A1, A2, A3, and B4), an aggregate "C or Better" average in the nine units of upper division GE (Areas R, S, and V), and a "C or Better" in Area Z (100W), are required for graduation with a baccalaureate degree. Upon the completion of their programs, credential candidates must have a GPA of 3.0 or higher to be recommended for a credential.

A minimum of 120 semester units of credit must be earned for graduation with the baccalaureate degree. Normally, no more than four units of Individual Studies (180) and/or Directed Reading (184) may count for the baccalaureate degree. Exceptions must have approval from the major department.

All requirements listed here may be met either by passing external examinations (AP, CLEP, or IB), waiver examinations, where available, or by individual course challenge exams, or by course work. Students should note that success in a waiver examination satisfies a requirement but does not yield unit credit. For information about the examinations, contact the SJSU Testing Office.

Please check the SJSU catalog for any additional academic requirements that are specific to a major.

Graduation Requirement - American Institutions (AI)

U.S. History, U.S. Constitution, California State and Local Government. State law requires all students graduating from a CSU campus to demonstrate knowledge of these three areas, also referred to as the American Institutions and Ideals, the Title 5, or the "state code" requirement. Students may complete waiver exams or course work to satisfy the requirements. Consult the General Education Requirements and Courses section for approved courses or the Testing Office for information about the waiver examinations. Students should consult an advisor to determine which of the various course combinations are best for their degree objectives.

Graduation Requirement - Graduation Writing Assessment Requirement (GWAR)

The CSU Graduation Writing Assessment Requirement (GWAR) states that all students must demonstrate competency in writing skills as a requirement for graduation.

All undergraduate students must satisfy the GWAR by either passing a 100W course with a "C or better" (C- not accepted) or by earning a waiver score on the WST. Some departments require the 100W as part of the major degree program regardless of the WST score. A student may also satisfy the GWAR while matriculated at another CSU campus.

All undergraduate SJSU students take the Writing Skills Test (WST). A satisfactory score on the WST (or completion of 100A with a grade of "C or better" (C- not accepted) after failing the WST) is required to enroll in the 100W course designated by the major. The 100W Writing Workshop must be passed with a "C or better" (C- not accepted) when satisfying the CSU Graduation Writing Assessment Requirement. Information on currently available ways to meet this graduation requirement may be obtained from the Testing Office or Academic Advising and Retention Services (AARS).

Graduate students should refer to the section on **Graduate Degree - Graduation Writing Assessment Requirement (GWAR)**

Graduation Requirement - Physical Education (PE)

It is important that all students admitted to SJSU, regardless of major, have an opportunity to expand their knowledge and skills in physical activities. To accommodate the needs and interests of SJSU students, the Department of Kinesiology offers a diverse selection of activity courses which have the following goals:

- To provide a fundamental understanding of the influence physical activity has on physical and mental well-being;
- To promote development of a repertoire of skills for constructive leisure activity and a physically active lifestyle important to maintaining health;
- To provide an understanding of the guidelines for developing and maintaining physical fitness throughout the lifespan;
- To provide exposure to a variety of lifetime fitness activities and sports; and
- To enhance the student's liberal arts education and develop a well-rounded individual.

All undergraduate students who matriculate at SJSU, except those majors that are exempt as listed under Major Exemptions {http://info.sjsu.edu/static/policies/majormod.html}, are required to complete two units of physical education from Kinesiology/Dance activity courses (University Policy S14-11).

Two distinct activity courses or a single activity course of two or more units may be used to satisfy the PE requirement.

Two units of Intercollegiate Athletics may be used to satisfy the PE requirement.

Veterans who have completed at least one year of active duty in the armed services (Army, Navy, Air Force, Marines or Coast Guard) have satisfied the physical education requirement (http://info.sjsu.edu/static/policies/military-credit.html)

Kinesiology activity courses at SJSU are not repeatable for credit.

To challenge a course that meets the requirement, students must consult the Department of Kinesiology at least one semester prior to graduation.

Graduation Requirement - Residency

For all bachelor's degrees, including second baccalaureates, a minimum of 30 units shall be earned in residence after matriculation at the campus granting the degree. Twenty-four of these units shall be earned in upper division courses, 12 of the units shall be in the major and 9 units shall be in General Education. Extension credit or credit by evaluation shall not be used to fulfill any of the 30 units. Winter Session for previously matriculated students earns residence credit; Open University units are not applicable toward the residence requirement.

Graduation Requirement - Upper Division

At least 40 of the total units required for graduation with the bachelor's degree must be upper division. For the BA, a minimum of 12 units of upper division credit in the major is required and for the BS, a minimum of 18 units of upper division credit in the major is required. Upper division credit will be allowed by the university and applied toward the baccalaureate degree only for SJSU courses numbered 100 or above and for courses from other universities clearly designated as junior or senior level courses.

Graduation Requirement - Catalog Rights

Undergraduate students remaining in attendance in regular sessions at any California State University campus, at any California community college, or any combination of California community colleges and campuses of The California State University may, for purposes of meeting graduation requirements, elect to meet the requirements in effect at the campus from which they will graduate either:

- at the time the student began such attendance, or
- at the time of entrance to the campus, or
- at the time of graduation.

Continuous attendance is defined as enrollment in at least one semester or two quarters in each calendar year. Absence related to an approved educational leave or for attendance at another accredited institution of higher learning is not considered an interruption, providing the absence does not exceed two years.

Campus authorities may authorize or require substitutions for discontinued courses and may also require students changing their major or any minor field of study to complete the major or minor requirements in effect at the time of the change. Students who do not maintain continuous enrollment will be held to any new requirements approved by the university at the time of their readmission.

Graduation Requirement - Time Limits

Time Limit

Courses taken to meet degree requirements at San José State University are subject to a time limitation of 10 years. Students are required to meet those requirements in the major in effect no earlier than 10 years prior to receiving the degree. Students with an unusual problem may petition the major department chair for a waiver of the 10-year requirement.

Graduate students should refer to the section on Graduate Degree - Time Limits.

Facilitating Graduation

Effective Spring 2010, any undergraduate or graduate student will be precluded from enrolling in any additional state-supported courses when that student has already met all necessary requirements for the degree for which that student is matriculated. Moreover, students who have met all requirements for graduation prior to any semester in which they are enrolled will be permitted to drop all courses for which they are registered, with little or no penalty, and to graduate at the next available date. Students who have earned more than enough units to graduate but have some remaining requirements to complete, will be advised and precluded from registering in any courses other than those required for a timely graduation.

Units from 4-Year Colleges/Universities

At least 50 of the total units required for graduation with a bachelor's degree must be earned from 4-Year Colleges/Universities. This is commonly referred to as a maximum of 70 units of Community College academic work that may count toward the minimum 120 units needed for all baccalaureate degrees.

Graduation Application

Candidates for the baccalaureate degree must file an application for graduation at least two semesters prior to the expected graduation date in order to allow time to make up any deficiencies or correct any discrepancies that may delay graduation. At least 85 semester units must be completed before an application for graduation may be submitted. In addition to fulfilling curricular graduation requirements, a student, to be eligible for a bachelor's degree, must have a grade point average of at least 2.0 (C) in each one of the following categories: all college work (the overall average), all units attempted at SJSU, all units in the major, all units in the minor (if any), and all nine units of upper division GE (Areas R, S, and V).

Undergraduate students need to check with their major departments or their college success centers when they are ready to apply for graduation. Students from specific majors can now apply online for graduation via their MySJSU(link). See this page for guidance: http://www.sjsu.edu/registrar/students/graduation/index.html

Master's or Ed.D. degree candidates, are available to eligible students through their MySJSU account. Eligible students will be messaged once they are eligible to apply online. A tutorial and video instructions for completing the application are available at www.sjsu.edu/gape/forms/, under Graduation.

Those planning to attend a college or university other than SJSU during the final semester must notify the Office of the Registrar. Courses must be completed by the date of graduation and transcripts received within one month after graduation.

If a candidate is unable to complete the course work as expected, or if the date of graduation is to be delayed for any reason, a Change of Graduation Date form must be submitted, accompanied with the fee, prior to the new expected graduation date.

College of Business Graduation Applicants

The College of Business requires that students apply to the Jack Holland Student Success Center. Graduation deadlines and procedures differ from those established by the university. For further information, check with the Jack Holland Student Success Center, BBC 008, 408-924-3435.

Bachelor's Degree Candidates

- You should apply for graduation at least two semesters in advance, after completing at least 85 semester units.
- See major department for specific graduation course and unit requirements.
- File your application no later than the Processing Deadline dates shown below. Submitting your application by the priority processing deadline allows us to review your graduation requirements before Advance Registration ends for your last term of attendance.
- Graduation applications are available at: www.sjsu.edu/registrar/forms/index.html.
- Major/Minor Forms are available from your department office.
- Submit a completed graduation application, Major form (and Minor form as applicable), **in a sealed department envelope** to the

the Registrar' s Office, located in the Student Services Center. Incomplete applications will be returned and may cause a delay in graduation.

- Only original signed documents are acceptable.
- All courses and requirements must be completed by the date of graduation and transcripts received within one month after graduation. Any Incomplete (I) or Record Delayed (RD) grade must be cleared before your degree can be awarded. Once your degree has been posted, no grade changes will be made to your record.
- If you are unable to complete the course work, or if the date of graduation is delayed, a "Graduation Date Change Form" must be submitted to the Registrar's Office. A $10.00 administrative fee must be paid at the Bursar's Office.

Don't delay! Apply by the priority processing deadline dates. See www.sjsu.edu/registrar/students/graduation/. Applications will continue to be accepted up to the last day to add classes for the term of graduation; however, delays may occur in the initial and final evaluation of your application and names may not appear in the commencement book. If we receive your application after the final deadline date for the term you are applying, your application will automatically be set up for the next available graduation date.

Degrees - Conferring

Degrees are conferred three times a year - in August, December and May - at the close of summer, fall and spring terms. The date of the diploma reflects the term during which the degree requirements were completed. There is one graduation or commencement ceremony each academic year, held at the close of the spring semester. Students who have completed all requirements in the previous summer and fall semester, or expect to complete their degree requirements in the spring semester, are eligible to participate.

Double Major

If a student has completed the requirements for two or more majors leading to the *same baccalaureate degree* (e.g., two B.A. degrees or two B.S. degrees) for the same graduation application period, those majors shall be acknowledged on a single diploma and on the student's transcripts. Each major, not including courses in preparation for the major, must consist of at least 36 units for Bachelor of Science degree majors, or at least 24 units for Bachelor of Arts degree majors, units that are completely separate and distinct from the other degree. The University has the right to restrict students from pursuing double majors, particularly when resources must be equitably distributed among all students.

Double Concentration

If a student has completed the requirements for two or more concentrations within the same baccalaureate degree (e.g., two concentrations for the same B.S. degree) for the same graduation application period, those concentrations shall be acknowledged on a single diploma and on the student's transcripts. Each concentration, not including courses in preparation for or in support of the major, generally must consist of at least 12 units that are completely separate and distinct from the other concentration. Individual degree programs may set higher limits for the number of units that are completely separate and distinct from concentration to the other. Exceptions to allow two concentrations with fewer than 12 units unique to each concentration will require the approval of both the appropriate College Associate Dean and the Associate Dean for Undergraduate Studies. The University has the right to restrict students from pursuing double concentrations, particularly when resources must be equitably distributed among all students.

Minors

An undergraduate student may elect to complete a minor. Also, some departments require or recommend a minor as part of the undergraduate degree.

The minimum criterion for **any** minor is 12 units of course work completely distinct and separate from the course work in one's major. At least 6 units must be upper division and at least 6 units must be taken at SJSU. The student must achieve a minimum aggregate GPA of 2.0 for all coursework required for the minor (University Policy S16-4). Courses designated as "preparation for the major" may be included in the minor and are considered distinct from the major. If a minor is completed after a degree has been granted, the minor is not recorded on the student's permanent record.

Minors are only available to undergraduate students.

Double Minors

If a student has completed the requirements for two or more minors, each minor must independently satisfy the criteria for a single minor. Additionally, each minor must include a minimum of 12 units of course work completely distinct and separate from the course work in the other minor(s).

Special Major

The courses offered by the Graduate and Undergraduate Programs Office under University Studies (UNVS) promote leadership, integrated and applied interdisciplinary academic experiences for students.

The office also sponsors undergraduate degrees as a **Special Major**, which is an individually designed course of study leading to a BA or BS degree. The Special Major is designed for situations in which an existing university-level SJSU undergraduate degree major does not adequately accommodate academic professional aims. Students who complete a Special Major shall be able to demonstrate the characteristics of "intentional learners" who can adapt to new environments, integrate knowledge from different sources, and continue learning throughout their life.

The Special Major is an individually designed, interdisciplinary course of study leading to a BA or BS that gives a student who has a specific educational objective the opportunity to accomplish that goal. It is not to be used to bypass normal graduation requirements or projected programs of the University, nor to substitute for a major in which a student is having academic difficulty.

The proposed course of study must be a coherent program organized around an academic theme. Students who complete a Special Major shall be able to demonstrate: "the ability to analyze an issue or problem, integrating at least two disciplinary perspectives." In addition, students identify two or more student learning outcomes related to their specific areas of study in consultation with a major faculty advisor. They demonstrate their attainment of the learning outcomes through a portfolio or senior project completed in a capstone course.

Applicants must have both a cumulative and SJSU GPA of at least 2.75 and have sixty units (upper division standing) and at least one year of academic work still to be completed to meet minimum degree requirements. Special Majors are considered on a case-by-case basis. Approval is based on the academic merit of the proposed course of study, the applicant's proposed rationale and potential for successful completion of the program, and the ability of the university to support the proposed program. Students apply for consideration for the Special Major through the Office of Graduate and Undergraduate Programs, ADM 159. For more information visit www.sjsu.edu/gup/ugs/students/specialmajors/index.html

Second or Additional Baccalaureate Degree

Effective Fall 2011: Postbaccalaureate students who have earned a first baccalaureate from a regionally accredited U.S. college or university, the second or additional baccalaureate degree will be awarded when the student has filed for graduation with Office of the Registrar and a graduation check determines that all major requirements have been satisfied. For such students, residence, university, GE, American Institutions, and PE requirements normally associated with first baccalaureate degrees are not applicable to second or additional baccalaureate degrees.

For postbaccalaureate students who have earned a first baccalaureate from an institution that is not a regionally accredited U.S. college or university, the second or additional baccalaureate degree will be awarded when the student has filed for graduation with Office of the Registrar and a graduation check determines that all university requirements have been satisfied. To be eligible for the degree, students must complete all course work which constitutes the second or additional degree in at least two additional semesters with a minimum of 30 units of work beyond the first degree in accordance with the minimum residence requirement. Second or additional baccalaureate degree candidates must meet the academic regulations required of all undergraduate students, including the residency requirement (30 units in residence, 24 of which must be upper division, 12 in the major and 9-12 in SJSU Studies).

Course work completed in the second or additional baccalaureate degree status will be classified as undergraduate work. Students cannot pursue a graduate degree objective and a second or additional baccalaureate degree at the same time at the university.

Continuous Attendance and Catalog Rights

Undergraduate students acquire "catalog rights" with respect to the requirements for a degree program by maintaining continuous attendance. A student who has been enrolled either at a California community college (CCC) or in regular sessions at a CSU campus for at least one semester or two quarters of consecutive calendar years is considered to be in "continuous attendance." Once a student has established his or her "catalog rights," an absence related to an approved leave of absence or for attendance at another accredited institution of higher learning (for undergraduates only) shall not be considered an interruption, providing the absence does not exceed two years.

This concept is important because continuous attendance affects the requirements a student must meet to graduate from a CSU campus. SJSU issues a new on-line catalog every year, which is the official record of all the degrees and degree requirements for the programs at SJSU. These degree requirements may change from one catalog to the next.

Students who have been in continuous attendance may meet the SJSU campus graduation requirements in force

- at the time they began continuous enrollment at a CCC or other CSU campus; or
- at the time they entered SJSU; or
- at the time they graduate from SJSU.

By maintaining continuous attendance and selecting option (1) or (2), students can be assured that their SJSU campus graduation requirements will not change. Their right to choose one of these options is called "catalog rights." SJSU will use the matriculation term (i.e., option 2) as the initial option (default) for all students; however, students transferring from a CCC or CSU campus, who would benefit from an earlier term based on continuous enrollment, may request option (1) or (3) from their departments or the Office of the Registrar.

If a student follows an earlier version of a program in which his or her department has discontinued or modified required courses, the department may authorize appropriate substitutions. If while enrolled a student changes major, concentration, or minor, he or she may be required to complete the major or minor requirements in effect at the time of the change. However, he or she may continue to follow the university, General Education, and mathematics and writing requirements listed in the university catalog for which "catalog rights," are claimed.

SJSU affords graduate students the same rights as indicated above with the exception of the references to CCCs.

Graduate Credit for Units Completed as a Graduating Senior

Seniors at San José State University may petition through their major departments to receive graduate credit for 200-level (graduate) courses completed in their final two undergraduate semesters, provided the following conditions are met:

1. No more than 15 semester units are needed to complete a baccalaureate degree at San José State University.
2. None of the courses to be taken for graduate credit is required for or used to satisfy requirements of the bachelor's degree, including unit requirements.
3. The student has at least a 2.5 grade point average in all coursework in upper division standing completed at San José State University.
4. The student agrees to enroll for no more than the maximum load of 15 units for the term in which this work is taken.
5. The student has completed the graduation application check in Evaluations, Student Services Center.
6. The student agrees not to take letter-graded courses for "CR/NC" when graduate credit is requested.
7. If admitted to a graduate degree program, the student agrees that a maximum of 9 units of transfer credit of any type can be applied to a graduate program. That would include graduate credit earned through this process in addition to units taken in the period between conferral of the bachelor's degree and the start of matriculation as a graduate student. In either case, transfer credit must be approved by the appropriate advisor of the graduate program.

This policy applies solely to graduate classes taken at SJSU; courses taken at other universities or undergraduate classes taken during the undergraduate career do not qualify for transfer into an SJSU graduate program. If the student subsequently matriculates into a graduate program at SJSU and the courses are approved by the program's graduate advisor, the units will be transferred into the graduate career. The grade points will not be included in the student's cumulative grade point average after admission to the Graduate Division.

These policies also apply to students in second baccalaureate status. No courses taken while a student is in second baccalaureate status shall be awarded graduate credit unless the student is within 15 semester units of qualifying for award of the second baccalaureate degree and meets the criteria specified above (including enrollment in all units required for completion of the second baccalaureate degree).

It is recommended that students obtain permission for future graduate credit in writing before enrolling in the graduate classes by means of the **Request for Validation of Transfer Credit form** available at www.sjsu.edu/gape/forms

CONTENTS

Graduate Information and Requirements

We appreciate your interest in pursuing a graduate career at San José State University. In this section you will find out more about SJSU, the programs we offer, our application process and requirements, and important deadlines and forms related to applying for graduate admission. Some additional external links that might be of interest to prospective students are also listed, including information about housing and other available services.

College of Graduate Studies

The College of Graduate Studies helps graduate programs and their faculty and students succeed. The College of Graduate Studies supports program development, advising faculty in transforming existing degree and certificate programs or building new ones at the post-baccalaureate, master's, or doctoral level. College of Graduate Studies also is a resource for students seeking scholarships or facing special challenges such as probation or disqualification. The college helps maintain academic integrity through the fair and consistent administration of various graduate policies, including those issued by the Chancellor and by the university's Academic Senate. Its Graduate Admissions and Program Evaluations (GAPE) division supports students as they enter and work their way through various degree requirements. The College of Graduate Studies interprets and administers the policies and procedures outlined in the sections that follow.

Admission - Graduate Programs (Doctoral, Master's, Credential, and Advanced Certificates)

All graduate applicants (new and returning, including disqualified students who have an approved Program of Study agreement with their graduate department) must submit a complete graduate application by applying through the CSU Cal State Apply system at calstate.edu/apply. A $55 nonrefundable fee is required to submit the university application. Applicants for graduate programs are limited to the choice of a single program on each application.

Those wishing to take SJSU classes in any capacity other than through our extension programs (e.g., Open University) must apply for admission to the university and, for most programs, to the department offering the degree in which he or she is interested. After formal admission, the applicant must enroll in classes in the first term of admission to retain active matriculation status.

Former students who have previously attended SJSU and have had a break of two or more consecutive semesters in their enrollment (not counting summer/winter session) must apply for readmission to regain their matriculation status. A former student of SJSU, whether returning after an official leave of absence or continuing immediately after receiving a baccalaureate or master's degree, must also apply for admission. Reapplication by a previously matriculated student also results in loss of catalog rights. Therefore, returning students are subject, at departmental discretion, to current department policies and requirements.

Graduate Admission - Prospective Students

Students intending to pursue graduate work at San José State University may obtain pertinent information from a variety of sources. Careful reading of several publications will save time and prevent many difficulties that often arise due to lack of information. Publications recommended are:

- SJSU Catalog - The listing of regular session courses offered at SJSU and policies and regulations by which the academic programs are governed,
- Graduate Admissions & Program Evaluations (GAPE) at sjsu.edu/graduateadmissions,
- College of Graduate Studies at sjsu.edu/cgs, and
- various departmental publications available from department offices and advisors.

The prospective student is encouraged to consult an academic advisor for detailed information about his or her specific program of interest. Persons assigned responsibility for advising students in specific graduate programs are listed in various sections of the SJSU catalog. In addition, the Graduate Admissions website provides detailed information about university admission procedures and requirements.

Graduate Admission - CSU Application Procedures and Policies for Graduate and Post-Baccalaureate

All graduate applicants and post-baccalaureate (e.g., doctoral applicants, master's degree applicants, those seeking educational credentials or certificates, and where permitted, holders of baccalaureate degrees interested in taking courses for personal or professional growth through regular or special session but not through Open University, students who have stopped out for more than one semester, students who have been disqualified) must file a complete graduate application as described in the graduate admission materials at www.calstate.edu/apply.

Applicants who completed undergraduate degree requirements in the preceding term are also required to complete and submit an application and the $55 nonrefundable application fee. To be assured of initial consideration by more than one campus, it is necessary to submit separate applications (including fees) to each. All CSU applications must be submitted online at www.calstate.edu/apply. An acknowledgement will be sent to the applicant when the online application has been submitted.

Graduate Admission - Requirements

Graduate and post-baccalaureate applicants may apply for a degree objective, a credential or an advanced certificate objective. Depending on the objective, the CSU will consider an application for graduate admission as follows:

- General Requirements - The minimum requirements for admission to graduate and post baccalaureate studies at a CSU campus are in accordance with university regulations as well as Title 5, Chapter 1, Subchapter 3 of the California Code of Regulations.
- Specifically, a student shall at the time of enrollment: (1) have completed a four-year college course of study and hold an acceptable baccalaureate degree from an institution accredited by a regional accrediting association, or shall have completed equivalent academic preparation as determined by appropriate campus authorities; (2) be in good academic standing at the last college or university attended; (3) have earned a grade point average of at least 2.5 on the last degree completed by the candidate or have attained a grade point average of at least 2.5 (A=4.0 grading scale) in the last 60 semester (or 90 quarter) units attempted; and (4) satisfactorily meet the professional, personal, scholastic, and other standards for graduate study, including qualifying examinations, as appropriate campus authorities may prescribe. In unusual circumstances, a campus may make exceptions to these criteria.

Students who meet the minimum requirements for graduate and post-baccalaureate studies may be considered for admission in one of the four following categories:

- Graduate Classified - To pursue a graduate degree, applicants are required to fulfill all of the professional, personal, scholastic and other standards, including qualifying examinations, prescribed by the campus; or
- Graduate Conditionally Classified - Applicants may be admitted to a graduate degree program in this category if, in the opinion of appropriate campus authority, deficiencies may be remedied by additional preparation; or
- Post-Baccalaureate Classified, e.g. admission to an education credential program - Persons wishing to enroll in a credential or certificate program will be required to satisfy additional professional, personal, scholastic and other standards, including qualifying examinations, prescribed by the campus; or
- Post-Baccalaureate Unclassified - To enroll in undergraduate courses as preparation for advanced degree programs or to enroll in graduate courses for professional or personal growth, applicants must be admitted as post-baccalaureate unclassified students. By meeting the general requirements, applicants are eligible for admission as post-baccalaureate unclassified students. Admission in this status does not constitute admission to, or assurance of consideration for admission to, any graduate degree or credential program. (Most CSU campuses do not offer admission to unclassified post-baccalaureate students.)

(These and other CSU admission requirements are subject to change as policies are revised and laws are amended. The CSU website www.calstate.edu and the CSU admissions portal www.calstate.edu/apply are good sources for the most up-to-date information.)

Graduate Admission - Requirements for International Students

The CSU must assess the academic preparation of international students. The designation, "international students" includes those who are seeking to hold a student visa, hold U.S. visas as students (F-1), exchange visitors (J-1), or are in other nonimmigrant classifications and have completed their prior education in institutions outside of the U.S.

The CSU uses specific requirements and application submission dates in the admission of international (F-1/J-1 seeking) students. Verification of English proficiency (see the section Admission - International Student - English-Language Proficiency Exam Requirement), financial resources, and academic performance are all important considerations for admission. World Education Services (WES) are used in lieu of academic records from international institutions. WES evaluations must be on file by the stated deadlines for the admission term. Although WES evaluations are used for the authentication of academic documents, the evaluation of credentials and GPA will be conducted by the evaluation team at the Graduate Admissions & Program Evaluations (GAPE) office. See www.sjsu.edu/graduateadmissions/deadlines/ for more information.

Graduate Admission - Test Requirements

New graduate students enrolling at SJSU who matriculate with graduate degree objectives may be required to take one or more parts of the Graduate Record Examination (GRE). Students with graduate objectives in Business (MBA, MSTax, MSAcct, MSTmMgt) are required to take the Graduate Management Admission Test (GMAT). Some departments may require a locally developed qualification examination in their subject matter areas. Test requirements can be viewed at www.sjsu.edu/graduateadmissions/admission-requirements/test-requirements/index.html, and on graduate program web pages.

Applications and information about dates of administration for the GRE and GMAT are available in the Testing Office.

Graduate Admissions - English Language Proficiency Requirement

All graduate and post-baccalaureate applicants, regardless of citizenship, whose native language is not English and whose preparatory education was principally in a language other than English must demonstrate competence in English. SJSU does not accept English-medium of instruction as a substitute for an English-language proficiency exam such as TOEFL, IELTS, or the Pearson's Test of English. Letters from applicants or institutions will not be accepted. Note that scores lower than the minimum will not be accepted and waivers will not be given for lower scores. Also note that a few of our graduate programs do require a higher minimum score than what is posted by the university at sjsu.edu/graduateadmissions/admission-requirements/test-requirements/index.html.

ENGLISH LANGUAGE PROFICIENCY EXAMINATION	MINIMUM SCORE
TOEFL iBT (Internet-based)	80
TOEFL paper-based	550
Academic International English Language Testing System (IELTS)	6.5
Academic Pearson Test of English (PTE)	53

Graduate Admission - Transcript Submission

Transcripts submitted for admission purposes must be official and sent directly from the originating school or college to Graduate Admissions & Program Evaluations (GAPE), San Jose State University, One Washington Square, San Jose, CA 95192-0017. International applicants must request WES evaluations to be sent directly to San Jose State University. Unofficial transcripts submitted via the student are not acceptable for this purpose. Records submitted become the property of the university and will not be released to the student. If a student does not fully complete an application and enroll, the records will be kept on file for about one year and then destroyed.

Graduate applicants must submit to GAPE one official transcript or WES evaluation from each accredited institution attended. Failure to report to the university on the admissions application all previous college-level enrollment and to provide transcripts certifying that enrollment are regarded as serious infractions of university policy and may be punishable by permanent separation from the university. Some departments may also require applicants to file additional transcripts with their graduate advisor. Program requirements are located on departmental websites, which can be accessed by clicking on the program name at www.sjsu.edu/graduateadmissions/admission-requirements/degree-program-requirements/index.html.

Individuals currently enrolled in courses at the time of their application for admission are required to report of work in progress in the university Cal State Apply application by recording the department course number, course title, and units attempted and to submit an official transcript of the work when it is completed.

Graduate Admissions and Program Evaluations (GAPE)

GAPE processes the admission for all graduate and teaching credential programs. For most programs, the admissions process is two-step, whereby applicants apply to the university and the department program. Applicants must first pass CSU eligibility and then pass the admission criteria of the department program.

For new students, the GAPE office

- Receives all university applications, including supplemental materials such as transcripts, residency information, and declaration of finances
- Reviews documents for completeness
- Refers applications that meet minimum CSU eligibility requirements to departmental graduate advisors
- Sends out official letters of acceptance for those applicants accepted by both the university and the academic program.

For continuing students, evaluators assigned to each degree program review advancement to candidacy and graduation requests for accuracy and alignment with policies and procedures of the university and the academic programs.

Graduate Admissions and Program Evaluations
Student Services Center, Window G
408-283-7500
graduate@sjsu.edu
Current Graduate Students: www.sjsu.edu/gape
Graduate Admissions: www.sjsu.edu/graduateadmissions/

Grading System for Graduate Work

Traditional letter grades are used for all courses taken by graduate students except for field work, thesis, project, individual study and internship courses, which are usually graded Credit/No Credit or Credit/No Credit/Report in Progress. Incomplete grades are not permitted for thesis or project courses, and Credit may not be given for a thesis or project course before completion of the coursework. Graduate students do not have the option of choice between the traditional or non-traditional grading system. A grade of Credit in a graduate-level course indicates performance by the student equal to a letter grade of "C" or above.

The cumulative GPA for the master's degree (3.0 minimum) includes all letter-graded work in 100-level or 200-level courses completed within the preceding seven years and for which the student received graduate credit, excluding transfer courses taken at another institution and those taken as an undergraduate at SJSU. Both the cumulative GPA and GPA of all of the course grades on the student's candidacy form, with the exception of non-Open University transfer courses, must be at least at the 3.0 level. Both the cumulative GPA and the GPA of all courses on the candidacy form must be a minimum of 3.0.

The cumulative GPA of the graduate student is computed by dividing the total number of grade points earned by the total number of graded units attempted at SJSU, excluding Open University courses that are not counted as degree requirements, subsequent to enrollment in the graduate school.

Academic Standards - Graduate Students

To determine a student's standing, whether "good," probationary or disqualified, quality of performance and progress toward degree completion are considered based on units attempted, grade points earned and grade point average (GPA).

Grade points are assigned as follows:

A, A+	4.0
A-	3.7
B+	3.3
B	3.0
B-	2.7
C+	2.3
C	2.0
C-	1.7
D+	1.3
D	1.0
D-	0.7
F	0.0
WU	0.0
I	0.0
IC	0.0
RD	0.0
RP	0.0

Courses for which the symbols "CR," "NC," "RP," "I," "W," and "RD" have been assigned do not enter into the GPA computation. Also excluded are lower-division courses and most transfer courses.

Disqualification and Probation - Graduate Students

Probation - Academic - Graduate

Graduate students enrolled in a degree program, credential program or certificate program are subject to academic probation if the SJSU cumulative GPA falls below 3.0 (grade of "B" on a 4.0-point scale) in all units attempted subsequent to matriculation in either conditionally classified or classified status. Courses taken at the lower-division level will be listed on the transcript but cannot be used for graduate degree credit and are not included in the GPA computation. Courses taken through SJSU Open University before matriculation will also be listed on the transcript and may, with advisor consent on the candidacy form, be used toward the graduate degree if adhering to the transfer course limitation and residency requirement. They will be figured into the GPA for advancement to candidacy and for the candidacy GPA computation at the completion of the program. All SJSU Open University course grades will be included in the SJSU Cumulative GPA, which is used to determine academic standing for degree conferral. However, courses transferred into the graduate program from other institutions or from the SJSU undergraduate career will not count in the cumulative GPA computation.

At the completion of the degree program, should the SJSU cumulative GPA fall below 3.0 at the same time that the candidacy GPA is above 3.0, the student's academic standing will reflect the former only. In this unusual circumstance, the student or program must make the Associate Dean of Graduate Studies aware of this discrepancy.

Each Winter, Spring, Summer and Fall term while on probation, the student must achieve a 3.0 GPA in the semester's work to avoid academic disqualification. To avoid disqualification, at least one graded course must be taken each Spring and Fall semester, while on probation. The student remains on continued probation as long as each individual term's work is equal to or above the 3.0 threshold but the overall GPA is still below 3.0. Probation is cleared when the SJSU cumulative GPA rises to 3.0 or better in any subsequent Winter, Spring, Summer or Fall term.

Graduate students are eligible to repeat courses with letter grades lower than "B" or with grades of "NC," "WU," or "IC" up to a total of 9 units, no matter how many units there are in the individual degree program. Exceptions may be made by the Associate Dean of Graduate Studies in this course repetition limit with respect to high unit clinical or field courses, as long as the exceptions do not violate probation and disqualification policies established in the major (see sections on **Probation - Administrative - Graduate and Disqualification - Administrative - Graduate**). Repeated and elective courses may not be taken through Open University. Elective classes already taken in the degree program may be added to the candidacy form by means of the **Request for Course Substitution in Graduate Degree** form. However, the two courses will be grade averaged, as courses, once graded, cannot be removed from the candidacy form. The total allowable units that can be added as either repeated classes or substituted electives can be no greater than 30% of the total number of units for the individual degree for the entire graduate career. To clarify, in a 30-unit degree program, a student may add electives or repeat classes only up to a total of 9 units.

Failure to Achieve a 3.0 Grade Point Average on Completed Graduate Degree Program

If a master's candidate does not complete the graduate degree program with a minimum 3.0 GPA in both the overall coursework and the candidacy coursework, the student's major department may terminate the candidacy or permit completing additional courses in an attempt to raise the GPA in the program to the minimum 3.0 threshold. Elective courses may be added to the candidacy form for grade averaging if approved by the graduate advisor. Alternatively, courses can be repeated up to a limit of 9 units (per University Policy F08-2). In the entire graduate career, the combination of added elective units and repeated units cannot exceed 30% of the total number of units in the major. Failure to raise the candidacy and cumulative GPA to 3.0 after completing this additional coursework will result in a termination of the student's candidacy and an inability to earn the degree. Thus the student would be academically disqualified without the ability to be reinstated by normal means.

Credential candidates who fail to achieve a 3.0 GPA upon completion of the credential program will be precluded by the department from attempting additional coursework and therefore not be recommended for an award of a credential by the State of California.

Probation - Administrative Academic - Graduate

Per Sections 41300.1 Title 5, graduate student may be placed on probation or may be disqualified by appropriate campus authorities for unsatisfactory scholastic progress regardless of cumulative grade point average or progress points. Such actions shall be limited to those arising from repeated withdrawal, failure to progress toward an educational objective and noncompliance with an academic requirement..." Therefore, regardless of the cumulative GPA, administrative academic probation or disqualification can be imposed by the university.

Most instances of administrative academic probation and disqualification result from probation in and disqualification from the graduate major. Thus despite maintaining an SJSU cumulative GPA of 3.0 or better, a graduate student's academic performance in the major may fall below the minimum standards established in that major. In these cases, while students remain in overall good standing with the university, they are subject to probation in and disqualification from the graduate major. Departments have an obligation to inform students of these policies.

In most cases, a direct reassignment from good standing in the major to disqualification from the major is prohibited. In other words, at least one semester of probation in the major is required prior to disqualification from the major. By the same token, there must also be a way of returning from the probationary status to good standing. Exceptions to these regulations are described below under Disqualification - Administrative Academic - Graduate.

The department and university may impose administrative academic probation for any of the following reasons:

1. Failure to progress satisfactorily toward the degree or other program objective, including that resulting from assignment of 9 units of "NC," when such failure appears to be due to circumstances within the student's control, failure to pass writing requirements, or failure to take a reasonable number of courses in the student's own degree program.
2. Failure to comply, after due notice, with an academic requirement or regulation that is routine for all students or a defined group of students (examples: failure to complete a required CSU or campus examination, failure to complete a required practicum, failure to make satisfactory progress in the academic program, failure to put together a graduate committee of qualified individuals in programs that require a committee).
3. Failure to achieve a set of academic standards of the department.
4. For example, a program might require the achievement of grades of "B" in every class or in particular classes with a stipulated number of repetitions permitted. Similarly, an acceptable standard would be to require a "CR" in field, student teaching, or internship courses with a stipulated number of "NC" grades allowed for repetition.
5. Programs may restrict a student to two attempts of any course offered by the program. Cohort programs may require that a minimum number of courses/units be taken each semester in order to best use resources or to ensure that the program is completed while student knowledge is still current. A maximum number of units can be set for students on probation.

When such action is taken, the student will be notified in writing and provided with the conditions for removal from probation and the circumstances that would lead to disqualification should probation not be removed.

Discontinuation from the University - Graduate

Students who fail to register for classes in two successive semesters, and thus stop out, are placed in a discontinued status that requires readmission to the university and program before being permitted to enroll again. This policy also applies to students who leave the university after having registered for classes but who do not officially withdraw or withdraw from all courses after the semester drop deadline. The courses will be assigned a grade of "WU" (denotes unauthorized drop or withdrawal). No personnel actions, grades, or transcript services will be permitted until all financial obligations, such as unpaid fines, have been settled. If the student fails to return the semester immediately following withdrawal, reapplication for admission will be necessary at www.calstate.edu/apply.

The exception to this policy is for students who file for a formal leave of absence. See the description of the options and regulations governing leaves in this catalog under **Leave of Absence and Withdrawal**.

Disqualification - Academic - Graduate

A graduate student who is on academic probation is academically disqualified if he or she fails to earn a 3.0 or better term GPA each Winter, Spring, Summer or Fall term until the required 3.0 cumulative GPA is established. This requires enrollment in at least one letter-graded course each Spring or Fall semester (but not Winter or Summer term) that the student is on probation. Teaching credential candidates are subject to the GPA dictates of the State Department of Education. Credential candidates will be notified of those requirements by their department within the College of Education in which they are seeking their credential preparation. At this time, the minimum GPA requirement matches that of the graduate division as a whole, that is, the 3.0 level. Credential candidates who fail to meet this standard are academically disqualified and are not eligible for reinstatement. Similarly, if at the time of completion of all credential requirements, a student's candidacy GPA or cumulative GPA is below the 3.0 threshold, the student is academically disqualified and will not be afforded the option of repeating credential courses to raise the GPA.

For master's candidates who complete all minimum degree requirements but fail to achieve a 3.0 GPA, the department may exercise its option to terminate the candidacy (see **Failure to Achieve a 3.0 GPA on Completed Graduate Program**). The department may also allow the student to repeat classes within the university limit of 9 units per graduate career or to add (via grade averaging) elective courses. The total units in the added courses and repeated courses (100 and 200 level coursework) cannot exceed in the entire graduate career 30% of the units of the degree program's total. If a student fails to raise the candidacy and SJSU cumulative GPA to 3.0 after these measures, he or she is academically disqualified without a possible reinstatement.

With the exception of the scenario described in the paragraph above, reinstatement can be applied for (via the **Graduate Petition for Reinstatement**; see **Reinstatement - Disqualification - Graduate**) following a first disqualification at the graduate level. Departments have the option of reinstating or refusing to reinstate, but if the graduate student does garner all signatures of approval on the petition and fulfills the requirements for reinstatement (e.g., through passage of the Program of Study), then reinstatement will be granted; in addition, if reinstatement is achieved, the student is guaranteed readmission to the program when he or she reapplies for a future term.

After a second disqualification at the graduate level, reinstatement will not be granted and the student's candidacy will be terminated.

Disqualification - Administrative Academic - Graduate

Upon notice by the coordinator of the graduate program in which a student has been placed on administrative academic probation, the student may be administratively academically disqualified from further attendance by the Associate Dean of Graduate Studies if the conditions for removal of administrative academic probation are not met within the period specified.

As mentioned in the section on administrative academic probation, a probationary period must normally precede a disqualification. However, exemptions to this general rule include the following:

1. In clinical courses, laboratory courses, student teaching assignments, or other types of programmatic requirements, there may be such serious concerns about the safety or well-being of the student, other students, clients, patients, and so forth that repetition of the courses is not reasonable. For such courses or programmatic experiences, departments may establish "no repeat" policies, i.e., a course may not be repeated if not passed on the first attempt. In clinical or lab settings in which safety or well-being are severely compromised, an instructor may disenroll a student from the course, which may lead to disqualification from the major.
2. A program can disqualify a student without a probationary period for behavior that fails to comply with professional standards of conduct appropriate to the field of study. This conduct could occur in or out of class. Examples include threatening behavior, repeated disruptions of classes that interfere with the educational opportunities of other students and repeated acts of professorial disrespect, badgering, rudeness, interruptions and verbal or written abuse.
3. Conditional acceptance to a program is, in effect, acceptance under probation in the major. Typically, a specified set of courses or requirements must be passed prior to attaining good standing in the program. There may be time limits or unit limits established to satisfy the conditions, which, if not met, may lead to disqualification from the major degree program without an intervening term on explicit probation. Cohort programs must provide in their policies a reasonable accommodation for students who must stop out for legitimate reasons.

In most cases (unless stipulated by the program in writing), graduate students administratively academically disqualified from their majors have no means for reinstatement. However, unlike academic disqualification, reinstatement and readmission are not absolutely necessary for continuation at the university after administrative academic disqualification. If a student finds another program willing to accept him or her within one semester, an **Application for a Change of Graduate Program** form can be filed and enrollment can resume following formal acceptance into the new program. SJSU does not allow an "unclassified status" at the graduate level, and thus a student must be accepted into some program to register for courses at the university other than through Open University. If more than one semester elapses from the point of disqualification, the student will be considered to have stopped out of enrollment and will be required to apply for readmission if a second department indicates willingness to allow a transfer.

Disqualification - International Students - Graduate

To maintain their legal status in the U.S., international students must be matriculated within a degree program. After disqualification from SJSU, international students must transfer to another institution to maintain their legal status. Enrollment in Open University alone does not qualify them for the immigration document needed to remain in the U.S. Disqualified international students who have transferred out to another university may enroll in Open University for a program of study in order to be academically reinstated but must seek immigration reinstatement from SJSU. Disqualified international students must speak with an international student advisor as soon as possible.

Disqualification and Probation - Appeal - Graduate

Students may appeal their probation or disqualification by petitioning the Academic Disqualification and Reinstatement Review Committee after the programmatic appeal process has been exhausted. The student should begin the appeal process by consulting with the graduate advisor. The appeal, in writing to the Associate Dean of Graduate Studies, should contain a description of actions by the department contrary to departmental rules or university policy or an explanation of extenuating circumstances that led to the action.

The student must present documentation- for example, physician's letters, police reports, and/or transcripts- that the circumstances were beyond his or her control, that they disrupted previously satisfactory scholastic performance, and that they no longer affect the student's academic work. The Associate Dean College of Graduate Studies has the authority to deny further appeal on the basis of reasonable grounds for appeal. If grounds exist, a subcommittee of the Academic Disqualification and Reinstatement Review Committee will in turn hold a formal hearing to confirm or rescind the probation or disqualification.

Reinstatement - Disqualification - Graduate

Following notice of disqualification, the graduate student should obtain a **Graduate Petition for Reinstatement**. The form indicates that there are four categories by which a student can be reinstated: extenuating circumstances, special consideration, grade change and program of study.

Graduate students may appeal their probation or disqualification by petitioning the Academic Disqualification and Reinstatement Review Committee after the programmatic appeal process has been exhausted. The student should begin the appeal process by consulting with the graduate advisor. The appeal, in writing to the Associate Dean College of Graduate Studies, should contain a description of actions by the department contrary to departmental or university policy or an explanation of extenuating circumstances that led to the action. The student must present documentation- for example, physician's letters, police reports, and/or transcripts- that the circumstances were beyond his or her control, that they disrupted previously satisfactory scholastic performance, and that they no longer affect the student's academic work. The Associate Dean College of Graduate Studies has the authority to deny further appeal on the basis of reasonable grounds for appeal. If grounds exist, a subcommittee of the Academic Disqualification and Reinstatement Review Committee will in turn hold a formal hearing to confirm or rescind the probation or disqualification.

Raising the SJSU Cumulative GPA to 3.0 or Better

The SJSU cumulative GPA can be raised through SJSU Open University coursework as part of a Program of Study (see below) if the graduate advisor approves of the transfer of the upper-division classes into the degree program. In addition, retroactive (after the last day of classes) actions by students, such as completion of Incomplete ("I") grades or course drops, can also raise the SJSU cumulative GPA.

Extenuating Circumstances

Similar to the appeal process for probation or disqualification, a request for reinstatement due to extenuating circumstances must meet the conditions indicated above for that process. The petition is submitted along with evidence of the circumstances and their role in the decline in scholastic performance. After securing the requisite signatures, the form is submitted to the Associate Dean College of Graduate Studies for a final decision.

Special Consideration

This category is reserved for individuals who have been absent from the university for five or more years and who have in that time achieved a renewed sense of purpose through job activities or through increased maturity that would prompt a greater chance of academic success. Often this request is accompanied by a switch in major from that in which the disqualification occurred.

Change of Grade

If a grade that was changed results in an increase in the semester GPA or in the cumulative GPA to 3.0 or above, the student may qualify for reinstatement in this category. The **Change-of-Grade Form** must be submitted by the department office directly to the Office of the Registrar by the drop deadline of the following spring or fall semester. Extension of this deadline will be considered only when there is documentation of the student's attempt(s) to contact both the instructor and the department chair and only when the late submission of the **Change-of-Grade Form** is clearly shown to be beyond the student's control. If these conditions are met, the disqualification (or probation) will be rescinded. If the conditions are not met, even if the grade is subsequently changed and the GPA elevated, the probationary or disqualified status will remain unchanged. Note that a course or semester withdrawal is not considered to be a grade change, and reinstatement in this category would not be appropriate.

Program of Study

The most common grounds for reinstatement is the completion of a program of study. A student must confer with the graduate advisor to develop a schedule of classes appropriate to the student's major. The courses must amount to a minimum of 6 and maximum of 9 units per semester, and all must be taken in a single semester. They must be letter graded, upper division (100-level), and taken through the SJSU Open University or SJSU's Extended Studies winter or summer session. The 100-level courses may or may not be part of the graduation requirements for the student's degree program. The advisor may require more than 6 units of course work. Graduate (200-level) courses are not permitted on the program of study, and disqualified students cannot enroll in 200-level courses. **Under no circumstances will courses be accepted that were taken prior to approval of the program of study via submission of the Graduate Petition for Reinstatement.** Also precluded from the program of study are courses taken at another university, 300-level or 400-level or 500-level courses, and lower-division courses. If the student plans to pursue a different degree program upon readmission to the university, the program of study must be applicable to the new major, be developed in conjunction with the graduate advisor of the new major, and demonstrate the student's capacity to complete the new graduate degree requirements. If a course on an approved program of study becomes unavailable, another reinstatement petition must be submitted and approved immediately after enrollment in a substitute course. Once the program of study has been completed such that the student earns a minimum grade point average of 3.3 ("B+"), he or she will be reinstated and, after reapplication to the university, readmitted to the university and department. Reinstated students cannot be denied admission on the basis of their lack of good standing.

Reinstatement is not allowed for a second disqualification. Unless extenuating circumstances can be cited that result in rescinding the second disqualification, a **Graduate Petition for Reinstatement** will not be accepted from students who have been disqualified more than once.

Unless the disqualification is rescinded as above, reinstated students must apply to the university and department for readmission. Reapplication via www.calstate.edu/apply can be done during the semester in which the program of study is underway or in which the reinstatement petition is being considered. The application will be placed on hold at Graduate Admissions and Program Evaluations until the program-of-study grades are posted and students are reinstated. Under most circumstances, a department is expected to readmit students who have successfully completed programs of study signed off by that department. Disqualified, reinstated students seeking readmission are, nevertheless, subject to the same enrollment limitations and admission application requirements as all other applicants.

Readmission - Graduate

A graduate student readmitted after academic disqualification most often retains a sub-3.0 GPA and, therefore, remains on continued probation until the cumulative graduate GPA is raised to a minimum of 3.0. While disqualified, the graduate student has no capacity, outside of possible degree-satisfying courses taken as part of a program of study, to raise the GPA. Unlike an undergraduate in a disqualified status, courses taken by a graduate student through Open University or at other institutions during this period are not counted in university GPA calculations, except in the case of the program of study courses that are applicable to the degree program. At that point, the probationary status is removed, and a subsequent decline in cumulative GPA below 3.0 results again in probation. If while on probation, including following reinstatement, a student fails to achieve a term GPA equal to or above 3.0 in any Winter, Spring, Summer, or Fall term, he or she is disqualified a second and final time.

Disqualified students lose their privileges for course registration and so are effectively removed from the university. Readmission differs from reinstatement. An academically disqualified student may apply for and be granted reinstatement. But to continue with class enrollment requires that he or she also be readmitted into the university. Readmission is possible only after formal reapplication through Cal State Apply, university review, and acceptance by your former department.

The student can reapply as early as the term following a first disqualification, even if reinstatement has not yet been achieved. The university will make special arrangements, before an official term begins, for former students who wish to return to their studies. The Associate Dean College of Graduate Studies should be contacted if these circumstances apply.

Graduate Work in Special Session

Special session is often confused with Open University (see section below). Although both are administered by the College of Professional and Global Education (Formerly College of International & Extended Studies), they are different programs.

Special session classes are offered on a selective basis off-campus, via different delivery modes or by schedules different from the regular session term. Matriculation is required for special sessions courses. Credit earned in 100-level, 200-level, or 300-level special session courses at SJSU is entered on the matriculated graduate student's record as graduate credit, provided the student holds an acceptable baccalaureate degree from an accredited institution at the time of enrollment in the courses. Courses taken through special session receive residence credit. Simultaneous enrollment in special and regular session is not possible at this time as students can only be classified in one type of session per academic term.

For further information concerning special session and policies, inquire at the College of Professional and Global Education (Formerly College of International and Extended Studies), One Washington Square, Student Union, San Jose, CA 95192-0135, call at 408-924-2670, or www.sjsu.edu/cpge.

Graduate Work in Open University

Open University, often known elsewhere as extension, is set up primarily as an option for members of the surrounding community to take college courses. It is attended by non-matriculated postbaccalaureate students who may hope to gain future admission to one of the SJSU graduate programs or who wish to take classes to prepare for a professional degree program, such as medicine. It can also be part of the program-of-study mechanism by which scholastically disqualified SJSU graduate students can gain reinstatement to the graduate school (see section on Program of Study). Non-matriculated students who enroll only for Open University courses are reminded that they must apply for admission to the university and graduate program and complete other details of matriculation if they wish to obtain a degree or credential from SJSU. Enrollment in Open University courses is governed by specific policies, as follows:

- Fees differ from those in regular and special sessions.
- Open University enrollment in a given graduate class is permitted only with instructor and department chair or school director approval and only after reasonable efforts are made to provide full enrollment opportunities to regularly matriculated students.
- Matriculated students may not take Open University courses. This restriction also applies, without special permission of the Associate Dean of Graduate Studies, to formerly matriculated students who have gone out of matriculation by stopping out or being disqualified.
- Letter-graded or CR/NR courses may be taken through Open University with the exception of supervisory courses, such as independent study courses and project or thesis courses.
- Either regular (state-support) or special (self-support) classes may be taken through Open University if all other requirements are met.
- Open University course enrollment in 200-level courses is only open to holders of baccalaureate degrees who meet course prerequisite requirements. Neither disqualified students nor those denied admission into a graduate program for reasons other than limitations imposed by enrollment caps are permitted to enroll in 200-level courses.
- Open University courses do not qualify for residence credit toward a master's degree, as specified by Title 5.
- Upper-division (100-level) and graduate (200-level) Open University units up to 30% of the degree program total and taken prior to matriculation may be applied to a master's degree program with the consent of the program's graduate advisor. Note that these units are considered to be transfer units into the master's program, and the allowable total of all transfer units is 30%, with the exception of transfers from credential programs into master's programs (40% of degree unit total allowed, i.e., 12 units in a 30 unit master's program). Upper-division courses taken as part of a program of study for reinstatement after disqualification may be applied to the graduate program if they were already present on the student's candidacy form or were otherwise approved by the graduate advisor.

Open University courses are counted toward the cumulative GPA. Those taken in the postbaccalaureate career (before matriculation and enrollment in the semester admitted) are also counted in the candidacy GPA if transferred into the graduate program. Because the university cannot determine whether the courses are part of the degree program until they appear on the candidacy form, it is not until advancement to candidacy that the grade points are transferred. Thus a student may conceivably be disqualified before advancing to candidacy even if courses to be transferred would have raised the GPA to a passing level.

For further information concerning special session or Open University offerings and policies, inquire at the College of Professional and Global Education (Formerly College of International and Extended Studies), One Washington Square, Student Union, San Jose, CA 95192-0135, call at 408-924-2670, or www.sjsu.edu/cpge.

Transfer Credit in the Graduate Program

Students who have completed coursework at other regionally accredited colleges or universities may be eligible to apply credit toward master's degree requirements at SJSU. To be transferable, the coursework must have been taken at a regionally accredited U.S. university, or accredited international institution, whether through regular session, special session, online programs, or extension. In the case of extension or online courses, the graduate advisor must petition the Associate Dean of Graduate Studies on behalf of the student and provide documentation that the courses have been approved for degree credit at that institution. To be transferable, courses must not have been in professional development courses. They must have been at the upper-division or graduate level and must have been taken within seven years from the time of posting of the grade for the course to the date of award of the graduate degree from SJSU.

As stipulated in University Policy S13-8, not less than 70% of course work required for the master's degree must be completed in residence. Therefore, for example, a maximum of 9 units can be transferred into a 30-unit graduate program. This total includes all transferred classes, including those from Open University and the SJSU undergraduate career. Transfer work from any source may be applied toward the degree program only if it is approved by the graduate advisor. Those taken at SJSU, whether through Open University or as a matriculated undergraduate, may be revalidated in accordance with the rules on revalidation if surpassing the 7-year limit on course viability. Those taken at any institution other than SJSU cannot be revalidated.

No courses may be transferred if taken during a graduate (master's, PhD, or other) degree program in which the degree was awarded, whether used to satisfy requirements for those degrees or not. The only exception to this rule is that letter-graded courses from previous master's degree programs taken at SJSU may be included up to a total of one third of the current degree total (i.e., 10 units in a 30-unit program) if approved by the graduate advisor. If a course was taken as part of a prior graduate degree program that was not finished (thus there was no award of degree), then the courses qualify for transfer credit.

For university approval of transfer units up to the 30% limit, the courses are entered on the **Petition for Advancement to Graduate Candidacy** in the Transfer Course section. The graduate advisor has full authority to allow or disallow transfer credit for those courses that meet the university requirements of eligibility. The signature of the graduate advisor on the candidacy form is sufficient to indicate departmental approval of the courses without additional forms. If the courses meet all of the requirements stipulated above, the university will accept the courses for advancement to candidacy and for graduation requirements. Credit is awarded for transferred courses of all categories, but grade points are not included in the cumulative GPA for transferred courses other than those from the SJSU Open University program; therefore, the cumulative grade-point-average (GPA) calculation will not include those units nor will the GPA calculation for advancement to candidacy or graduation.

Official transcripts for all courses transferred from another university, if taken prior to application to the SJSU graduate school, must have been submitted directly to the GAPE office during your initial application to SJSU. Failure to have provided those transcripts precludes the later transfer of the courses. If the courses were taken or grades for them were posted after the application process, then the transferred courses must subsequently be verified by official transcripts sent to GAPE from that university at the time of transfer; failure to provide transcripts will result in a denial of advancement to candidacy and/or award of degree.

Repeat Policy - Graduate

University Policy F08-2 on course repetition stipulates that graduate students may repeat a maximum of 9 units in their graduate careers, regardless of the number of units required in a degree program. This total does not include classes the catalog indicates are repeatable for credit. If within this limit, a graduate student may repeat any 100-level or 200-level course in which a grade below a "B," including an "NC," "WU" or "IC," was received in the first attempt. The student's academic record will indicate the course repeated and the grade earned. Units attempted and grade points will be included in the student's cumulative GPA; therefore, the course grades will effectively be averaged. The additional units gained by repeating the course will not contribute to the degree total. Graduate students and 200-level courses are not eligible for "grade forgiveness."

Courses on the candidacy form in which a grade of any kind has been earned cannot be removed from the candidacy form; the grades will be averaged with other courses even when compensated for by additional coursework. Courses listed on the candidacy form in which grades of "NC," "I,", "IC," "RP," "RD," or letter grades below "C" have been recorded will prevent graduation until completed, repeated, or compensated for in another way. This is also true of courses in programs that have special grade requirements beyond those of the university standard, e.g., requirement of "B" grades in all core classes.

SJSU (only) courses can be repeated when they have gone beyond the seven-year time period for completion of master's or doctoral degree requirements. Teaching credential courses cannot be repeated if the 7-year limit has been broached. See the section **Seven-Year Time Limit on Courses in Graduate Degree Programs**.

See Repeating a Course- Registration Restrictions for more information about registering for a class you are repeating.

Change of Graduate Program for Graduate Students

Official changes in graduate objectives are to be initiated at the GAPE office. If the change in objective is from one graduate program to another, or from one academic session to another, the **Change of Graduate Program Petition form**, available at sjsu.edu/gape/forms, must be completed. Submission of this form by the student is not, however, synonymous with approval of the change. The new department must review you as a candidate for their program through initial communication with GAPE office after GAPE receives your change of program request. There is no fee for this change so long as the student was enrolled the semester prior to the application term. The student should become knowledgeable of any additional admission requirements of the department being entered. Student transfer to the new program is not automatic, but instead requires approval from the incoming department. The department must follow-up with the student request by signing the **Change of Program Decision Form** and returning its decision to the GAPE office. GAPE will then update the student's status to reflect the new program change.

If a student obtains permission to change their program or concentration after advancing to graduate candidacy and the second program has different requirements than the first, then a new candidacy form (**Petition for Advancement to Graduate Candidacy**) with the signature of the new graduate advisor must be filed. The change of either program or concentration is made by virtue of approval of the **Change in Graduate Program Petition**. Graded courses on the first form can be eliminated on the second form if not part of the new curriculum.

For a change in the culminating plan from Plan A (thesis) or C (creative project) to Plan B (project or comprehensive exams) or vice versa, no new candidacy form is needed. Any 299 units, project course units, or exam preparation course units in which a Credit was given must be retroactively dropped or, less attractive to students, changed to an NC (no credit) grade. For a switch to Plan B, project and exam preparation courses as well as additional content courses might then be required, depending on the program. These changes all require that GAPE be informed by means of filing the **Request for Course Substitution** in Master's Degree Program for each course change. Degree requirements for the new plan must be satisfied in full. Therefore, retroactively adding a 298 (project) class, for example, in place of a 299 (thesis) class will be permitted only if all the requirements of the project have been met. The requirements for projects include a written report in every case.

Graduate Degree - Change in Classification Status

Notification of a change from conditionally classified to classified status within the same graduate program before advancement to candidacy is made to GAPE by the graduate advisor by means of the **Change in Classification in Master's Program form**, available at sjsu.edu/gape/forms. However, an advisor signature on the candidacy form indicates that the advisor has checked that all conditions have been fulfilled, allowing the conditional status to be lifted and establishing the classified status without the need for the **Change in Classification in Master's Program form**. Graduate students must be in classified status in the graduate program to advance to candidacy. Once a student has advanced to candidacy and thus the student status has progressed to classified, any conditions discovered still unfulfilled are sacrificed and can no longer be required.

Masters Degree - Advancement to Candidacy

Matriculated graduate students must advance to candidacy a minimum of one semester prior to graduating. Advancement to candidacy requires that the student be in good standing. That is, a minimum of a 3.0 GPA is required in upper-division and graduate courses taken while in graduate status, and in the degree program as indicated by all courses on the candidacy form. The student must be classified with all admissions' provisions and program conditions cleared. Also required is a minimum of 9 units of letter-graded coursework as a graduate student in 100- or 200-level courses that are acceptable to the department in which the degree is sought. Exceptions to this rule can be made for two-semester master's programs. University policy also stipulates the Graduation Writing Assessment Requirement be fulfilled before advancement to candidacy. However, for special cases, the candidacy form, formally entitled the **Petition for Advancement to Graduate Candidacy** (available at www.sjsu.edu/gape/forms), may be filed during the semester in which a GWAR-satisfying course is taken. Advancement to candidacy will be formally denied during the semester, but the form will be kept on file by the GAPE office and approved when a passing grade is posted at the end of the semester.

Graduate Degree - Master's Examinations - Finals

It is university policy to require final examinations or defenses in master's degree programs in all departments. Departmental requirements for these examinations vary; they may be oral, written, or a combination of both. Students following Plans A and C are usually examined primarily over areas of their theses or projects. Plan B students are generally required to demonstrate their competence by writing in a broad field of concentration, by taking comprehensive examinations, or by completing a broad course project.

In all cases, it is the candidate's responsibility to register through the departmental coordinator of graduate studies to take all required final examinations. The candidate's advisor and/or the departmental graduate coordinator will be able to supply general information concerning the nature of the examinations and recommended preparation for them.

The master's diploma cannot be transmitted to the candidate until the major department certifies to the program evaluator at GAPE via the **Verification of Culminating Experience** memo that final examinations have been completed satisfactorily.

Graduate Degree Program- Masters

As indicated above, the **Petition for Advancement to Graduate Candidacy** ("candidacy form") is submitted to GAPE when the student is qualified to advance to candidacy. This form lists all courses and culminating experiences that must be fulfilled for degree award. The proposed program must meet the following requirements:

- statement of the total number of units in the degree program.
- at least half of the units included on the form must be in 200-level courses.
- at least 60% of all units included must be in letter-graded course work.
- at least 70% of the units included must in be residence at SJSU. Therefore, a maximum of 9 units may be transferred into a 30-unit program from all sources.

The course work included may be entirely within the major department, or it may include a combination of courses drawn from other fields acceptable to the major advisor, so long as it is within the parameters set by the department in the program descriptions on department websites. If deficiencies in the student's record are identified, including in prerequisites for required courses, additional course work can be assigned by the major advisor. This course work would not appear on the candidacy form and would not be counted in the total number of units required for the degree.

Coursework that may not be applied to the graduate degree includes basic skills' courses such as lower-division work, courses used to earn any prior degree (except other master's degrees at SJSU), courses taken at unaccredited institutions, directed (student) teaching, or 300-level residence or 400-level Professional Education courses taken at SJSU, or courses taken over seven years previous to current degree conferral. Graduate credit by examination is not permitted.

There is no restriction in the number of units of project or thesis research (usually 298 courses) attempted but not included on the candidacy form. However, students completing a thesis must include at least one 299 unit on the form, and the total number must be commensurate with program requirements. Students may not receive credit for project units unless the project course is successfully completed; instead either an RP or NC grade should be assigned in the semester of enrollment; extensions beyond the semester are prohibited without enrollment in that class in a subsequent semester.

Students may not receive credit for 299 units unless a thesis is submitted and accepted by the College of Graduate Studies. If thesis units are credited on the student record without thesis approval, the units must be retroactively withdrawn. The process of withdrawal is initiated by the student by submitting the **Graduate Petition for Course/Semester Withdrawal**, available at www.sjsu.edu/gape/forms.

The original copy of the completed, signed **Petition for Advancement to Graduate Candidacy** should be submitted to GAPE in the Student Services Center by the deadlines posted at www.sjsu.edu/gape/current_students/deadlines/. The student will be informed by the approval or denial of the petition through the student's MySJSU account under "Other Indicators".

Graduate Degree - Program Course Work

The candidacy form, once approved, is an official contract between the student and university. It can be changed only with the permission of the graduate advisor via written petition to the Associate Dean College of Graduate Studies, and even then the petition is likely to be denied. Course substitutions can be made by submission to GAPE of the **Request for Course Substitution in Master's Degree Program**, available at www.sjsu.edu/gape/forms. A course may not be dropped from the graduate degree program, as indicated by its appearance on an approved candidacy form, once it has been completed.

If a student obtains permission to change programs and the second program has different requirements than the first one, then a new candidacy form must be filed; graded courses on the first form can be eliminated on the second form if not part of the new curriculum.

Graduation- Masters

Graduation Requirements - Master's Degree

After being admitted to candidacy for the master's degree, the student is then required to

- Maintain a minimum grade point average of 3.0 ("B") in completing requirements in the graduate degree program. The program is defined as completed courses included in the original graduate degree program plus all additions or substitutions.
- Complete all courses in the graduate degree program with grades between "A" and "C," or "CR." Grades of "C-" or lower, including "NC," "U," "IC" and "WU," are considered to be unsatisfactory. Should courses in the graduate degree program be completed with unsatisfactory grades, these grades must remain in the program and will continue to be computed in the grade point average of the program whether they are repeated or not.
- Complete all requirements for the degree as listed in the degree template in the university catalog. Substitutions for core and other required courses in the template must be justified by graduate advisor petitioning of the Associate Dean of Graduate Studies.
- Complete an acceptable thesis, project or comprehensive examination. The thesis (Plan A) or creative project (Plan C) requires that one copy be submitted to the Associate Dean College of Graduate Studies. In Plan B, completed projects are submitted to the student's major department and a final comprehensive oral and/or written examination over the field of concentration for the degree must usually be successfully completed. Failure on initial attempts at these exams results in administrative-academic probation. Failure of the final attempt results in administrative-academic disqualification from the degree program. The program evaluator at GAPE is notified of passage of the exam by means of graduate advisor completion of the **Verification of Culminating Experience** memo.
- Complete all work on the graduate degree program within seven years preceding award of the degree. If courses become outdated, the candidate should consult the section titled Graduate Degree - Time Limits on Courses in Graduate Degree Programs in this catalog concerning steps to be followed.
- Apply for award of the master's degree by posted deadline dates through your MySJSU account two weeks after achieving advancement to candidacy.
- Note that failure to clear incomplete ("I"), report-in-progress ("RP"), or report-delayed ("RD") grades will prevent graduation. An "I" obtained in a graded class results in an automatic grade change to an "IC" grade, which calculates to an "F" grade on the transcript, even after separation or graduation. In an ungraded ("CR/NC") course, the "I" reverts to a no credit ("NC") grade and is, therefore, also unsatisfactory for graduation if in a course on the candidacy form.
- Be in good academic standing (cumulative 3.0 minimum GPA in Graduate Division) at San José State University to receive a degree from this university.

Graduation - Applying for the Master's Degree

The Petition for Advancement to Graduate Candidacy Form must be approved by the GAPE office before applying for graduation. Students should apply for graduation at least one semester before the date of anticipated graduation. However, it is highly advised that students apply at least one year before their future graduation date.

Advancement to candidacy is permitted only when all conditions of admission, if applicable, are met, nine letter-graded units, all with grades of C or better and a GPA of 3.0 or better have been achieved, and the graduate GWAR has been completed. For detailed information about these requirements, please visit sjsu.edu/gape/current_students/completing_masters/ and the catalog section Graduate Degree - Advancement to Candidacy.

IMPORTANT: Eligible students can apply for graduation through self-service within their MySJSU account approximately two weeks after students have been approved for advancement to candidacy by the GAPE office. Students will be sent a MySJSU message including instructions and prompting them to apply for graduation. Only students that apply for graduation will be considered for graduation review.

Please note the following:

- All courses and requirements must be completed by the date of graduation.
- Any Incomplete (I), Report Delayed (RD), or Report Pending (RP) grades must be cleared before the degree can be awarded.
- Once the degree has been posted, no grade changes can be made to the record.
- If a student is unable to complete the course work stipulated on the candidacy form or if the date of graduation is delayed, a Graduation Date Change Request for Award of Master's Degree must be requested through sjsu.edu/gape/forms/ (see **Online Graduation Date Change Request**)
- Required forms must be submitted by the deadlines posted on the GAPE website at sjsu.edu/gape/current_ students/deadlines/
- Students are urged not to delay; failure to submit forms by the deadlines posted could delay graduation.

Doctorate Degree- Advancement to Candidacy

Matriculated graduate students must advance to candidacy a minimum of one semester prior to graduating. Advancement to candidacy requires that the student be in good standing. That is, a minimum of a 3.0 GPA is required in upper-division and graduate courses taken while in graduate status, and in the degree program as indicated by all courses on the candidacy form. The student must be classified with all admissions' provisions and program conditions cleared. Also required is a minimum of 9 units of letter-graded coursework as a graduate student in 100- or 200-level courses that are acceptable to the department in which the degree is sought. Exceptions to this rule can be made for two-semester master's programs. University policy also stipulates the Graduation Writing Assessment Requirement be fulfilled before advancement to candidacy. However, for special cases, the candidacy form, formally entitled the Petition for Advancement to Graduate Candidacy (available at www.sjsu.edu/gape/forms), may be filed during the semester in which a GWAR-satisfying course is taken. Advancement to candidacy will be formally denied during the semester, but the form will be kept on file by the GAPE office and approved when a passing grade is posted at the end of the semester.

Graduate Degree - Doctoral Examinations - Finals

Doctor of Education Degree - EdD - Finals

It is California State University policy to require a qualifying examination and an oral defense of the dissertation in Doctor of Education Degree (EdD) programs. Departmental requirements for these examinations vary. In all cases, it is the candidate's responsibility to register through the departmental coordinator of graduate studies to take all required examinations and the oral defense of the dissertation. The candidate's advisor and/or the departmental graduate coordinator will be able to supply general information concerning the nature of the examinations and recommended preparation for them.

The EdD diploma cannot be transmitted to the candidate until the major department certifies to the program evaluator at GAPE via the Verification of Culminating Experience memo that the oral defense has been completed satisfactorily. The student shall have completed all requirements for the degree within five years of achieving classified standing in the doctoral program. The appropriate campus authority may extend the time for completion of the requirements.

More details on the Doctor of Education Degree and its requirements may be found in the California Code of Regulations Title 5 %A7 40511 and 40512.

Doctor of Nursing Practice (DNP) - Finals

It is California State University policy to require a doctoral qualifying examination or assessment and an oral presentation of the doctoral project in Doctor of Nursing Practice (DNP) programs. Departmental requirements for these examinations vary. In all cases, it is the candidate's responsibility to register through the departmental coordinator of graduate studies to take all required examinations or undergo assessments and to give the oral presentation of the doctoral project. The candidate's advisor and/or the departmental graduate coordinator will be able to supply general information concerning the nature of the examination or assessment and the oral presentation and recommended preparation for them.

The DNP diploma cannot be transmitted to the candidate until the major department certifies to the program evaluator at GAPE via the Verification of Culminating Experience memo that the oral defense has been completed satisfactorily. The student shall have completed all requirements for the degree within five years of matriculation into the doctoral program.

More details on the Doctor of Nursing Practice Degree and its requirements may be found in the California Code of Regulations Title 5 %A7 40513 and 40514.

Graduate Degree Program- Doctoral

As indicated above, the **Petition for Advancement to Graduate Candidacy** ("candidacy form") is submitted to GAPE when the student is qualified to advance to candidacy. This form lists all courses and culminating experiences that must be fulfilled for degree award. The proposed program must meet the following requirements:

- statement of the total number of units in the degree program.
- at least half of the units included on the form must be in 200-level courses.
- at least 60% of all units included must be in letter-graded course work.
- at least 70% of the units included must in be residence at SJSU. Therefore, a maximum of 9 units may be transferred into a 30-unit program from all sources.

The course work included may be entirely within the major department, or it may include a combination of courses drawn from other fields acceptable to the major advisor, so long as it is within the parameters set by the department in the program descriptions on department websites. If deficiencies in the student's record are identified, including in prerequisites for required courses, additional course work can be assigned by the major advisor. This course work would not appear on the candidacy form and would not be counted in the total number of units required for the degree.

Coursework that may not be applied to the graduate degree includes basic skills' courses such as lower-division work, courses used to earn any prior degree (except other master's degrees at SJSU), courses taken at unaccredited institutions, directed (student) teaching, or 300-level residence or 400-level Extended Studies courses taken at SJSU, or courses taken over seven years previous to current degree conferral. Graduate credit by examination is not permitted.

There is no restriction in the number of units of project or thesis research (usually 298 courses) attempted but not included on the candidacy form. However, students completing a thesis must include at least one 299 unit on the form, and the total number must be commensurate with program requirements. Students may not receive credit for project units unless the project course is successfully completed; instead either an RP or NC grade should be assigned in the semester of enrollment; extensions beyond the semester are prohibited without enrollment in that class in a subsequent semester.

Students may not receive credit for 299 units unless a thesis is submitted and accepted by the College of Graduate Studies. If thesis units are credited on the student record without thesis approval, the units must be retroactively withdrawn. The process of withdrawal is initiated by the student by submitting the **Graduate Petition for Course/Semester Withdrawal**, available at www.sjsu.edu/gape/forms.

The original copy of the completed, signed **Petition for Advancement to Graduate Candidacy** should be submitted to GAPE in the Student Services Center by the deadlines posted at www.sjsu.edu/gape/current_students/deadlines/. The student will be informed by the approval or denial of the petition through the student's MySJSU account under "Other Indicators".

Graduate Degree - Program Course Work

The candidacy form, once approved, is an official contract between the student and university. It can be changed only with the permission of the graduate advisor via written petition to the Associate Dean of Graduate Studies, and even then the petition is likely to be denied. Course substitutions can be made by submission to GAPE of the **Request for Course Substitution in Master's Degree Program**, available at www.sjsu.edu/gape/forms. A course may not be dropped from the graduate degree program, as indicated by its appearance on an approved candidacy form, once it has been completed.

If a student obtains permission to change programs and the second program has different requirements than the first one, then a new candidacy form must be filed; graded courses on the first form can be eliminated on the second form if not part of the new curriculum.

Graduation- Doctorate

Graduation Requirements - Doctoral Degree

After being admitted to candidacy for the doctorate degree, the student is then required to

- Maintain a minimum grade point average of 3.0 ("B") in completing requirements in the graduate degree program. The program is defined as completed courses included in the original graduate degree program plus all additions or substitutions.
- Complete all courses in the graduate degree program with grades between "A" and "C," or "CR." Grades of "C-" or lower, including "NC," "U," "IC" and "WU," are considered to be unsatisfactory. Should courses in the graduate degree program be completed with unsatisfactory grades, these grades must remain in the program and will continue to be computed in the grade point average of the program whether they are repeated or not.
- Complete all requirements for the degree as listed in the degree template in the university catalog. Substitutions for core and other required courses in the template must be justified by graduate advisor petitioning of the Associate Dean of College of Graduate Studies.
- Complete an acceptable Dissertation. The thesis (Plan A) or creative project (Plan C) requires that one copy be submitted to the Associate Dean for College of Graduate Studies. In Plan B, completed projects are submitted to the student's major department and a final comprehensive oral and/or written examination over the field of concentration for the degree must usually be successfully completed. Failure on initial attempts at these exams results in administrative-academic probation. Failure of the final attempt results in administrative-academic disqualification from the degree program. The program evaluator at GAPE is notified of passage of the exam by means of graduate advisor completion of the **Verification of Culminating Experience** memo.
- Complete all work on the graduate degree program within seven years preceding award of the degree. If courses become outdated, the candidate should consult the section titled Graduate Degree - Time Limits on Courses in Graduate Degree Programs in this catalog concerning steps to be followed.
- Apply for award of the master's degree by posted deadline dates through your MySJSU account two weeks after achieving advancement to candidacy.
- Note that failure to clear incomplete ("I"), report-in-progress ("RP"), or report-delayed ("RD") grades will prevent graduation. An "I" obtained in a graded class results in an automatic grade change to an "IC" grade, which calculates to an "F" grade on the transcript, even after separation or graduation. In an ungraded ("CR/NC") course, the "I" reverts to a no credit ("NC") grade and is, therefore, also unsatisfactory for graduation if in a course on the candidacy form.
- Be in good academic standing (cumulative 3.0 minimum GPA in Graduate Division) at San José State University to receive a degree from this university.

Graduation - Applying for the Doctoral Degree

The Petition for Advancement to Graduate Candidacy Form must be approved by the GAPE office before applying for graduation. Students should apply for graduation at least one semester before the date of anticipated graduation. However, it is highly advised that students apply at least one year before their future graduation date.

Advancement to candidacy is permitted only when all conditions of admission, if applicable, are met, nine letter-graded units, all with grades of C or better and a GPA of 3.0 or better have been achieved, and the graduate GWAR has been completed. For detailed information about these requirements, please visit sjsu.edu/gape/current_students/completing_masters/ and the catalog section Graduate Degree - Advancement to Candidacy.

IMPORTANT: Eligible students can apply for graduation through self-service within their MySJSU account approximately two weeks after students have been approved for advancement to candidacy by the GAPE office. Students will be sent a MySJSU message including instructions and prompting them to apply for graduation. Only students that apply for graduation will be considered for graduation review.

Please note the following:

- All courses and requirements must be completed by the date of graduation.
- Any Incomplete (I), Report Delayed (RD), or Report Pending (RP) grades must be cleared before the degree can be awarded.
- Once the degree has been posted, no grade changes can be made to the record.
- If a student is unable to complete the course work stipulated on the candidacy form or if the date of graduation is delayed, a Graduation Date Change Request for Award of Master's Degree must be requested through sjsu.edu/gape/forms/ (see **Online Graduation Date Change Request**)
- Required forms must be submitted by the deadlines posted on the GAPE website at sjsu.edu/gape/current_ students/deadlines/
- Students are urged not to delay; failure to submit forms by the deadlines posted could delay graduation.

Graduate Degree - Graduation Writing Assessment Requirement (GWAR)

University Policy S94-7 requires that all graduate students demonstrate competency in written English for advancement to candidacy within a master's program. Graduate students may satisfy the Graduation Writing Assessment Requirement (GWAR) in one of four ways:

- Satisfactory completion of a baccalaureate degree at a CSU campus;
- Satisfactory completion of a GWAR course listed here: http://www.sjsu.edu/cgs/current-students/policies/index.html;
- Approval by the Associate Dean of Graduate Studies of a well-written, professional (peer-reviewed) publication, graduate thesis or dissertation in which the student was the sole author;
- Satisfactory completion of a discipline-specific upper-division writing course at another university judged by the Associate Dean College of Graduate Studies to be equivalent in content and writing requirements to the SJSU 100W. To satisfy the requirement under this category, students are required to submit to their graduate advisors a transcript (unofficial acceptable) showing completion of the substituting course and the grade received (a "B" or better is required); the syllabus of the substituting course; and original, single-authored writing samples from the course, including especially a large term paper from the course with instructor feedback visible. If the graduate advisor approves of the substitution for an SJSU GWAR course, he or she would then petition the Associate Dean College of Graduate Studies on behalf of the student. Students may not petition College of Graduate Studies directly.

Candidates should be aware that each department may establish its own criteria within these policy guidelines, and candidates must abide by the department decision. Thus even if a student has satisfied one of the criteria above, the department must approve the waiver and can require that its GWAR-satisfying course still be taken. Waiving the program GWAR requirement will require the addition of an elective selected in consultation with the graduate advisor. Graduate courses cannot be taken for credit by examination.

Master's Thesis Requirements

Time is critical during the semester of submission of a master's thesis. Students must allow enough time for preparation of the draft, consideration by graduate committee members by the deadline dates set in departments, word processing, acquisition of permissions to publish, and the inevitable corrections. Students must leave time for the final reading and signing by the committee members. In most departments, a minimum of two months is needed for the entire process, and some departments require a longer period. Students should confer with each committee member in advance regarding the time each requires for review and whether each will be in town and available when the review and signatures are due.

All instructions for thesis and dissertation formatting and submission to College of Graduate Studies are located in the SJSU Master's Thesis Guidelines at http://www.sjsu.edu/cgs/docs/Thesis-and-Dissertation/2017_Thesis_Guidelines.pdf.

These instructions provide general guidance for authors of master's theses at SJSU. Examples of front pages are provided in the guidelines. Students should read the guidelines carefully and consult their advisors concerning the format of the thesis, the professional style guide to use, and journal articles to emulate, if applicable. The major department sometimes provides students with more complete formatting instructions. In rare cases, College of Graduate Studies will provide assistance.

SJSU participates in the University Microfilm International (UMI) Dissertation Information Service. Students completing theses and dissertations are required to email their committee-approved manuscript and accompanying documents to Graduate Studies according to the instructions provided in the SJSU Thesis and Dissertation Guidelines at http://www.sjsu.edu/cgs/docs/Thesis-and-Dissertation/2017_Thesis_Guidelines.pdf.

Graduate Degree - Checking the Manuscript

The College of Graduate Studies does not serve as an editor. The author and graduate committee members should carefully proofread the thesis before it is submitted. A careful review should be used by the student as a guide to correcting similar errors in the entire manuscript. The review conducted by College of Graduate Studies should also be regarded as an indicator of problems to be addressed globally throughout the manuscript. Making only the changes specifically indicated, rather than applying the criticisms to the remainder of the document, would not only result in a flawed document but would also be beneath graduate school standards. College of Graduate Studies will reject a thesis with excessive errors.

Students can prevent rejection of the thesis by ensuring that the final manuscript is free of the following frequent errors: pages for which no numbers are assigned, failure to apply reference style consistently or to cite references when needed, careless spacing or centering, inappropriate margins, incorrect footnotes or bibliography entries, redundancy, awkward or unclear sentences, grammatical errors, punctuation errors, spelling errors, word-usage errors and inconsistencies in or lack of adherence to style-manual formatting rules.

Neither SJSU nor any of its separate offices or departments is responsible for matters concerning a student's relationships or agreements with any outside agency or individual consulted for manuscript preparation. Neither the university nor any of its offices will take part in disagreements between students and typists, editors or copy shops with regard to thesis preparation services, expected costs or billed costs. A student conducting thesis research off site, for example at a local company, must be free to include all of it in the thesis. SJSU's legal relationship is only with the student and his or her compliance with the rules set forth in this and related documents and does not include any obligations to the company in question unless expressly agreed upon in a separate legal document.

Graduate Degree - Plans A, B and C

SJSU offers three plans for candidates for master's degrees.

Plan A - Thesis Plan

This plan requires approval by the candidate's advisor and other members of the thesis committee of a thesis topic and its satisfactory production in written form. Plan A requires registration in departmental 299, Master's Thesis, for at least one unit. Departmental 298 units or other department-specific thesis research or methodology courses are often also taken during the data-gathering stages of the thesis research. While the total number of 298 and 299 units, as well as units in any other project or thesis-research or preparatory course, is restricted for degree credit (and therefore inclusion on the candidacy form) by departmental rules and university policy, the total number of these units taken is not restricted.

Plan B - Degree-Without-Thesis Plan

Plan B is characterized by substitution of the thesis and departmental 299 units with another set of courses and either a project or comprehensive exam. The plan is expected to provide substantial practical experiences by means of the tools and techniques of advanced study in the field. The purpose of Plan B is most often to provide breadth, rather than specialization, and so is tailored by the selection of courses and the nature of the final, comprehensive exam. The exam may be oral, written, or both and constitutes the culminating experience in the plan. Many departments historically have assigned students to Plan B for projects, whether they are also accompanied by a comprehensive exam or not. The projects are usually conducted as part of a departmental 298 or otherwise numbered 200-level project course for a maximum of six units, as stipulated by the department, and the write-up for the project is required as part of the culminating experience. Departmental 299 units are not permitted for graduate credit under this plan.

Plan C - Special Plans Including Creative Projects

This plan is reserved for exceptional cases for which needs will be served best through a special arrangement of courses and/or special creative assignments. The assignments might include original paintings, dramatic presentations, motion picture productions, works of sculpture, electronic media or videotapes. In these cases, the candidate is required to submit a written report on the creative project in the form of a supplementary guide or handbook that puts the work into historical, cultural and/or professional context. This written report is to be cataloged in the university's institutional repository in the University Library in the same manner as regular theses discussed under Plan A. Departmental advisors will provide further information on special requirements of the plan. Plan C requires registration in a minimum of one unit of departmental 299. Note that creative projects can also be conducted under the Plan B umbrella without the submission of a thesis or taking departmental 299 units.

Thesis/Creative Project Unit Conditions

Registration for departmental 299 thesis courses occurs only after advancement to candidacy for the master's degree. By that point, the thesis committee should be fully established in accordance with the SJSU University policy. Before collection of data from human subjects, prior approval must be granted by the Institutional Review Board; see the section on Human Subjects Data Collection in this catalog. Similarly, prior approval for research on or employing animals must be granted by the Institutional Animal Care and Use Committee; see the section on Animal Research Guidelines in this catalog.

A student is allowed a maximum of nine semester units of thesis research and writing courses (departmental 299 and usually 298 but other thesis courses apply) for graduate credit in Plan A and Plan C, although more of these units can be attempted. There is no minimum requirement except that all thesis students must have at least one 299 unit. The student may register for any or all of the required thesis units in one semester, but the sequence should follow departmental guidelines and regulations. All 299 units will receive a grade of "RP" until a final grade ("CR" or "NC") is awarded when the thesis is approved by Graduate Studies. "RP" units cannot be changed to "CR" until that time. Extensions of the two-year period for completing thesis work under the "RP" designation should be made before the period expires by means of the form available at www.sjsu.edu/gape/forms. Upon satisfactory completion of the thesis, a "CR" is submitted by the thesis chair via the **Change-of-Grade form** to the Registrar to clear the "RP." A separate form must be submitted for each occurrence of "RP" (each semester the grade is displayed) on the record.

Graduate Degree - Thesis - Copyright Permission

If a student copies a figure, table or a significant section of someone else's work and it is believed that the use of these copyrighted materials is beyond that permitted by "fair use," the student will be required to obtain separate written permission letters from the publishers or authors of the works cited. It must be indicated in the text or figure caption within the thesis that the material is "copied with permission." The student should plan well so that permission letters will be received in time. If letters of permission are not submitted with the final copies of the thesis, College of Graduate Studies will not approve the thesis, and UMI will not microfilm the work.

The permission letters should be included with the initial submission of the thesis as well as when the thesis is submitted for publication. For questions about the process, including whether permission is required for a particular insertion, contact the thesis coordinator at College of Graduate Studies.

College of Graduate Studies
ADM 146
www.sjsu.edu/cgs

Graduate Degree - Thesis - Human Subjects Data Collection

If a thesis includes data gathered from human subjects, whether experiments, surveys, or interviews, the students must obtain approval from the SJSU Human Subjects Institutional Review Board (IRB). Information concerning the use of human participants is available online at or from the www.sjsu.edu/research/irb or from the IRB coordinator at 408-924-2479. Approval must be obtained from SJSU prior to data collection regardless of whether the research is done in conjunction with another institution that has given its approval. Approval must also be obtained even if the work is ultimately determined to be "exempt." **Federal law prohibits retroactive approval of human subjects research.** Any human subject work conducted before IRB permission cannot be included in a thesis. The thesis will not be approved if it fails to comply with IRB policy.

Once the research is approved, thesis submission must include a copy of the permission letter, whether as a document separate from the thesis or as an appendix to the thesis. Failure to submit the appropriate documentation can result in a delay or denial of thesis approval by College of Graduate Studies.

Graduate Degree - Thesis - Animal Research Requirements

If the thesis includes research activities involving vertebrate animals or select invertebrate species, the care and use of animals or their tissues must be approved by the SJSU Institutional Animal Care and Use Committee (IACUC). Information concerning IACUC requirements and procedures is available from the IACUC Coordinator and online at http://www.sjsu.edu/research/iacuc/index.html. Animal research approval from SJSU must be obtained prior to data collection even if the work is done in conjunction with another institution from which approval has been granted. SJSU prohibits retroactive approval of animal research that is considered ongoing or completed. The official letter of protocol review, obtained with IACUC approval, must be submitted along with the thesis whether as an appendix or as a separate document. Failure to submit the necessary documentation can result in a delay or denial of the thesis by College of Graduate Studies.

Graduate Degree - Thesis - Approval

The last three steps in the thesis process are outlined below:

1. After the thesis has received final departmental (graduate committee) approval, as indicated by committee signatures, the complete document should be emailed along with the completed Thesis Information Packet, available at http://www.sjsu.edu/cgs/current-students/thesis-and-dissertation-information/index.html. Deadline dates for submission may be found at http://www.sjsu.edu/cgs/current-students/thesis-and-dissertation-information/index.html. The deadlines are firm, and exceptions are extremely rare.
2. The thesis will be read and returned to the student with an assessment by the staff from College of Graduate Studies as accepted without corrections, provisionally accepted with corrections, or not accepted.
3. If the manuscript has an abundance of errors in formatting, grammar, punctuation or other writing parameters, corrections will have to be made. The advisors on the student's graduate committee should be consulted about these corrections. It bears repeating that the College of Graduate Studies staff reads and edits only portions of the manuscript, but it is expected that errors of the kinds indicated be corrected throughout the manuscript. If the manuscript is accepted with corrections, the student will be instructed to resubmit it within about a four-week period from the point of notification. If it is rejected, the revised manuscript may not be submitted until the following semester.

Doctoral Dissertation and Project Requirements

Dissertation - Doctor of Education Degree

It is California State University policy to require a dissertation in Doctor of Education Degree (EdD) programs. Per that policy, the EdD dissertation shall be the written product of systematic, rigorous research on a significant professional issue. It is expected to contribute to an improvement in professional practices or policy. It shall evidence originality, critical and independent thinking, appropriate form and organization, and a rationale. The EdD dissertation shall also identify the research problem and question(s), state the major theoretical perspectives, explain the significance of the undertaking, relate it to the relevant scholarly and professional literature, set forth the appropriate sources for and methods of gathering and analyzing the data, and offer a conclusion or recommendation. It shall include a written abstract that summarizes the significance of the work, objectives, methodology, and a conclusion or recommendation.

Time is critical during the semester of submission of a dissertation. Students must allow enough time for preparation of the draft, consideration by doctoral committee members by the deadline dates set in departments, word processing, acquisition of permissions to publish, and the inevitable corrections. Students must leave time for the final reading and signing by the committee members. A minimum of two months is needed for the entire process, and departments may require a longer period. Students should confer with each committee member in advance regarding the time each requires for review and whether each will be in town and available when the review and signatures are due. The student shall have completed all requirements for the degree within five years of achieving classified standing in the doctoral program. The appropriate campus authority may extend the time for completion of the requirements.

All instructions for dissertation formatting and submission to Graduate Studies are located in the SJSU Master's Thesis and Doctoral Dissertation Guidelines at http://www.sjsu.edu/cgs/docs/Thesis-and-Dissertation/2017_Thesis_Guidelines.pdf.

These instructions provide general guidance for authors of doctoral dissertations at SJSU. Examples of front pages are provided in the guidelines. Students should read the guidelines carefully and consult their advisors concerning the format of the thesis or dissertation, the professional style guide to use, and journal articles to emulate, if applicable. The major department sometimes provides students with more complete formatting instructions. In rare cases, College of Graduate Studies will provide assistance.

SJSU participates in the University Microfilm International (UMI) Dissertation Information Service. Students completing theses and dissertations are required to email their committee-approved manuscript and accompanying documents to Graduate Studies according to the instructions provided in the SJSU Thesis and Dissertation Guidelines at http://www.sjsu.edu/cgs/docs/Thesis-and-Dissertation/2017_Thesis_Guidelines.pdf.

Doctoral Project Requirements - Doctor of Nursing Practice Degree

It is California State University policy to require a doctoral project in Doctor of Nursing Practice (DNP) programs. Per that policy, the DNP doctoral project shall be the written product of a systematic, rigorous, evidence-based endeavor focused on a significant nursing practice issue. The doctoral project is expected to contribute to an improvement in professional practices, policy, or patient outcomes. It shall evidence originality, critical and independent thinking, appropriate form and organization, and adequate rationale. The DNP doctoral project shall reflect a command of the scholarly literature and shall demonstrate the student's mastery of evidence-based practice at the doctoral level. The written component of the doctoral project shall be organized in an appropriate form and shall identify the problem statement and purpose, state the major theoretical perspectives, explain the significance of the undertaking, relate it to the relevant scholarly and professional literature, identify the methods of gathering and analyzing the data, and offer a conclusion or recommendation.

Time is critical during the semester of submission of a doctoral project. Students must allow enough time for preparation of the draft, consideration by graduate committee members by the deadline dates set in departments, word processing, and the inevitable corrections. Students must leave time for the final reading and signing by the committee members. A minimum of two months is needed for the entire process, and departments may require a longer period. Students should confer with each committee member in advance regarding the time each requires for review and whether each will be in town and available when the review and signatures are due. The student shall have completed all requirements for the degree within five years of matriculation into the doctoral program. The appropriate campus authority may extend by up to two years the time for completion of the requirements.

Doctoral Degree - Checking the Dissertation Manuscript

The College of Graduate Studies does not serve as an editor. The author and graduate committee members should carefully proofread the dissertation before it is submitted. A careful review should be used by the student as a guide to correcting similar errors in the entire manuscript. The review conducted by Office of Graduate Studies should also be regarded as an indicator of problems to be addressed globally throughout the manuscript. Making only the changes specifically indicated, rather than applying the criticisms to the remainder of the document, would not only result in a flawed document but would also be beneath graduate school standards. The College of Graduate Studies will reject a dissertation with excessive errors.

Students can prevent rejection of the dissertation by ensuring that the final manuscript is free of the following frequent errors: pages for which no numbers are assigned, failure to apply reference style consistently or to cite references when needed, careless spacing or centering, inappropriate margins, incorrect footnotes or bibliography entries, redundancy, awkward or unclear sentences, grammatical errors, punctuation errors, spelling errors, word-usage errors and inconsistencies in or lack of adherence to style-manual formatting rules.

Neither SJSU nor any of its separate offices or departments is responsible for matters concerning a student's relationships or agreements with any outside agency or individual consulted for manuscript preparation. Neither the university nor any of its offices will take part in disagreements between students and typists, editors or copy shops with regard to thesis preparation services, expected costs or billed costs. A student conducting dissertation research off site, for example at a local company, must be free to include all of it in the dissertation. SJSU's legal relationship is only with the student and his or her compliance with the rules set forth in this and related documents and does not include any obligations to the company in question unless expressly agreed upon in a separate legal document.

Doctoral Degree - Dissertation and Project - Copyright Permission

If a student copies a figure, table or a significant section of someone else's work and it is believed that the use of these copyrighted materials is beyond that permitted by "fair use," the student will be required to obtain separate written permission letters from the publishers or authors of the works cited. It must be indicated in the text or figure caption within the dissertation that the material is "copied with permission." The student should plan well so that permission letters will be received in time. If letters of permission are not submitted with the final copies of the dissertation, the College of Graduate Studies will not approve the dissertation, and UMI will not microfilm the work.

The permission letters should be included with the initial submission of the dissertation as well as when the dissertation is submitted for publication. For questions about the process, including whether permission is required for a particular insertion, contact the thesis coordinator at College of Graduate Studies.

College of Graduate Studies
ADM 146
www.sjsu.edu/cgs

Doctoral Degree - Dissertation and Project - Human Subjects Data Collection

If a dissertation includes data gathered from human subjects, whether experiments, surveys, or interviews, the students must obtain approval from the SJSU Human Subjects Institutional Review Board (IRB). Information concerning the use of human participants is available online at or from the www.sjsu.edu/research/irb or from the IRB coordinator at 408-924-2479. Approval must be obtained from SJSU prior to data collection regardless of whether the research is done in conjunction with another institution that has given its approval. Approval must also be obtained even if the work is ultimately determined to be "exempt." **Federal law prohibits retroactive approval of human subjects research.** Any human subject work conducted before IRB permission cannot be included in a dissertation. The dissertation will not be approved if it fails to comply with IRB policy.

Once the research is approved, dissertation submission must include a copy of the permission letter, whether as a document separate from the dissertation or as an appendix to the dissertation. Failure to submit the appropriate documentation can result in a delay or denial of dissertation approval by College of Graduate Studies.

Doctoral Degree - Dissertation and Project- Animal Research Requirements

If the dissertation includes research activities involving vertebrate animals or select invertebrate species, the care and use of animals or their tissues must be approved by the SJSU Institutional Animal Care and Use Committee (IACUC). Information concerning IACUC requirements and procedures is available from the IACUC Coordinator and online at http://www.sjsu.edu/research/iacuc/index.html. Animal research approval from SJSU must be obtained prior to data collection even if the work is done in conjunction with another institution from which approval has been granted. SJSU prohibits retroactive approval of animal research that is considered ongoing or completed. The official letter of protocol review, obtained with IACUC approval, must be submitted along with the dissertation whether as an appendix or as a separate document. Failure to submit the necessary documentation can result in a delay or denial of the dissertation by College of Graduate Studies.

Doctoral Degree - Dissertation and Project - Approval

The last three steps in the dissertation-approval process are outlined below:

1. After the dissertation has received final departmental (graduate committee) approval, as indicated by committee signatures, the complete document should be emailed along with the completed Dissertation Information Packet, available at http://www.sjsu.edu/cgs/current-students/thesis-and-dissertation-information/index.html. Deadline dates for submission may be found at http://www.sjsu.edu/cgs/current-students/thesis-and-dissertation-information/index.html. The deadlines are firm, and exceptions are extremely rare.
2. The dissertation will be read and returned to the student with an assessment by the staff of the College of Graduate Studies as accepted without corrections, provisionally accepted with corrections, or not accepted.
3. If the manuscript has an abundance of errors in formatting, grammar, punctuation or other writing parameters, corrections will have to be made. The advisors on the student's graduate committee should be consulted about these corrections. It bears repeating that the College of Graduate Studies staff reads and edits only portions of the manuscript, but it is expected that errors of the kinds indicated be corrected throughout the manuscript. If the manuscript is accepted with corrections, the student will be instructed to resubmit it within about a four-week period from the point of notification. If it is rejected, the revised manuscript may not be submitted until the following semester.

Required Enrollment for Culminating Graduate Students - 1290R

Continuous enrollment is required of all graduate students between completion of regular courses and satisfactory completion of the culminating experience. Graduate students who receive an RP (report in progress) grade in a thesis (299), project (often 298) dissertation (599), doctoral project (often 598), or other culminating experience course, as well as those who have completed course requirements but not the program comprehensive examination, may maintain enrollment by registering for other courses or by registering for one unit of University Studies (UNVS) 1290R or departmental 1290R (Thesis/Project Supervision) through Special Sessions for each Fall and Spring semester until completion. Effective with the Fall 2018 semester, graduate students preparing for comprehensive exams or completing a courses-only program culminating experience are included in this policy.

Graduate students who have completed their course work but are still working on their culminating experience (thesis, project or comprehensive exam) no longer may stop out for even one semester, and they cannot be granted leaves of absence for any reasons other than military leave and severe medical issues.

Departments may require repeated enrollment in project, thesis, or comprehensive exam-preparation classes each semester until completion, thereby precluding the need for the 1290R course. There are no formal class meetings for this course. Failure to register for this unit will result in a hold on graduation until the unit is retroactively added. At that time, late fees will apply.

Registration for 1290R

Registration for the 1-unit UNVS 1290R or departmental 1290R course must be delayed to give students the opportunity to enroll in other courses. Students who have an RP grade in a culminating experience course, a graduation date in the current or future semester, and no enrollment in other courses will be notified after the add period by the Registrar's Office and given appointments for the UNVS 1290R or departmental 1290R. Graduate advisors of courses-only programs and those with culminating experiences not attached to courses with the RP grade option will need to generate appointments by submitting student names to Graduate Studies. Students with appointments may then register online through MySJSU. No permission or add code is needed. Students will have until the last day of course instruction to register for the course. To maintain their immigration status, international students are encouraged to add the course as soon as their appointments are available. In each subsequent fall and spring semester, students still completing their culminating experience will have to register for this course and will be precluded from registering for any other. The RP grade in the project or thesis course remains on the official record until a culminating memo is submitted by the graduate advisor to the Office of Graduate Admissions & Program Evaluations (GAPE), the course instructor in which the RP was received has petitioned for a grade change, and the student has submitted the online graduation application through their MySJSU account.

The Associate Dean College of Graduate Studies is officially the instructor of record in all 1290R courses and is responsible for assigning the grades as well as establishing the courses with the College of Professional and Global Education each semester. Departments should not attempt to add 1290R courses on their own. To retroactively add a 1290R course requires the student to complete an online Enrollment & Grade for Retroactive 1290R Requests form, available at www.sjsu.edu/registrar/forms, and payment of associated tuition and fees.

More details on the continuous enrollment policy may be found in University Policy S17-5. Details on the RP (Report in Progress) administrative grading symbol may be found in University Policy S09-7.

For more information on required enrollment for culminating graduate students - 1290R, please visit the Graduate Studies website.

Institutional Review Board - Human Subjects Research

The IRB reviews all research protocols involving human subjects. Students and faculty are required to submit a research protocol for IRB review and approval before beginning any data collection from participants if their work entails research involving human subjects. Instructions, forms, and templates can be found at www.sjsu.edu/research/irb.

Office of Research
IRB Coordinator
ADM 223B
408-924-2479
www.sjsu.edu/research

Graduation - Facilitation

Undergraduate or graduate students are precluded from enrolling in any additional state-supported courses when that student has already met all necessary requirements for the degree for which that student is matriculated. Moreover, students who have met all requirements for graduation prior to any semester in which they are enrolled will be permitted to drop all courses for which they are registered, with little or no penalty, and to graduate at the next available date. Students who have earned more than enough units to graduate but have some remaining requirements to complete will be advised and precluded from registering in any courses other than those required for a timely graduation.

Master's Degree - Second (Sequential and Simultaneous)

There are two options for acquiring a second master's degrees. Graduate students who have completed one master's degree program at San José State University may, with the approval of the new department, complete requirements for a second master's degree at this institution.

In the first option, the student interested in a sequential second graduate degree after finishing another master's degree must apply for admission to the second graduate degree program after the first degree is completed and recorded on the permanent record. All policies and procedures listed in this catalog applicable to satisfactory completion of a master's degree apply to completion of requirements for a second master's degree, including that program requirements must be completed within a seven-year period. College of Graduate Studies at SJSU will not admit an applicant in pursuit of a master's degree if it is determined that the applicant has a similar degree already. Pursuit of a second master's degree will receive a lower priority for admission.

The second option is pursuit of two simultaneous master's degrees. A student in good standing enrolled in one master's program may pursue a second master's degree. Matriculated master's students do not need to formally reapply to the university through Cal State Apply. However, the student must secure approval from and admission into the second master's degree program. This requires submission of all application materials previously requested of applicants by the department or school to the first degree program, as well as any additional materials required by the second program. Current transcripts, GRE scores, English-language test scores and letters of recommendation might be among those items required by the second department or school. The student is responsible for making those items available to the department regardless of his or her date of matriculation into the first major. Individual department deadlines apply for acceptance in any particular semester. Note: Approval for admission into the second master's program is given by means of its graduate advisor's signature on the Master's Level Double Degree Application; Contact the GAPE office for more information on this process.

The stipulation, however, is that a student pursuing simultaneous master's degrees cannot apply for graduation or be awarded either degree until both degree programs are complete. Both degrees must effectively be completed at the same time, and diplomas are issued for both degrees. If a student gains admission into a second degree program while still pursuing the first degree and applies for graduation before finishing the second program, he or she will be awarded the first master's degree and then lose matriculated status. Student status will thus be revoked and pursuit of a second master's degree prohibited. To satisfy this procedural requirement, a student should simply delay the request for award of the first degree until the second degree program requirements have been fulfilled. Please keep in mind that graduate units expire after seven years.

Alternatively, if a second master's degree is desired but will not be completed at the same time as the first, the student must file for graduation from the first degree program and formally apply for admission into the second program. That would require a full application, submission of all documentation required by the university and the department of the second master's program, and acceptance by both entities. Pursuit of a second master's degree will receive a lower priority for admission.

An approved program for a second degree should be prepared by the student and graduate advisor in the new field. If the new program happens to include course work taken in the first degree, a maximum of 33% of the total units required for the new degree may be courses completed in the previous degree at this institution. Thus, for example, a student might be permitted to apply up to 10 units toward a 30-unit program. Such courses must have been completed by the student with a grade of "A," "B" or, in special cases, "CR." The courses must be approved by the graduate advisor, who may limit the number of transferred units. The 33% level is allowed only for transfer of units from master's degree programs taken at SJSU. Transfer from completed degree programs at other institutions is not allowed.

Please note that both simultaneous degree programs must be completed in the same semester to qualify for the double degree award. Both programs must also be completed within seven years. The student who finds he or she cannot complete both degree programs in the same semester has the option of dropping one of the programs and receiving a single degree. Dropping one of the programs requires informing GAPE in writing.

Interdisciplinary Studies Program - Master's

The Interdisciplinary Studies Major for either a Master of Arts or a Master of Science degree provides an alternative for individuals whose desired study plans do not fit the degree offerings of any single existing degree program on campus. In most cases, a thesis is required for this degree. Applicants or graduate students in other majors who wish to undertake the Interdisciplinary Studies major should consult the College of Graduate Studies website at http://www.sjsu.edu/cgs/current-students/interdisciplinary-studies/index.html to obtain the **Guide for Interdisciplinary Studies Majors**. The guide contains the **Proposal for Interdisciplinary Studies Major**, which must be completed to obtain initial approval by the Associate Dean of Graduate Studies to be able to enter the program.

For more information on the Interdisciplinary Studies program, contact:

College of Graduate Studies
ADM 146
www.sjsu.edu/cgs

Graduate Degree - Time Limits- Masters

Section 40510(b)(2), California Code of Regulations, Title 5, Education, requires that courses in completed masters degree programs be no older than seven years at the time of the degree award. The seven-year period is counted from the end of the semester in which the course was completed. Thus no more than seven years may elapse between the time the first course in a graduate program is completed and the time the last item in the program is completed, the latter indicating fulfillment of all degree requirements. With an outdated course, the candidate has the following options:

- Repeat the outdated course with a passing grade but without credit. The new grades will be factored into the GPA for graduation, and all grade requirements, such as the 3.0 minimum GPA, will still be in effect.
- Under some circumstances, another course (one already completed or to be taken) may be used to substitute for an outdated course. Permission for the substitution must be obtained from both the program's graduate advisor and the Associate Dean College of Graduate Studies. This practice is highly discouraged, as it violates the rule that completed courses may not be removed from the candidacy form. If the original course is available for enrollment, it is unlikely that permission will be granted.
- Revalidate the outdated SJSU course by examination. Revalidation of courses is governed by University Policy S17-7. A student may revalidate a maximum of 9 units of a 30-unit master's degree program, or 12 units for a program with more than 30 units. Only courses in which a student has earned a "B" or better may be revalidated. Permission to revalidate from Graduate Studies or from GAPE is not required; examination can proceed and the results communicated to the program evaluator at GAPE by the form entitled **Request for Revalidation of Course that Has Exceeded the Seven-Year Time Limit** available at www.sjsu.edu/gape/forms. Course work completed at other institutions is not eligible for revalidation, but transfer courses taken at SJSU may be revalidated. However, some kinds of courses cannot be revalidated, including supervisory courses such as project and thesis courses, seminar courses, independent study courses, and internship courses.
- Departmental course, which satisfy the Graduation Writing Assessment Requirement (GWAR), do not expire and, therefore, need not be revalidated. Other courses that satisfy GWAR are more content-based and do expire; those can be revalidated.

Veterans who are candidates for graduate degrees and who have had their graduate programs interrupted by military service may petition through the Associate Dean College of Graduate Studies to extend the time limit imposed by the above regulations by the amount of time spent in military service. Nevertheless, students in this situation should apply for formal leaves of absence through the University Registrar, thereby making it unnecessary to contact Graduate Studies.

Graduate Degree - Time Limits- Doctoral

Section 40512/40514, California Code of Regulations, Title 5, Education, requires that courses in completed doctoral degree programs be no older than five years at the time of the degree award. The seven-year period is counted from the end of the semester in which the course was completed. Thus no more than five years may elapse between the time the first course in a graduate program is completed and the time the last item in the program is completed, the latter indicating fulfillment of all degree requirements. With an outdated course, the candidate has the following options:

- Repeat the outdated course with a passing grade but without credit. The new grades will be factored into the GPA for graduation, and all grade requirements, such as the 3.0 minimum GPA, will still be in effect.
- Under some circumstances, another course (one already completed or to be taken) may be used to substitute for an outdated course. Permission for the substitution must be obtained from both the program's graduate advisor and the Associate Dean the College of Graduate Studies. This practice is highly discouraged, as it violates the rule that completed courses may not be removed from the candidacy form. If the original course is available for enrollment, it is unlikely that permission will be granted.
- Revalidate the outdated SJSU course by examination. Revalidation of courses is governed by University Policy S17-7. A student may revalidate a maximum of 9 units of a 30-unit master's degree program, or 12 units for a program with more than 30 units. Only courses in which a student has earned a "B" or better may be revalidated. Permission to revalidate from College of Graduate Studies or from GAPE is not required; examination can proceed and the results communicated to the program evaluator at GAPE by the form entitled **Request for Revalidation of Course that Has Exceeded the Five-Year Time Limit** available at www.sjsu.edu/gape/forms. Course work completed at other institutions is not eligible for revalidation, but transfer courses taken at SJSU may be revalidated. However, some kinds of courses cannot be revalidated, including supervisory courses such as project and thesis courses, seminar courses, independent study courses, and internship courses.
- Departmental course, which satisfy the Graduation Writing Assessment Requirement (GWAR), do not expire and, therefore, need not be revalidated. Other courses that satisfy GWAR are more content-based and do expire; those can be revalidated.

Veterans who are candidates for graduate degrees and who have had their graduate programs interrupted by military service may petition through the Associate Dean College of Graduate Studies to extend the time limit imposed by the above regulations by the amount of time spent in military service. Nevertheless, students in this situation should apply for formal leaves of absence through the University Registrar, thereby making it unnecessary to contact College of Graduate Studies.

Graduate Degree - Leave of Absence- Masters

By University Policy S15-3, a formal leave of absence for graduate students for medical, care-giving, military service, personal hardship, or educational reasons may be requested by submission of the fully signed and documented Leave of Absence Petition. For detailed information on the process and restrictions see Leaves of Absence and Withdrawal.

Graduate students are eligible for all leaves of absence except when finished with all degree requirements other than their culminating experience (thesis, project, and/or comprehensive exam plus any other components required of the major). At that point, neither stopping out (voluntary absence for a semester) nor financial leaves are permissible and students must register for 1 unit of University Studies (UNVS) 1290R or a Departmental 1290R (Thesis/Project Supervision) through special session every semester until graduation (See Thesis and Project Work - RP Status - Graduate). During this stage of a graduate student's career, leaves of absence for any reason beyond medical or military shall be precluded except under rare circumstances.

Note: International students may not take a leave of absence and must remain in the United States except for documented medical reasons. International students must be enrolled in a full course of study (9 units) for two semesters annually. Winter and Summer registration are not required. If you have further questions please contact the International Student Advising Office.

Note that the seven-year limit on course expiration (see Graduate Degree - Time Limits) remains in effect even for students who have taken leaves of absence, so it is important to plan carefully when applying for a leave of absence. Upon a student's return, the student's catalog rights shall pertain to his or her most recent admission date.

Graduate Degree - Leave of Absence- Doctoral

By University Policy S15-3, a formal leave of absence for graduate students for medical, care-giving, military service, personal hardship, or educational reasons may be requested by submission of the fully signed and documented Leave of Absence Petition. For detailed information on the process and restrictions see Leaves of Absence and Withdrawal.

Graduate students are eligible for all leaves of absence except when finished with all degree requirements other than their culminating experience (thesis, project, and/or comprehensive exam plus any other components required of the major). At that point, neither stopping out (voluntary absence for a semester) nor financial leaves are permissible and students must register for 1 unit of University Studies (UNVS) 1290R or a Departmental 1290R (Thesis/Project Supervision) through special session every semester until graduation (See Thesis and Project Work - RP Status - Graduate). During this stage of a graduate student's career, leaves of absence for any reason beyond medical or military shall be precluded except under rare circumstances.

Note: International students may not take a leave of absence and must remain in the United States except for documented medical reasons. International students must be enrolled in a full course of study (9 units) for two semesters annually. Winter and Summer registration are not required. If you have further questions please contact the International Student Advising Office.

Note that the five-year doctoral limit on course expiration (see Graduate Degree - Time Limits) remains in effect even for students who have taken leaves of absence, so it is important to plan carefully when applying for a leave of absence. Upon a student's return, the student's catalog rights shall pertain to his or her most recent admission date.

Latin Honors - Not Available for Graduate Students

Latin honors are reserved at SJSU, as at most universities, for those earning baccalaureate degrees. Because graduate students are required to maintain a minimum cumulative GPA of 3.0, all finishing graduate students would receive honors. Thus they are not considered for receipt of Latin honors. Individual programs are free to award other forms of recognition to outstanding graduate students. For more information, see *University Honors at Graduation*.

Research - Office of Research

Students have opportunities in many majors to work with faculty on research, scholarship and creativity activity projects. Those who do can present their work in the spring semester in the SJSU Student Research Competition. Finalists of the SJSU competition are eligible for the CSU Student Research Competition. For more information, visit http://www.sjsu.edu/research/.

Office of Research
ADM 223B
(408)924-2272
officeofresearch@sjsu.edu
http://www.sjsu.edu/research/

SJSU SAN JOSÉ STATE UNIVERSITY

SJSU Catalog & Class Schedule Policies & Procedures

FALL 2019

APRIL 26, 2019

ALL DATES, FEES & INFORMATION SUBJECT TO CHANGE WITHOUT NOTICE

CONTENTS

Organized Research and Training Units

Research units involve industry/university partnerships to enhance technology transfer, encourage development of new products and improve education.

Accounting Advancement Center links SJSU students and accounting professional firms; facilitates student networking and professional opportunities; sponsors student seminars on current accounting issues; and rewards excellence among students and faculty members through scholarships and grants.

Bay Area Retail Leadership Center consists of a multilateral partnership between SJSU students, retail industry partners, and SJSU faculty, administration, and staff. A program of Center-sponsored events brings constituents together in an effort to provide co-curricular, experiential learning opportunities designed to build students' leadership skills as well as their awareness and knowledge about retailing as a career destination.

Biotechnology Education and Research Institute directs the development of biotechnology through inter-departmental cooperation, serves as a clearinghouse and promotes cooperation between industry, government and the university in biotechnology research and development.

Center for Applied Mathematics, Computation, and Statistics provides an innovative educational program to develop training through practical experience.

Center for Applied Research on Human Services housed in CHHS, provides supports and services to SJSU faculty interested in applied human services research, including a Grants Academy, writing groups, statistical consultation, and methodological workshops.

Center for Asian Studies provides information and counsel about studies in Asia.

Center for Banking and Financial Services provides an important complementary component to students' curricular education in the area of financial intermediation. One of its major goals is to create a link between SJSU students and the banking and financial services sector. By promoting professional development events, the Center provides students with opportunities to interact with professionals. Another major goal is to provide value to the college and university by enhancing the students' knowledge of financial topics. In fact, the Center sponsors presentations and lectures focusing on topics related to financial intermediation. Finally, the Center rewards excellence among students and faculty members by providing financial support through scholarships and research grants.

Center for Comparative Philosophy aims at promoting and enhancing the research and scholarship of comparative philosophy. Comparative philosophy considers philosophy in a global context: it emphasizes the constructive engagement between distinct methodological approaches, substantial views, or explanatory resources from different philosophical traditions and/or from the complex array of distinct approaches of the same tradition with a global vantage point.

Center for the Development of Recycling is a national clearinghouse for recycling information and for applied waste management research in order to increase the scope and availability of recycling information and to increase the effectiveness of recycling as a solid waste management strategy.

Center on Ethics facilitates the planning and coordination of research-related activities concerned with issues of professional and business ethics.

Center for Human Language Technology supports the study of computational linguistics, acts as a resource for Silicon Valley technology industries and explores applications of HLT in industry, education and society at large.

Center for International Sport and Human Performance promotes and facilitates cross-national and cross-cultural interaction of individuals and their ideas in the context of sport and human performance.

Center for Literary Arts provides programs featuring major contemporary writers, poets and scholars.

Center for Organizational Resilience In a world of accelerating change, resilience is recognized as ever more crucial to survival, not just for individuals but for organizations as well. The mission of the Center for Organizational Resilience (COR) at San Jose State University serves as Silicon Valley's Center of Excellence for theory and practice in the emerging field of Resilience Management. COR supports a network of subject matter experts coalescing to provide resilience thought leadership and research and to disseminate leading practices to academia and the public and private sectors through training, seminars and a variety of digital channels.

Center for Service Systems Engineering and Innovation (CSSEI) focuses on the development and application of the principles of service science and management to complex service systems. CSSEI's focus is on investigations related to creating and/or applying technological innovations and human centered systems engineering processes to improve the customer's Access to services and the customer's Service Experience. CSSEI forms collaborations of faculty, students, and industry partners to improve the performance of any health care and regional transportation service system or organization.

Center of Smart Technology and Computing for Complex Systems (STCCS) focuses on delivering state-of-the-art engineering solutions to industrial partners and funding agencies, and provides high-quality technical consulting services and technology training to young researchers and local professionals. Experienced academic faculty, students, and research staff at the Center will carry out highly focused R&D projects addressing current and future challenges and needs in businesses, social communities, and government agencies.

Collaborative for Disaster Mitigation is a proactive partnership of the public, private, and academic sectors to encourage and facilitate implementation of mitigation measures to minimize the consequences of natural and other disasters.

Global Leadership Advancement Center advances, fosters, and disseminates cutting-edge knowledge on global leadership and its development via diverse programs for scholars, students, and the community. GLAC has two innovative student programs unique to San José State: the GLLab, which is an assessment center for global competencies, and the Global Leadership Passport Program, a co-curricular program in which students earn stamps for activities that prepare them for global work. GLAC's Social Innovation Initiative leverages the symbiotic relationship among SJSU, social entrepreneurs, the City of San José, foundations, and other innovation organizations to encourage and train people to apply technology and innovation for the good of the local community.

Institute for Metropolitan Studies facilitates the exchange of knowledge and expertise regarding urban problems and critical matters related to metropolitan development.

Institute for Modern Optics facilitates communication, collaboration, and coordination in the area of lasers and optics and promotes research projects in non-linear effects at surfaces, laser beam characteristics, two-wave laser mixing, holography, light emission from thin film tunnels, and laser spectroscopy.

Institute for Nursing Research and Practice promotes the climate of inquiry within the School of Nursing by coordinating and promoting research projects and interests of nursing faculty in order to develop innovative models for nursing research, practice, and education.

Institute for People and Performance aspires to be a center of excellence aimed at advancing knowledge of human capital management, through a combination of training, research, and engagement with industry and professional organizations. Institute for Nursing Research and Practice promotes the climate of inquiry within the School of Nursing by coordinating and promoting research projects and interests of nursing faculty in order to develop innovative models for nursing research, practice, and education.

Institute for the Study of Sport, Society and Social Change encourages, creates and facilitates interdisciplinary collaboration to illuminate the substance, dynamics and significance of the institution of sport as a social sphere within which issues of power and ideology are created, reaffirmed, and challenged. It is dedicated to research, analysis and education focused on the intersection of sport and social justice with activities guided by the theoretical, methodological and applied research perspectives and traditions of the sociology of sport.

Ira F. Brilliant Center for Beethoven Studies is the only research facility and document repository in North America dedicated solely to the study of the life of and performance of the works of Ludwig van Beethoven.

Martha Heasley Cox Steinbeck Research Center houses one of the most extensive collections of John Steinbeck's manuscripts, letters, photographs and artifacts, fostering research concerning the life and work of the author.

Materials Characterization and Meteorology Center provides materials imaging and chemical analysis capabilities for applications in various fields of science and engineering. Instruments are located in various buildings across campus.

Mineta Transportation Institute focuses on international surface transportation policy issues as related to three primary responsibilities: research, education, and technology transfer. MTI receives policy oversight from an internationally respected board of trustees who represent all of the major transportation modes.

Research Institute for Foster Youth Initiatives explores ways to eliminate barriers that current and former foster youth have at obtaining a suitable education.

Silicon Valley Big Data and Cybersecurity Center directs the development of cyber security and big data research projects through multidisciplinary cooperation. Serves as the clearinghouse and promotes cooperation between industry, government, and SJSU in research & development, policy analysis & development, and workforce training.

Silicon Valley Center for Entrepreneurship aims to promote interdisciplinary research that is valuable to entrepreneurs and aspiring entrepreneurs, support academic departments in developing an entrepreneurship curriculum informed by research, foster an entrepreneurial mind-set among students, and strengthen the connective fabric of innovation and entrepreneurship within the university and in Silicon Valley.

Silicon Valley Center for Global Engineering and Education enhances engineering students' educational experience and career prospects in the global context by cultivating a vital relationship between SJSU and international engineering education institutions. The activities of the Center are to develop, market, and implement educational cooperation programs to international universities and to work with various SJSU units to offer outreach activities around global engineering education.

Silicon Valley Center for Operations and Technology Management is a knowledge portal for sharing academic and industrial information related to operations, supply chain, and technology management among students, faculty members, and industry partners. It is also the point of training for supplying and supporting the professional needs of the industry. The Center will serve as a future knowledge hub through research on state-of-the art topics relevant to the Center's themes.

Sourisseau Academy promotes better understanding of California's state and local history with emphasis on the history of Santa Clara Valley through graduate scholarships and collections of historical source materials.

For more detailed information on Organized Research and Training Units please visit http://www.sjsu.edu/research/ortu/index.html.

CONTENTS

General Education (GE)

General Education (GE) - Program Objectives

A university brings together many separate areas of learning, yet it is more than just a collection of specialized disciplines. The SJSU General Education Program incorporates the development of skills, the acquisition of knowledge, and the integration of knowledge through the study of facts, issues, and ideas. Regardless of major, all who earn undergraduate degrees should share common educational experiences, as they become university scholars. In combination with major, minor, and elective courses, the General Education curriculum should help students attain those attributes found in an educated person.

Students who complete the General Education curriculum should be able to demonstrate:

- Knowledge of Human Cultures and the Physical and Natural World

  (focused by engagement with big questions, both contemporary and enduring through study in the sciences and mathematics, social sciences, humanities, histories, languages, and the arts)
- Intellectual and Practical Skills

  (practiced extensively, across the curriculum, in the context of progressively more challenging problems, projects, and standards for performance)
- Personal and Social Responsibility

  (anchored through active involvement with diverse communities and real-world challenges)
- Integrative Learning

  (demonstrated through the application of knowledge, skills, and responsibilities to new settings and complex problems)

The advancement of academic discourse requires civility and a respectful attitude toward all in the expression and consideration of a variety of viewpoints. All courses shall reinforce the ethical responsibility of students and instructors to acknowledge respectfully the learning styles and forms of expression of individuals and members of all groups.

General Education (GE) - Policies

1. All students must complete 48 units of approved GE courses with letter grades. If a requirement is waived without unit credit, additional approved GE courses must be taken to complete a minimum of 48 GE units.

2. All three areas described below must be completed by all students: Core GE (39 units), SJSU Studies (9 upper division GE units and 100W) and American Institutions (0-6 units).

3.Transfer students may fulfill all lower division core GE by completing the Intersegmental GE Transfer Curriculum (IGETC) or a CSU GE 39-unit breadth certification prior to transfer. Having completed the IGETC or CSU GE Breadth certification, the transfer student cannot be held to additional lower division core GE requirements.

4. All students must satisfy SJSU Studies at SJSU regardless of GE completed at other institutions. Exceptions:

- Written Communication II (100W) may be satisfied prior to transfer, unless also specified as a course requirement in the major.
- A complete 48 unit GE Certification from another CSU is submitted, showing lower and upper division completed.
- Second baccalaureate students who earned their first bachelor degree from a regionally accredited institution in the U.S. *(effective Fall 2011)*
- Student's complete an approved upper division GE course at another CSU, in person or online

5. If a course is listed as a sequence (A-B), the entire sequence must be completed to satisfy the requirement.

6. Oral Communication (A1), Written Communication I (A2), Critical Thinking and Writing (A3), and Mathematical Concepts (B4) courses each require a minimum grade of "C- or better".

7. Completion of Written Communication I (Area A2) with a "C- or better" is prerequisite to the WST. Satisfying the WST requirement is prerequisite to any SJSU Studies course.

8. To find approved courses, check the GE designator listed for the requirement. This designator is printed by each GE class section in the **SJSU Schedule of Classes**.

9. All GE courses must be on the approved list of the California Community College (CCC), California State University (CSU) or University of California (UC) for CSU Breadth Requirements or the Intersegmental General Education Transfer Curriculum (IGETC) where and when the course is taken.

10. The following GE courses require prerequisites to enroll:

- Oral Communication (Area A1) & Written Communication I (Area A2), both passed with grades of "C- or better", are prerequisites to Critical Thinking and Writing (Area A3)
- Satisfaction of the Writing Skills Test (WST) requirement and upper division standing are prerequisites to SJSU Studies (Areas R, S, V, Z)
- Completion of Area A3 (or a 2nd semester composition course) with a "C- or better" is a prerequisite to Area Z (100W).

See the Testing section for additional information about these exams.

11. Subsequent to completion of all CSU general education requirements (at the lower and upper divisions), a student may not be required to satisfy additional general education requirements outside of the major program requirements.

12. Complete information on specific requirements and approved courses is found each semester in the SJSU Policies document.

General Education (GE) - Previous Requirements

Students approved for earlier GE patterns have four options:

1. Follow the pattern described here;

2. Continue to follow their previous pattern using courses that now appear in categories that are the same as the previous pattern;

-or-

3. Use courses previously taken when approved for the required categories;

-or-

4. Use courses in new categories to substitute for previous requirements.

General Education (GE) - Academic Advisement

Your college student success center and Academic Advising and Retention Services provides general education academic advising to ensure your academic success and help you achieve your educational goals. To make the most of your advising sessions, please observe the following:

- You must be a currently matriculated student at the time you make an appointment.
- Bring a complete set of all college transcripts--unofficial copies are acceptable.
- Bring a copy of your General Education certification if you attended a California Community College. A partial certification is acceptable.
- Review your MyProgress and MyPlanner reports prior to your appointment
- Learn the requirements for your major--see the *SJSU Catalog* for details.
- See your major advisor.

Note: Admitted students should wait until after attending an orientation program before requesting an appointment. Students who have not yet been admitted to SJSU should make an appointment for advising with Student Outreach and Recruitment at 408-924-2564.

Academic Advising and Retention Services
Student Services Center
408-924-2129
www.sjsu.edu/aars

Academic Counseling Center for Excellence in the Social Sciences (ACCESS)
Clark Hall 240
408-924-5363
www.sjsu.edu/access/

CHHS Success Centers
MacQuarrie Hall 533 (Location 1)
408-924-2910
Health Building 105
408-924-8601 (Location 2)
www.sjsu.edu/chhs/ssc/

Engineering Student Success Center (ESSC)
Engineering Building, Room 344
408-924-3990
www.engr.sjsu.edu/students/essc

Humanities and the Arts Student Success Center (HASSC)
Clark Hall 244
408-924-5095
www.sjsu.edu/ha-advising/

Jack Holland Success Center for College of Business
Boccardo Business Center (BBC) 008
408-924-3435
www.sjsu.edu/lcobssc/

Lurie College of Education Success Center
Sweeney Hall 106
408-924-3600
www.sjsu.edu/education/studentsuccesscenter/

College of Science Advising Center (COSAC)
Duncan Hall (DH) 212
408-924-5193
www.sjsu.edu/cosac/

General Education (GE) - Requirements Overview

Core General Education

BASIC SKILLS OF AN EDUCATED PERSON

These courses build key skills for learning - communication and critical thinking. An educated person communicates ideas effectively both verbally and in writing. Being able to organize and express ideas is a key part of learning. An educated person must also have strong reasoning powers in order to analyze critically all types of information. The skills courses within General Education provide an opportunity for students to gain and enhance critical communication and analytical skills.

Oral Communication (A1) 3
Written Communication I (A2) 3
Critical Thinking and Writing (A3) 3
Mathematical Concepts (B4) 3
Subtotal ..... 12 units

BASIC KNOWLEDGE OF AN EDUCATED PERSON

In these courses, students gain the fundamental knowledge of an educated person. Students have opportunities to demonstrate an appreciation of the fundamentals of science, arts and letters, and the forces that shape the individual and modern society throughout the lifespan. This fundamental knowledge is crucial to understanding more advanced topics, including a major field of study.

Physical Science (B1)* 3
Life Science (B2)* 3
One lab course in either physical or life science is required (B3)
Arts (C1) 3
Letters (C2) 3

A third course from either Arts or Letters (C1 or C2).....3
Human Behavior (D1).....3
Comparative Systems, Cultures & Environments (D2).....3
Social Issues (D3).....3
Human Understanding & Development (E).....3
Subtotal.....27 units

SJSU Studies - Upper Division General Education (R, S, and V) and Written Communication II (Z)

INTEGRATED KNOWLEDGE OF AN EDUCATED PERSON

In these courses, students become integrated thinkers who see connections between and among a variety of concepts and ideas. An educated person applies concepts and foundations learned in one area to other areas as part of a lifelong learning process. These courses help students to live and work intelligently, responsibly, and cooperatively in a multicultural society and to develop abilities to address complex issues and problems using disciplined analytical skills and creative techniques.

Earth and Environment (R) 3
Self, Society & Equality in the U.S. (S)..... 3
Culture, Civilization & Global Understanding (V)... 3
Written Communication II (Z) 0-3
Subtotal..... 9-12 units

Graduation Requirements

Requirement.....units
American Institutions (may be satisfied in Core).....0-6
Physical Education (two units or courses of activity are required).....0-2
Written Communication II (Z) (part of SJSU Studies).....0-3

TOTAL GENERAL EDUCATION UNITS 48 UNITS

Core .....39 units
Upper Division.....9 units

General Education (GE) - CORE (Basic Skills and Basic Knowledge of an Educated Person)

Students must complete 39 units of Core GE courses.

English Language Communication and Critical Thinking

9 units

Complete one course each in Oral Communication, Written Communication IA, and Critical Thinking and Writing.

ORAL COMMUNICATION (A1)

Oral Communication courses should cultivate an understanding of the social, psychological, political and practical significance of communication, with special emphasis on the roles of public communication in a free society.

COMM 020.....Public Speaking
COMM 020N.....Public Speaking for Nonnative Speakers
COMM 040.....Argumentation & Advocacy
HUM 001A-1B ^.....World Cultures & Societies- Honors
HUM 002A-2B ^.....Modern World Cultures - Honors
MAS 074.....Public Address

WRITTEN COMMUNICATION I (A2)

Written communication 1A courses should cultivate an understanding of the writing process and the goals, dynamics, and genres of written communication, with special attention to the nature of writing at the university.

ENGL 001A.....First Year Writing

ENGL 01AS.....First Year Composition, Stretch II
HUM 001A-1B ^.....World Cultures & Societies- Honors
HUM 002A-2B ^.....Modern World Cultures - Honors

CRITICAL THINKING AND WRITING (A3)

Critical thinking courses should help students learn to recognize, analyze, evaluate, and produce reasoning.
ANTH 013.....Archaeology
COMM 041.....Critical Decision Making
COMM 045.....Media and Culture
ENGL 002.....Critical Thinking and Writing
HIST 050.....Historical Process: Understanding Historical Reasoning
HUM 001A-1B ^.....World Cultures & Societies- Honors
HUM 002A-2B ^.....Modern World Cultures - Honors
HUM 080.....Reading the World
LING 021.....Language & Thinking
LING 024.....Language Variation in Space, Time, & Culture
PHIL 057.....Logic & Critical Reasoning
POLS 020.....Controversial Legal Issues

^ = Eight GE areas, including third Area C, and all of American Institutions completed when the Humanities Honors sequence (HUM 1A/1B/2A/2B) is completed with grades of "C- or better."

Scientific Inquiry and Quantitative Reasoning

9 units

Complete at least one 3-unit course in Physical Science, Life Science, and Mathematical Concepts.

At least one lab course (L) must be included.

PHYSICAL SCIENCE (B1)

In Science courses, students should master sufficiently essential quantitative and qualitative skills that are necessary to understand scientific knowledge and methods. Students should be able to incorporate scientific knowledge into the workplace and everyday life experiences.
ASTR 010.....Descriptive Astronomy
CHEM 001A (L)*.....General Chemistry
CHEM 001B (L)*.....General Chemistry
CHEM 030A (L).....Introductory Chemistry
ENGR 005.....Science of High Technology
GEOG 001.....Geography of Natural Environments
GEOL 001 (L).....General Geology
GEOL 003.....Planet Earth
GEOL 006.....Geology of California
GEOL 007 (L).....Earth, Time & Life
GEOL 009 (L).....Earth Disasters
METR 010.....Weather & Climate
METR 012.....Global Warming
NUFS 001A.....Physical Science of Foods
PHYS 001.....Elementary Physics
PHYS 002A (L)*.....Fundamentals of Physics
PHYS 002B (L)*.....Fundamentals of Physics
PHYS 023.....Animation Physics
PHYS 050 (L)*.....General Physics/Mechanics
PHYS 051 (L)*.....General Physics/Electricity and Magnetism
PHYS 052 (L)*.....General Physics/Waves, Light, Heat

LIFE SCIENCE (B2)

ANTH 012.....Introduction to Human Evolution
BIOL 010.....The Living World
BIOL 020 (L) .....Ecological Biology
BIOL 021 (L) .....Human Biology
BIOL 030 (L)*.....Principles of Biology I
BIOL 031 (L)*.....Principles of Biology II
BIOL 065 (L)*.....Human Anatomy
BIOL 065O (L)* .....Human Anatomy
BIOL 066 (L)*.....Human Physiology
ENVS 010.....Life on a Changing Planet
GEOL 008 .....Age of Dinosaurs
GLST 001B.....Introduction to Global Studies
MICR 020 (L)* .....General Bacteriology
NUFS 016.....Science, Physiology, & Nutrition

LABORATORY SCIENCE (B3)

The following courses meet the Lab requirement only.
ASTR 102 (L)..... Astronomy Lab (1 unit)
BIOL 065L..... Anatomy Lab for Transfer Students (1 unit)
BIOL 150/GEOL 150 (L)..... Fld Stds Nat Hist (1-2 units)
GEOL 004L (L) ..... Planet Earth Lab
PHYS 001L (L)..... Elem Phys Lab (1 unit)

*Intensive Science

Students who have completed the Intensive Science courses with a "C- or better", will be allowed to use these courses to fulfill the requirement in B1/B3 or B2/B3. Students may petition to have (1) grades below C- (very rarely approved), or (2) other Intensive Science courses not on the list approved as intensive science courses. Additionally, the following packages of courses, all completed with "C- or better", will satisfy Areas B1, B2, and B3: Two courses from PHYS 50, PHYS 51, or PHYS 52, and CHEM 1A; or PHYS 2A and PHYS 2B and CHEM 1A; or CHEM 1A and CHEM 1B, plus a physics course. See details on the petition at: http://www.sjsu.edu/gup/allForms/index.html#studentPetitions.

MATHEMATICAL CONCEPTS (B4)

Mathematical concepts courses enable students to use numerical and graphical data in personal and professional judgments and in coping with public issues.
HS 067 ..... Introductory Health Statistics
JS 015..... Introductory Statistics in Justice Studies
MATH 001..... Mathematical Reasoning
MATH 008..... College Algebra
MATH 010..... Mathematics for General Education
MATH 010A..... Mathematics in Arts, Music and Politics
MATH 012..... Number Systems
MATH 019..... Precalculus
MATH 030* ..... Calculus I
MATH 030P* ..... Calculus I with Precalculus
MATH 030PL*..... Calculus I with Precalculus
MATH 031* ..... Calculus II
MATH 032* ..... Calculus III
MATH 070* ..... Finite Mathematics
MATH 071* ..... Calculus for Business and Aviation
PHIL 009..... Math & Logic for General Education
SOCI/SOCS 015..... Statistical Applications in the Social Sciences

STAT 095 ..... Elementary Statistics
UNVS/MATH 015F-015S..... Statway A-B: Statistics-Concepts & Methods

*Intensive Math

Students who have not completed a course satisfying Area B4, but have completed MATH 030, MATH 030P, MATH 030PL, MATH 031, MATH 032, MATH 070, or MATH 071, with a grade of "C- or better" will be allowed to use one of these courses to fulfill the Area B4 requirement.

Arts & Letters (Area C)

9 units

Effective Fall 2014, Area C3 has been discontinued. Completion of 9 units in Area C is still required.

In Area C, complete no fewer than 9 semester units, with at least one course in the Arts (C1) and one in the Letters (C2).

Arts and Letters courses should give students knowledge and understanding of significant works of the human intellect and imagination. Courses should enable students to participate in social and cultural communities associated with artistic and literary endeavors, enriching their personal and professional lives.

ARTS (C1)

AMS 001A-B ..... American Civilization
ARTH 015..... Intro to Visual Culture
ARTH 070A ..... Art History, Prehistoric to Medieval
ARTH 070B..... Art History, Renaissance to Modern
ARTH/ASIA 070C ..... Arts of Asia
ARTH 072..... Design in Society
CA 095..... Introduction to Queer Arts
DANC 010..... Dance Appreciation
FORL 025 ..... World Cultures through Literature and Cinema
HUM 001A-1B^ ..... World Cultures & Societies- Honors
HUM 002A-2B^ ..... Modern World Cultures - Honors
KIN 068..... Visual Representations of Sport in Popular Culture
MUSC 004A*..... Music Systems IVA
MUSC 004B* ..... Music Systems IVB
MUSC 010A..... Music Appreciation
MUSC 010B ..... Introduction to Music
MUSC/ASIA 019 ..... Music in World Cultures
PHIL 066..... Introduction to Aesthetics
RTVF 010..... The Art of Film
TA 005..... Acting
TA 010..... Theatre Appreciation

LETTERS (C2)

AMS 001A-B ..... American Civilization
CHIN 001A..... Elementary Chinese
CHIN 001B ..... Elementary Chinese
CHIN 025A..... Intermediate Chinese
CHIN 025B..... Intermediate Chinese
ENGL 001B ..... Argument and Analysis
ENGL 010 ..... Great Works of Literature
ENGL 020 ..... The Graphic Novel
ENGL 021 ..... Mystery Fiction
ENGL 022 ..... Fantasy & Science Fiction
ENGL 030 ..... Literature and the Environment

ENGL 040 ..... Contemporary World Fiction
ENGL 071 ..... Creative Writing
ENGL 078 ..... Introduction to Shakespeare's Drama
FORL 025 ..... World Cultures through Literature and Cinema
FREN 001A ..... Elementary French
FREN 001B ..... Elementary French
FREN 025A ..... Intermediate French: Reading
FREN 025B ..... Intermediate French: Writing
GERM 001A ..... Elementary German
GERM 001B ..... Elementary German
GERM 025A ..... Intermediate German
GERM 025B ..... Intermediate German
HUM 001A-1B ^ ..... World Cultures & Societies- Honors
HUM 002A-2B ^ ..... Modern World Cultures - Honors
HUM 0010 ..... Chronicles of Education
JPN 001A ..... Elementary Japanese
JPN 001B ..... Elementary Japanese
JPN 025A ..... Intermediate Japanese
JPN 025B ..... Intermediate Japanese
JWSS 018Q ..... Superheroes & Geeks
MUSC 012* ..... Medieval and Renaissance Music
PHIL 010 ..... Introduction to Philosophy
PHIL 061 ..... Moral Issues
PHIL 070A ..... Ancient Philosophy
PHIL 070B ..... Modern Philosophy
POLS 003 ..... Introduction to Political Thought
PORT 001A ..... Elementary Portuguese I
PORT 001B ..... Elementary Portuguese II
RELS 070 ..... Gods, Guns, Gurus, Grails -World Religion
RELS/HUM/JWSS/MDES 090 .... Bible Hist and Lit
SPAN 001A ..... Elementary Spanish
SPAN 001B ..... Elementary Spanish
SPAN 025A ..... Intermediate Spanish
SPAN 025B ..... Intermediate Spanish
TA 013 ..... Great Comedies for Theatre

^ = Eight GE areas, including third Area C, and all of American Institutions completed when the Humanities Honors sequence (HUM 1A/1B/2A/2B) is completed with grades of "C- or better."

***Intensive Music**

Students who have completed the Intensive Music courses, MUSC 4A, MUSC 4B and MUSC 12, with a "C or better", will be allowed to use these courses to fulfill the requirements of Area C. Students may petition to have (1) grades below C (very rarely approved), or (2) other Intensive Music courses not on the list approved as intensive music courses. See details on the petition at: http://www.sjsu.edu/gup/allForms/index.html#studentPetitions.

Social Sciences

9 units

Complete one course each in Human Behavior, Comparative Systems, and Social Issues.

Social Science courses should increase the student's understanding of human behavior and social interaction in the context of value systems, economic structures, political institutions, social groups, and natural environments

HUMAN BEHAVIOR (D1)

Human Behavior courses will enable students to be able to recognize the interaction of social institutions, culture, and environment with the behavior of individuals.

ANTH 011.....Cultural Anthropology
CHAD 075.....Imagination, Play & Adult Creativity
CMPE/CS 025.....The Digital World & Society
COMM 010.....Communication & Human Relationships
COMM 021.....Performing Culture & Society
ECON 001B.....Principles of Economics: Microeconomics
ENGR/TECH 098.....Technology & Women
ENVS 001.....Introduction to Environmental Issues
GEOG 010.....Cultural Geography
HS/GERO/RECL 015.Human Life Span
JOUR 050.....Navigating the News
LING 020.....Nature of Language
LING 024.....Language Variation in Space, Time, & Culture
MAS 030.....Race & Ethnicity in Public Space
PSYC 001.....General Psychology
SOCI 001.....Introduction to Sociology
WOMS 005Q.....Gender, Race & Sexuality in Media
WOMS 010.....Perspectives on Sex & Gender Roles

COMPARATIVE SYSTEMS (D2)

Courses in this area will enable students to compare and contrast two or more ethnic groups, cultures, regions, nations, or social systems.

AAS/AFAM/MAS 025The Changing Majority: Power & Ethnicity in America
AAS 033A-33B.....Asian Americans in the United States Historical & Political Process
AFAM 002A-2B.....African-Americans and the Development of America's History and Government
AMS 001A-1B.....American Civilization
GEOG 012.....Global Geography
HIST 010A.....Western Civilization
HIST 010B.....Western Civilization
HIST 015.....Essentials of U.S. History
HUM 001A-1B.....World Cultures & Societies- Honors
HUM 002A-2B.....Modern World Cultures - Honors
MAS 10A-10B.....Mexican Americans & the Development of U.S. History and Government
POLS 002.....Introduction to Comparative Politics
WOMS/AAS 020.....Women of Color in the US

SOCIAL ISSUES (D3)

Social Issues courses will enable students to apply multidisciplinary material to a topic relevant to policy and social action at the local, national, and/or international levels.

AAS 033A-33B.....Asian Americans in the United States Historical & Political Process
AFAM 002 A-B.....African-Americans and the Development of America's History and Government

AMS 001A-1B ..... American Civilization
HUM 001A-B..... World Cultures & Societies- Honors
HUM 002A-B..... Modern World Cultures - Honors
JS 025..... Introduction to Human Rights and Justice
MAS 010A-10B..... Mexican Americans & the Development of U.S. History and Government
MCOM 072..... Mass Communication & Society
POLS 004 ..... Introduction to International Relations
POLS 015 ..... Essentials of U.S. & California Government
SOCI 080..... Social Problems

^ = Eight GE areas, including third Area C, and all of American Institutions completed when the Humanities Honors sequence (HUM 1A/1B/2A/2B) is completed with grades of "C- or better."

Human Understanding & Development

3 units

Complete one course.

Human Understanding and Development courses will enable students to understand themselves as integrated physiological, social, and psychological entities who are able to formulate strategies for lifelong personal development. Students will also learn skills to employ available university resources to support academic and personal development.

HUMAN UNDERSTANDING & DEVELOPMENT (E)

ANTH 025..... Human Lifecourse in Context
BIOL 054..... Human Understanding
BUS3 012..... Money Matters
CA 060..... Creativity Matters
CHAD 060 ..... Child Development
CHAD 070 ..... Lifespan Development in the 21st Century
COMM 074/074Q..... Fundamentals of Intercultural Communication
EDCO 004/004FY..... Personal, Academic & Career Exploration
ENGR 010* ..... Introduction to Engineering
GEOL 005 ..... Human Development & the Natural World
HS 001 ..... Understanding Your Health
KIN 069 ..... Stress Management: A Multidisciplinary Perspective
LING 022..... Language Across the Lifespan
NUFS 009..... Introduction to Human Nutrition
PHIL 012 ..... Philosophy of the Person
PSYC 002Q..... Identity Development & Prejudice
RECL 010..... Creating a Meaningful Life
RELS/HUM/GERO 099 ..... Death, Dying & Religions
SCI 002 ..... Success in Science
SOCI/UNVS 057 ..... Community Involvement & Personal Growth
TA 048..... Voice & Movement for the Actor

*For specific department/program majors only

American Institutions Courses

6 Units

- All three requirements (US History, US Constitution, and California Government) must be completed from the following course work.
- Courses do not satisfy Core GE unless there is a GE area designator in parentheses.
- The WST is a prerequisite for HIST 170S and POLS 170V only.

Courses in American Institutions should expose students to alternative interpretations of the historical events and political processes that have shaped the social, economic, and political systems in which we live.

US HISTORY, US CONSTITUTION & CALIFORNIA GOVERNMENT (US 1-2-3)

All of these sequences satisfy Core GE requirements listed in parentheses. All courses in the sequence must be completed to satisfy the requirement.

AAS 033A-33B.....Asian Americans in the US Historical & Political Process (D2/3)
AFAM 002A-2B.....African-Americans & the Development of America's History and Government (D2/3)
AMS 001A-1B.....American Civilization (C1/2, D2/3)
HIST 015 & POLS 15..Essentials of U.S. History (D2)/Essentials of US & California Government (D3
HUM 001A-1B^.....World Cultures & Societies - Honors (A2, C1/2, D2)
HUM 002A-2B^.....Modern World Cultures - Honors (A1/3, C/3, D/3)
MAS 010A-10B.....Mexican Americans & the Development of US History and Government (D2/3)

AMERICAN HISTORY ONLY (US 1)

HIST 015.....Essentials of U.S. History (D2)
HIST 020A.....History of the American People
HIST 020B.....History of the American People
HIST 170.....Topics American History
HIST 170S.....Topics Am History: Am Identities (S)

US CONSTITUTION & CALIFORNIA GOVERNMENT ONLY (US 2-3)

POLS 001.....American Government
POLS 015.....Essentials of US & California Government (D3)
POLS 170V.....Am Politics-Global Perspective (V)

CALIFORNIA GOVERNMENT ONLY (US 3)

HIST 189A.....California to 1900
HIST 189B.....California from 1900
POLS 102.....State Government & Politics

^ = Eight GE areas, including third Area C, and all of American Institutions completed when the Humanities Honors sequence (HUM 1A/1B/2A/2B) is completed with grades of "C or better."

SJSU Studies

Students complete 9 to 12 units of SJSU studies: 9 units of upper division general education courses (Areas R, S, and V) and 0 to 3 units of 100W (Area Z). In some cases that SJSU Studies areas are integrated in a single course or overlap with major courses.

- Complete one SJSU Studies course in each category.
- Completing Area Z with a grade of "C or better" (C- not accepted) is a graduation requirement.
- Prior to enrollment, all SJSU Studies courses require completion of core GE, satisfaction of Writing Skills Test and upper division standing. Pre/Co-requisite of a 100W course is strongly recommended for enrollment in Areas R, S, and V.
- Students who fail the WST may satisfy this requirement by passing ENGL 100A or LLD 100A with a grade of "C or better."

- Students can satisfy Areas R, S, & V by taking COMM/ENVS/GEOL/HUM/METR 168A/168B: Global Climate Change or HUM 177A/177B: Advanced Honors in Integrated Science, Social Science and Humanities. These are year-long courses sequences: students enroll in 6 units in the Fall and 3 units in the Spring. By successfully completing one of these course sequences with a "C or Better" in each semester, students satisfy all nine units of upper division GE (Areas R, S, & V) within SJSU Studies.
- All first baccalaureate students are required to have a minimum aggregate GPA of 2.0 in their upper division GE courses (Areas R, S, & V). If more than one course is taken in any of the individual R, S, or V areas, then the highest grade in that individual area will be used to calculate the aggregate SJSU Studies GPA. This policy is effective Fall 2011 for all SJSU students who do not have catalog rights prior to Fall 2011.
- Second baccalaureate students who earned their first bachelor degree from a regionally accredited institution in the U.S. are not required to take SJSU Studies unless specific courses are required by the major. (Effective Fall 2011)
- Transfer students who complete any portion of upper division GE at another CSU campus may request equivalency for coursework in SJSU Studies. Contact the Office of Graduate & Undergraduate Studies for evaluation of coursework.

Areas R, S, and V.

9 units

Complete one 3-unit course from each category.

EARTH & ENVIRONMENT (R)

Courses in Earth and Environment will cultivate a student's knowledge of the scientific study of the physical universe and its life forms. Students will understand and appreciate the interrelationship of science and human beings to each other.

ANTH 160.....Reconstructing Lost Civilizations
ASTR 101.....Modern Astronomy
BIOL 101.....Origins of Life
BIOL 110.....Biodiversity & Biopolitics
BIOL 135B*.....Eukaryotic Cell and Molecular Biology II
BIOL 159.....Integrative Biology
BIOL/BOT 160*.....Ecology
CHAD 130.....Coding for Scientific Discovery
CHEM 131B*.....Biochemistry Lab
COMM/ENVS/GEOL/HUM/METR 168A/168B**....Global Climate Change
ENGR 100W*.....Engineering Reports (Z)
ENGR 108.....Green Electronics
ENVS 119.....Energy and the Environment
ENVS/PKG 152.....Globalization and the Environment
GEOL 103.....Earth Systems & the Environment
GEOL 105.....General Oceanography
GEOL 107.....Prehistoric Life
GEOL/ENVS 111.....Geology & the Environment
GEOL 112.....Hazards, Risks of Earthquakes & Volcanoes
GEOL 124.....Sedimentology and Stratigraphy
GEOL 171.....The End of the World (as you knew it)
GLST 167.....Changing Ecologies of Globalization
HS 172.....Contemporary Environmental Health Issues
HUM 177A/177B**.....Advanced Honors in Integrated Science, Social Science and Humanities
LING 123.....Sound & Communication
MICR 127.....Microbial Physiology
METR 112.....Global Climate Changes
METR/ENVS 113.....Atmospheric Pollution
METR 115.....Wildfire in the Earth System
NUFS 115.....Issues in Food Toxicology

NUFS 139 ..... Hunger & Environmental Nutrition
NUFS/KIN 163 ..... Physical Fitness & Nutrition
PHIL 160 ..... Philosophy of Science
PHYS/MUSC 166 ..... Physics of Music

*For specific department/program majors only

** Successful completion of this year-long course sequence (with a "C or Better" in each semester) satisfies Areas R, S, & V.

SELF, SOCIETY & EQUALITY IN THE U.S. (S)

In these courses, students will study the interrelationships of individuals, racial groups, and cultural groups to understand and appreciate issues of diversity, equality, and structured inequality in the U.S., its institutions, and its cultures.

AE 172A* ..... Spacecraft Design I
AE 171A* ..... Aircraft Design I
AAS 175 ..... Asian American Communities
AMS/HUM 169 ..... The American Dream
ANTH/BIOL/HS 140 ..... Human Sexuality
BME 198A* ..... Senior Design Project I
CA/ENGL/MUSC/TA 172 ..... The Arts in US Society
CHAD 102 ..... Development of Self in a Culturally Diverse Society
COMM/ENVS/GEOL/HUM/METR 168A/168B** ... Global Climate Change
COMM 174 ..... Intercultural Comm & Struct Inequality
CMPE/SE 195A* ..... Senior Design Project I
EDUC/APSC/COMM/ENGR/HA/SCI 157SL ... Community Action/Community Service
EDSE 102 ..... Speech, Language & Typical, Atypical Dev
EE 198A* ..... Senior Design Project I
ENGL 117A ..... American Literature, Film, & Culture
ENGL 169 ..... Ethnicity in American Literature
ENGR 195A* ..... Global and Social Issues in Engineering
ENGR 195C* ..... Interdisciplinary Senior Project I
ENVS 150 ..... Introduction to Environmental Thought
GEOG/SOCS/ANTH/HIST 138 United States in Historical & Social Science Perspectives
GERO/HS/SCWK 107 ..... Aging & Society
HIST 170S ..... Topics Am History: Am Identities (US 1)
HIST 188 ..... History of Women in the United States
HPRF/HS/NUFS/NURS/OCTH 135 ... Health Issues in a Multicultural Society
HUM 177A/177B** ..... Advanced Honors in Integrated Science, Social Science and Humanities
JS 132 ..... Race, Gender, Inequality & the Law
JS 136 ..... Family & Community Violence
KIN 101 ..... Sport in America
KIN/HS 169 ..... Diversity, Stress & Health
LING 129 ..... Culture, Language and Ethnicity in the U.S.
LSTP 139 ..... Education and (In)Equality
MAS 130 ..... Chicanas & Chicanos in American Society
MAS 160 ..... Gender and Sexuality in the Chicana/o Community
MATE 198A* ..... Senior Design Project
ME 195A* ..... Senior Design Project I
MUSC 120 ..... Worlds of Jazz
NURS 138 ..... Professional Role Development VI
PHIL/BUS3 186 ..... Professional & Business Ethics
POLS 120 ..... Law & Society

PSYC 191.....The Psych of Prejudice
RECL 111.....Leisure, Culture, & Identity
RELS 162.....Religion & Political Controversy in the US
RELS/HUM 191.....Religion in America
RTVF 110.....Electronic Media & Culture
SOCI 162.....Race & Ethnic Relations
URBP 101.....The City
WOMS 101.....The Study of Women

*For specific department/program majors only

** Successful completion of this year-long course (with a "C or Better" in each semester) satisfies Areas R, S, & V.

CULTURE, CIVILIZATION & GLOBAL UNDERSTANDING (V)

In these courses, students should receive an appreciation for human expression in cultures outside the U.S. and an understanding of how that expression has developed over time. Additionally, students should understand how traditions of cultures outside the U.S. have influenced American culture and society.

AE 171B*.....Aircraft Design II
AE 172B*.....Spacecraft Design II
AMS/ENVS/HUM 159.....Nature & World Cultures
ANTH/ASIA 115.....The Emerging Global Culture
ANTH 146.....Culture & Conflict
ARTH 193A.....Worlds of Art & Culture
ARTH/ASIA 193B.....East Meets West in Art
AVIA 198.....Aviation and Human Civilization
BME 198B*.....Senior Design Project II
CA/ENGL/MUSC/TA 173.....Thinking About Contemporary World Arts
CHAD 106.....Concepts of Childhood
CHIN/ASIA 140.....Chinese Culture & Politics Through Literature
COMM/ENVS/GEOL/HUM/METR 168A/168B**..Global Climate Change
COMM 179.....Media & Resistance
CMPE/SE 195B*.....Senior Design Project II
DANC 102.....Dance in World Cultures
EDSE 124.....Methodologies for Eng Learners w/out Dis
EE 198B*.....Senior Design Project II
ENGL 117B.....Global Film, Literature & Cultures
ENGL 123A.....Literature for Global Understanding-The Americas
ENGL 123B.....Literature for Global Understanding-Africa
ENGL 123C.....Literature for Global Understanding-Oceania
ENGL 123D.....Literature for Global Understanding-Asia3/25/1
ENGL/JWSS/HUM/FORL 126...Holocaust Literature
ENGR 195B*.....Global and Social Issues in Engineering
ENGR 195D*.....Interdisciplinary Senior Project II
FREN 102B.....Francophone Cultures: Through Literature & Cinema
GEOG 112.....Nations, Cultures & Territorial Disputes
GEOG/SOCS/ANTH/HIST 139....The World in Historical & Social Science Perspectives
GLST 143.....Technology, Politics, and International Development
GLST 188.....Special Topics in International Experiences
HIST 153.....History of Women in Europe
HIST 155.....20th Century World
HUM/ANTH/ASIA/RELS 114.Legacy of Asia
HUM 128.....Perspectives on the Twentieth Century: The West in a Global Context

HUM 177A/177B**.....Advanced Honors in Integrated Science, Social Science and Humanities
JS 171.....Human Rights & Justice
KIN 111.....Sport & Movement in a Global Context
KIN 111ITL.....Sport & Movement in a Global Context: International Experience
LING/ASIA 122.....English as a World Language
MATE 198B*.....Senior Design Project
ME 195B*.....Senior Design Project II
MUSC 117.....Music & Culture in Latin America
NUFS 144.....Food Culture: Consuming Passions
PHIL/ASIA/RELS 104.Asian Philosophy
PHIL 110.....Science, Technology & Human Values
PHIL 133.....Ethics in Science
PHIL 134.....Computers, Ethics, & Society
POLS 150.....War & Peace
POLS 170V.....Am Politics-Global Perspective (US 2/US 3)
RELS/ANTH 122.....Magic, Science & Religion
RELS/ANTH/MDES 145.. Middle Eastern Traditions
RTVF 111.....Alternative Cinema
SPAN 102B.....Hispanic American Culture
TA/ENGL 127.....Contemporary Theatre
TECH/CMPE/ENGR/AE/ME 198....Technology & Civilization
UNVS 109.....Climate Solutions Initiative
WOMS 102.....The Global Study of Women

*For specific department/program majors only

** Successful completion of this year-long course (with a "C or Better" in each semester) satisfies Areas R, S, & V.

Written Communication II

3 units

All students must satisfy Area Z (GWAR) by

- Earning a "C or better" in a 100W course, all of which enforce the prerequisite of a passing score on the writing Skills Test (WST) or a grade of "C or better" for ENGL 100A or LLD 100A.
- For most degree programs, students should take the 100W course that is required as part of the degree program (listed below); or
- Completing the Graduation Writing Assessment Requirement (GWAR) while matriculated at another CSU, or equivalent course work at another university prior to SJSU enrollment; or
- A waiver score on the WST satisfies Area Z without the need to complete a 100W course only in majors that permit a waiver score. Majors that do not permit a waiver (regardless of score) are listed below.
- **Effective Fall 2011:** Second baccalaureate students who earned their first bachelor degree from a regionally accredited institution in the U.S. are not required to take this course unless required by their major department.

In written communication II courses, students will develop advanced proficiency in college-level writing and appropriate contemporary research strategies and methodologies to communicate effectively to both specialized and general audiences.

WRITTEN COMMUNICATION II (Z)
AFAM 100W
ANTH 100W
ART 100W
BIOL 100W
CHAD 100W
CHEM 100W
COMM 100W

CS 100W
DSGN 100W
ECON 100W
ENGL 100W
ENGL 100WB
ENGR 100W
ENVS 100W
FORL 100W
GEOG/GLST 100W
GEOL 100W
HIST 100W
HUM/AMS/RELS 100W
HS/NURS/NUFS 100W
HSPM 100W
JS 100W
KIN 100W
LLD 100W
LLD 100WB
MATH 100W
MCOM 100W
METR 100W
MUSC 100W
PHYS 100W
POLS 100W
PSYC 100W
RECL 100W
SCWK 100W
SOCI 100W
SOCS 100W
TA 100W

MAJORS REQUIRING WRITTEN COMMUNICATION II (AREA Z)

The following majors require that students complete the Written Communication II (Area Z) course regardless of their score on the Writing Skills Test (i.e., no waiver allowed).

African American Studies
Chemistry
Communication Studies
Engineering (all majors)
English
Environmental Studies
Geography
Geology
Global Studies
History
Meteorology
Nursing
Political Science
Psychology
Social Science (Teacher Preparation and Multiple Subject Preparation)
World Languages and Literature (all majors)

Major Exceptions and Modifications for GE and SJSU Studies

Major Exceptions

Students with the following majors must consult with their major advisors regarding approved modifications of GE. Most exceptions are valid only if the student graduates with the listed degree major (noted by major). General Education Attribute Legend.

MAJOR/PROGRAM	GE AREA MODIFICATION
Animation/Illustration	Physical Education Waived
Aviation	GE Area B2 (Intensive Science with completion of major); Area D1 (with completion of AMS Sequence); Physical Education Waived
Biology, BA	GE Area R (completion of major, BIOL 115 or BIOL 118 and one of the following BIOL 160,BIOL 178, BIOL 135B, or MICR 127)
Biology, Microbiology	GE Area R (completion of major, MICR 166 and MICR 127)
Biology, Molecular biology	GE Area R (completion of major, BIOL 115 and BIOL 135B)
Biology, Systems Physiology	GE Area R (completion of major, BIOL 115 and BIOL 178)
Chemistry, BA	GE Area B2 (Intensive Science with completion of the major)
Chemistry, BS	GE Area B2 (Intensive Science with completion of the major); GE Area D1 (with completion of AMS Sequence)
Chemistry, Biochemistry	GE Area A3 met with completion of the major; Area R with CHEM 130A and CHEM 131B
Computer Science	GE Area D1 (with completion of AMS Sequence)
Dance, BA	Physical Education with completion of the major
Dance, BFA	Physical Education with completion of the major
Earth Science, BA	GE Area B2 (Intensive Science with completion of the major)
Ecology and Evolution	Area R (completion of major, BIOL 115 and BIOL 160)
Aerospace Engineering	GE Area A3 met with completion of major; Area B2(Intensive Science with completion of the major); Area D1 (with completion of AMS Sequence); Physical Education Waived; S&V met in the major (AE 171 A/B or 172 A/B plus ENGR 195 A/B)
Biomedical Engineering	GE Area A3 met with completion of major; Area B2 (Intensive Science with completion of the major); Area D1 (with completion of AMS Sequence); Physical Education Waived; S&V met in the major(BME 198 A/B plus ENGR 195 A/B)
Chemical Engineering	GE Area A3 met with completion of major; Area B2(Intensive Science with completion of the major); Area D1 (with completion of AMS Sequence); Physical Education Waived
Civil Engineering	GE Area A3 met with completion of major; Area B2 (Intensive Science with completion of the major); Area D1 (with completion of AMS Sequence); Physical Education Waived
Computer Engineering	GE Area A3 met with completion of major; Area D1 (with completion of AMS Sequence); Physical Education Waived; S&V met in the major (CMPE 195 A/B plus ENGR 195 A/B)
Electrical Engineering	GE Area A3 met with completion of major; Area B2 (Intensive Science); Area D1 (with completion of AMS Sequence); Physical Education Waived; S&V met in the major(EE 198 A/B plus ENGR 195 A/B)
General Engineering	GE Area A3 met with completion of major; Area B2(Intensive Science with completion of the major); Area D1 (with completion of AMS Sequence); Physical Education Waived; S&V met the major (ENGR 195 A/B plus ENGR 195 C/D)
Industrial and Systems Engineering	GE Area A3 met with completion of major; Area B2 (Intensive Science with completion of the major); Area D1 (with completion of AMS Sequence); Physical Education Waived;
Marine Biology	GE Area A3 met with completion of the major, Area R (completion of major, BIOL 115 and BIOL 160)
Materials Engineering	GE Area A3 met with completion of major; Area B2 (Intensive Science with completion of the major); Area D1 (with completion of AMS Sequence); Physical Education Waived; S&V met in the major (MATE 198 A/B plus ENGR 195 A/B)
Mechanical Engineering	GE Area A3 met with completion of major; Area B2(Intensive Science with completion of the major); Area D1 (with completion of AMS Sequence); Physical Education Waived; S&V met in the major (ME 195 A/B or ENGR 195 C/D plus ENGR 195 A/B)
Software Engineering	GE Area A3 met with completion of major; Area D1 (with completion of AMS Sequence); Physical Education Waived; S&V met in the major (CMPE 195 A/B plus ENGR 195 A/B)
Kinesiology, BS	BIOL 65 and BIOL 66 fulfill Area B2, Physical Education with completion of the major
Kinesiology- Preparation for Teaching, BS	Physical Education with completion of the major
Industrial Design, BS	Physical Education Waived
Industrial Technology (both Concentrations)	Area B2(Intensive Science with completion of the major); Area D1 (with completion of AMS Sequence); Physical Education Waived

Geology ..... GE Area A3 met with completion of major; Area B2 (Intensive Science with completion of the major)
Meteorology ..... Area B2(Intensive Science with completion of the major); Area D1 (with completion of AMS Sequence)
Music, Composition BM ..... Physical Education Waived
Music, Jazz Studies BM ..... Physical Education Waived
Music, Performance BM ..... Physical Education Waived
Physics, BA ..... Area B2(Intensive Science with completion of the major)
Physics- Preparation for Teaching, BA.. Area B2(Intensive Science with completion of the major)
Physics, BS ..... Area B2(Intensive Science with completion of the major)
Nursing ..... Physical Education Waived

SB1440 Programs with PE Waivers

The following SB1440 TMC Roadmaps include PE Waivers:

- Art - Concentration in Art History & Visual Culture (BA)
- Behavioral Science (BA){with AA-T in Global Studies or AA-T in Social Justice Studies}
- Biological Sciences (BA)
- Biological Sciences, Concentration in Microbiology (BS)
- Biological Sciences, Concentration in Molecular Biology (BS)
- Biological Sciences, Concentration in Systems Physiology (BS)
- Business Administration, Concentration in Business Analytics (BS)
- Business Administration, Concentration in General Business (BS)
- Business Administration, Concentration in Global Operations Management (BS)
- Business Administration, Concentration in Entrepreneurship (BS)
- Business Administration, Concentration in Finance (BS)
- Business Administration, Concentration in Human Resource Management (BS)
- Business Administration, Concentration in Management (BS)
- Chemistry (BA)
- Chemistry (BS)
- Chinese (BA) {with AA-T in Global Studies or AA-T in Social Justice Studies}
- Computer Science (BS)
- Economics (BA){with AS-T in Business Administration}
- English (BA)
- English - Concentration in Professional and Technical Writing (BA)
- English - Concentration in Creative Writing (BA)
- Forensics Science - Concentration in Biology (BS)
- Forensics Science - Concentration in Chemistry (BS)
- French (BA) {with AA-T in Global Studies or AA-T in Social Justice Studies}
- Geography (BA)
- Humanities - Concentration in Religious Studies (BA)
- Hospitality Management (BS)
- Japanese (BA) {with AA-T in Global Studies or AA-T in Social Justice Studies}
- Math (BA)
- Math - Preparation for Teaching (BA)
- Physics (BS)
- Radio-TV-Film (BA)
- Social Science- Preparation for Teaching (Multiple Subject) (BA) {with AA-T in Elementary Education}
- Spanish (BA)
- Spanish (BA) {with AA-T in Global Studies or AA-T in Social Justice Studies}
- Spanish - Preparation for Teaching (BA)

Registration

Make sure you have working access to MySJSU via One.sjsu.edu

Make sure your browser (Explorer, Firefox, Safari) will work at MySJSU.

For your convenience, computer access locations are available at these campus locations:

- Clark Hall
- King Library
- Associated Students Computer Lab, Student Union
- Lobby, Student Services Center
- Peer Connections, Student Services Center
- Campus wireless hotspots

SJSU ID

- Use your SJSUOne login information to sign into MySJSU. Your SJSU ID, also known as your Tower ID, is the number found on the front of your Tower Card.
- Your ID can not be changed.
- New students receive this information from Admissions Office communications.

Password

- You can set your password for the first time or reset it if you have forgotten it by navigating to http://my.sjsu.edu and clicking on the Set/Reset Password button.
- When setting or changing your password, pay close attention to the case in which you enter the letters.
- Remember, your password is cASe seNsiTIVE!
- If you are having difficulty resetting your password, please contact ithelpdesk@sjsu.edu for assistance. Include your full name, SJSU ID if known, your date of birth, and your mailing address.

What to do if you can't log in

- Contact ithelpdesk@sjsu.edu for assistance.

Registration - Appointments and Class Schedule

Do your research and plan your schedule

Check your enrollment appointment at http://my.sjsu.edu.

You will not be able to register before your appointment time, but you can enter the system, run MyProgress and MyPlanner, and research course offerings, degree requirements, course prerequisites, etc. You will not be able to register until you clear registration holds (see Registration Holds).

It is your responsibility to monitor your account to see when the appointment time is posted. Note that enrollment appointments are not mailed to students.

Create a registration worksheet before logging on

Build a sample schedule and have alternate schedules or classes prepared in the event courses are either closed or cancelled. SJSU offers course listings to you in 3 ways:

1. Use MyScheduler to find the schedule options that work for you, You can import your semester plan from MyPlanner to MyScheduler and you can block out times you have work other other commitments.
2. http://my.sjsu.edu class schedule search function: Real-time updates of available courses (open and closed sections, seats remaining).
3. info.sjsu.edu: Instructions, policies, procedures and course listings at one URL. Searchable, linked to SJSU Catalog degree templates.
4. info.sjsu.edu links to PDFs (Portable Document Format): Best current format if you want or need to print schedule pages.
5. http://www.sjsu.edu/advising/roadmaps/: Check out the Roadmap for your major requirements and run MyPlanner.

Registration - Course Offerings and Cancelled Classes

The courses listed in the online SJSU Schedule of Classes reflect the scheduled offerings by the departments available at the publication deadline. The online schedule of classes posted at MySJSU provides real time status of classes. Departments have the option, based on enrollment, to cancel and/or add sections or courses.

Registration - Priority Groups

Current work-in-progress is used to determine class level for registration purposes. All priority groups are approved by the Student Success Committee of the Academic Senate, per University Policy F17-4.

Group One

Priority Students

Students who are required by external agencies such as the National Collegiate Athletic Association, or by law, to receive priority. This excludes students covered by SB 412, the California Promise program unless they also fall under another group with required priority registration.

Students whose contributions to the university are recognized as being so extensive that their graduation would be postponed by the amount of time spent on their extracurricular duties.

Students serving on Senate committees that require student participation in order to perform essential functions.

Students who are part of any group that has a contractual agreement with SJSU to provide a full course load. Groups in this category include:

- Accessible Education Center (AEC) students
- AEC note takers
- Associated Students Board of Directors
- Student Fairness Committee Members
- NCAA Athletics
- Guardian Scholars
- Reciprocal Exchange students
- Veterans (as per Cal. Educ. Code %66025.8)
- Students serving on Academic Senate committees that require student participation in order to perform essential functions
- Students who are part of any group that has a contractual agreement with SJSU to provide a full course load
- Appropriately certified students with disabilities

Group Two

- Graduating seniors (bachelors-level students who have a graduation

application on file with an anticipated graduation date for the current or next semester) in the California Promise program

- Remaining graduating students (bachelors- and graduate-level students who have a graduation application on file with an anticipated graduation date for the current or next semester)

Group Three

- Non-graduating Graduate students based on alphabetical groupings

Group Four

- Seniors in the California Promise Program
- Non-graduating Seniors based on alphabetical groupings

Group Five

- Second Baccalaureate students based on alphabetical groupings

Group Six

- Juniors in the California Promise Program
- All other Juniors based on rotating alphabetical groupings

Group Seven

- Sophomore and continuing Freshmen in the California Promise Program
- All other Sophomores and continuing Freshmen based on rotating alphabetical groupings

NOTE: First-Time Frosh registration is completed through Frosh Orientation In coming transfer student have a registration date dependent on when they matriculate.

Registration - Adding a Class

Go to http://one.sjsu.edu

Enter your SJSU ID and Password

Navigate to Academics > Add a Class

- Select the correct term. If you do not see the desired term, you are not eligible to enroll. New students should contact Admissions. Continuing students should contact the Registrar's Office.

Choose the class you wish to add.

To search the schedule, click the green "Search Button." Make sure the Course Career is set to Graduate or Undergraduate depending on the class you are searching for. If you find a class you wish to add, click the "Select Class" button to place it in your shopping cart.

Alternatively, if you know the class number for the class you wish to add, you can simply type the 5 digit Class Nbr and click the Enter button.

Either way, once you have chosen a class, a new page called "Class Enrollment Options" will appear. Verify that the course is the one you selected. If required, enter any permission numbers and select any related components if applicable, and click Okay. The Add Classes page will appear, and you will see your classes in your shopping cart.

Warning: you have not yet added your classes.

Component Classes

If the course has related components attached to it (e.g., lab, seminar), the system will prompt you to select the one you wish to add.

Department or Instructor Consent

If you received a Class Permission Number, enter it in the available field. Please note that most classes will require a Class Permission Number if you are adding during Late Registration.

Switching Class Sections?

You must drop the section (lecture and labs/seminar, as well, if they have related components or corequisites) before adding the new class section(s).

Add Additional Classes

If you want to add another class to your add classes list, simply repeat the previous steps.

Warning: Finish Enrolling

Make sure you complete the process! Once you have added all your classes to your shopping cart, click the green button that says "Proceed to Step 2 of 3." On the next page you will be given the chance to review your enrollment and make sure that it is accurate. Once you have verified your classes, click the green "Finish Enrolling" button to submit your registration.

Verify Add

Check to make sure you did not receive any errors for the classes you added. If you did, you can see a message explaining why you could not add the class, for example, prerequisites not met, or the class is full. Finally, check your class schedule to make sure all the classes you added appear.

Registration - "Instructor Consent" or "Department Consent"

Should you receive a registration error indicating that "**Instructor Consent"** is required, you must go to the instructor to obtain the Permission number. To add the course, use the **Permission Number** with the Class Number for that specific course section, as listed in the course schedule.

"Department Consent" requires students to go to the department that offers the course to obtain the Permission Number. To add the course, use the Permission Number with the Class Number for that specific course section, as listed in the course schedule.

Permission numbers become 'used' only after an enrollment request is successful. To assure a successful enrollment request if you are adding using a permission number, remember the following before clicking the submit button:

Remember the following before clicking the submit button:

- Check that you have no holds.
- Check that you have met all prerequisites.
- Only enter the enrollment section in the class number section.
- Enter any and all Component Courses (e.g., corequisite labs or seminars) and determine what required course is approved even before trying to "Enroll in the Class."

To enroll if you submitted a number but received an error, **re-enter the same permission number after resolving the error**.

Registration - Adding Classes on the First Day of Instruction

At the first class meeting, Group 3: Graduating Students (bachelors and graduate level students who have a graduation application on file with an anticipated graduation date for the current or next semester) shall have top priority for any available spaces. Students seeking to add the course should provide documentation showing that they are graduating seniors as defined above.

An impartial procedure (such as a lottery or any other method of random selection) shall be used to choose, from among the graduating seniors, those who will fill the available spaces.

- University Policy S93-7

Registration - Adding Classes after the Last Day to Add

Per University Policy F09-2, students can submit the **Pre-census Late Enrollment** petition form to the Registrar's office. This petition is valid through census date.

Likewise, after census date, students can petition for late add using the **Post-Census Late Enrollment** form. This form replaces the Retroactive add petition form. Petition forms can be found on the Registrar's website at www.sjsu.edu/registrar/forms/.

Registration - Late Fee Assessed

Students registering for classes after the term begins are assessed a late registration fee. Students in the Step to College programs are not required to pay the late registration fee.

Amount | Description

$25.00 ..... Begins the first day of instruction for initial enrollment within the term.
$45.00 ..... Begins after late registration deadline and before census for any classes added.
$200.00 ..... Begins after census for any classes added (includes Retroactive Adds - which begins the first day after instructions ends).

Waitlisting - Registration

SJSU has "waitlisting" for all classes. Waitlisting puts you in line to get a space in a closed class, should a space become available before the end of advanced registration.

Where do I sign up?

Waitlisting is only available at MySJSU (http://one.sjsu.edu). If a class is full, you may place yourself on a waitlist for any seats that might become available.

Waitlist When You Add Classes

- Navigate to 'add classes.'
- At "Step 1, Select classes to add," search for your preferred course.
- If the class is full and the waitlist option is available, you will see the yellow waitlist icon.
- To place yourself on the waitlist, you must click the checkbox next to "Wait list if class is full."
- You will be returned to Step 1. You must complete the remaining steps of the process to add classes.
- When you finish enrolling in the class, you will see a message indicating that you are on the waitlist and your current position number on the list.
- Monitor your waitlist position by navigating to "My Class Schedule" at MySJSU.

Feedback

Problems? Questions? Comments? Contact Registrar@sjsu.edu

Waitlist - Validity

You can add yourself to the waitlist for a class from the time the class is full until the end of Advance Registration period.

- Waitlists become null and void after this date.
- There is no guarantee you will be moved off the waitlist and enrolled in the class.
- The waitlist cannot enroll you for a different section of the same class and cannot override a time conflict.
- When classes begin, instructors are not required to add students who were waitlisted for the class.
- Check your schedule regularly at MySJSU to monitor your position on a waitlist.

If you decide you no longer wish to wait for space to become available, as a courtesy to other students, drop yourself from the waitlist.

Waitlist - Registration Procedures

- All scheduled class sections have waitlists.
- You may place yourself on the waitlist provided the list is not already full.
- If you are already enrolled in another section of the same course, you will not be moved from the waitlist if space becomes available unless you drop the section you are enrolled in.
- If there is a time conflict with a class for which you are already enrolled, you will not be moved from the waitlist.
- You must meet any requisites for the class before you can be placed on the waitlist, e.g., course pre-requisites, section co-requisites, major and class level restrictions. See related catalog/course descriptions at MySJSU.
- When you place yourself on a waitlist, you hold a position that changes as students ahead of you get added to the class or drop off the waitlist.
- You may not go over your enrollment limit. For example, if moving into a course from a waitlist exceeds your enrollment limit, you will not be enrolled in the class.
- Waitlists have priority over all general add requests. If students drop from a full class, students from the waitlist will be placed in the class before any student who logs in and requests the class, but is not on the class waitlist.
- If you are moved from the waitlist into the class, you will receive a confirmation message in your MySJSU account.
- As with any class, when you move from the waitlist into a class, it is your responsibility to drop the class if you decide not to attend. Failure to properly drop the class will result in a "WU" grade on your record which will lower your grade point average.
- It is your responsibility to monitor your movement up the waitlist, your enrollment limit, potential time conflicts and any additional fees due.

For Variable Waitlist Unit Limit process visit

http://www.sjsu.edu/registrar/students/registration/Variable_Waitlist_Unit_Limit/index.html

How do I move from the waitlist into the class?

Students are moved from the waitlist into the class if space becomes available, in the order they have been placed on the waitlist and subject to the restrictions described.

Students will be moved from the waitlist and placed into the class if other students drop or are dropped due to non-payment of fees.

Waitlist - Registration Issues

- There is a time conflict with another registered class: compare the exact time of the classes for which you have registered--even a 15 minute overlap will prevent you from moving from the waitlist into the class. Since potential time conflicts are not checked when you place yourself on a waitlist, it is your responsibility to make sure that waitlisted classes do not conflict with your enrolled schedule.
- You are already enrolled in another section of the same course: you will not be moved from the waitlist if space becomes available unless you drop the section you are enrolled in.
- If you are repeating the course: you will not be moved into the class. Instructors will have the discretion to allow you to register for the class with a permission number during Late Registration--the first day of instruction through the last day to add.
- For a course with components: you can waitlist in any section, but you must select all desired sections (lecture, lab and seminar). Space must open in all sections for you to be added to the class.
- You will not be enrolled from the waitlist if a hold is placed on your record after you sign on to the waitlist. If--for any of the reasons given above--you cannot be moved from the waitlist, you will be skipped over and the next student considered. You will not be reconsidered until the next time space becomes available in the class.

Waitlist - Registration Billing

- You may be added into waitlisted classes at any time which might incur additional charges. It is important to check your class schedule and amount due daily to avoid possible cancellation of **all** your classes for failure to pay your fees in full by your payment due date.

Registration - Class Notes

NOTE NUMBER	DESCRIPTION
01	CA - Students must register for one section of each activity listed.
02	CB - Students must register in an entire block of courses. Contact department office.
04	CD - Compressed session.
06	FB - Additional fees and/or materials required. Contact department office.
07	IA - For more information contact College of Professional and Global Education at 408-924-2670.
09	IC - See course description for requirements.
10	ID - See department for advisement, prerequisites, and/or course requirements.
11	IE - Consult degree for major requirements.
12	IF - Contact department for dates, times or place of class meeting.
13	IG - Students must also register in a lab section.
14	IH - Meets pre-professional experience requirement for teacher education programs.
15	II - See comment section which appears under the department name.
16	IJ - Contact instructor for meeting dates.
17	IK - Additional hours required.
18	IL - Does not meet full semester.
19	IM - Required field trips (may include weekends).
20	LA - Class meets at off-campus location, students must arrange own transportation.
32	LN - Class meets at off-campus location.
34	PA - Prereq - Sophomore, junior or senior standing.
35	PB - Prereq - Upper division standing.
36	PC - Prereq - Graduate student status.
37	PD - Prereq - Senior standing.
38	PE - Prereq - Graduating senior status. Must show proof of application for graduation.
40	PG - Prereq - Placement test. See Testing Section in SJSU Catalog and Class Schedule Policies.
42	PI - Prereq - Calculus Placement Exam. Calculus Placement Exam. See Testing Section in SJSU Catalog and Class Schedule Policies.
46	PN - Prereq - ENGL 001 A.
47	PO - Prereq - ENGL 001A and 001B.
48	PP - Prereq - Written Communication II (100W) or equivalent.
52	PU - At first class meeting students must furnish proof of completion of prerequisites.
53	PV - Prerequisite courses required. See course description.
54	PW - Prerequisites, skills or materials are required. Consult the course description or contact department office.
57	PZ - Prereq - Passage of WST, Upper Division standing and completion of CORE GE. Consult Catalog and Class Schedule Policies. If you met requirements at another institution. provide transcript to Student Services Center.
58	P1 - Prereq - 100W.
59	RA - Requires consent of instructor.
60	RB - Requires Consent of graduate or undergraduate advisor.
61	RC - Requires department release of permission number.
62	RD - Requires department approval.
63	RE - Requires negotiated agreements or contracts. Consult department.
64	RF - Restricted class level. Consult department before enrolling.
66	RH - Honors course. Requires department approval.
67	RI - Not open to students majoring in this discipline.
68	RJ - Restricted to certain majors. Others permitted during add/drop on space available basis.
69	RK - Restricted to certain majors. Contact department office for information.
70	RL - Open to non majors.
71	RM - Disabled students only.
73	RO - Not available to Open University students.
74	RP - Prerequisites must be completed with grades of "B" or better.
75	RQ - Prerequisites must be completed with grades of "C" or better.
77	RS - Restricted to majors in this department. Contact department for more information.
96	IN - Multiple GE areas are met by completion of this course; See General Education section in SJSU Catalog and Class Schedule Policies.
106	Per CSU, ten seats have been reserved for the Course Match program. Any unused reserved seats will be released before the semester begins.
107	Safety Equipment - Students must bring safety goggles and hearing protection to every class.
108	Certification Required - Requires completion of Flight Certification; See Advisor.
109	Online Only-TBA Mtg Pat- Class is offered Completely Online with NO designated day/time meeting Pattern (TBA). This course may utilize the Learning Management System
110	Online Only- W/Mtg Pattern- Class is offered Online with designated day/time meeting pattern, but no location. This course may utilize the Learning Management System (LMS), Canvas. Please check with your instructor. General information about the LMS can be found at the eCampus website - http://www.sjsu.edu/at/ec
111	Class is offered with No designated day/time meeting pattern (TBA) with occasional on-campus meetings. This course may utilize the Learning Management System (LMS), Canvas. Please check with your instructor. General information about the LMS can be found at the eCampus website - http://www.sjsu.edu/at/ec
112	Online-Mtg Pat w/Few Cmps Mtg- Class is offered Online with designated day/time meeting pattern, no location and with occasional on-campus meetings. This course may utilize the Learning Management System (LMS), Canvas. Please check with your instructor. General information about the LMS can be found at the eCampus website - http://www.sjsu.edu/at/ec
113	2Pat-Mtg Pat &TBA-See Classnotes- Class is offered with 2 Meeting Patterns: One meeting pattern is in person with a designated day/time and location. The other meeting pattern has NO designated day/time or location (TBA). This course may utilize the Learning Management System (LMS), Canvas. Please check with your instructor. General information about the LMS can be found at the eCampus website - http://www.sjsu.edu/at/ec
114	2Pat-Mtg & OLPat-see Classnotes- Class is offered with 2 meetings patterns: One meeting pattern is in person with designated day/time and location. The other meeting pattern has a designated day/time, no location. This course may utilize the Learning Management System (LMS), Canvas. Please check with your instructor. General information about the LMS can be found at the eCampus website - http://www.sjsu.edu/at/ec
116	Online Only-2Pat-See Classnotes- Class is offered Completely Online with 2 meeting patterns: One meeting pattern has NO designated day/time (TBA) and the other meeting pattern has a designated day/time, no location. This course may utilize the Learning Management System (LMS), Canvas. Please check with your instructor. General information about the LMS can be found at the eCampus website - http://www.sjsu.edu/at/ec
117	Online-2Pat-See Classnotes- Class is offered Online with 2 meeting patterns: One meeting pattern has designated day/time and the other meeting pattern has no designated day/time (TBA). Both meeting patterns have occasional on-campus meetings. This course may utilize the Learning Management System (LMS), Canvas. Please check with your instructor. General information about the LMS can be found at the eCampus website - http://www.sjsu.edu/at/ec

Registration - Dropping a Class

Go to MySJSU

- Enter your SJSU ID and Password
- If you drop a class, you must do so prior to the time you submit payment to ensure that your registration fees are properly assessed.

Navigate to "Self Service" > Student center > Drop a class"

- Click on "Drop Classes"
- Click the checkbox next to each class you wish to drop and click "Drop Selected Classes."
- Review your selection and click "Finish Dropping."
- It is the student's responsibility to make sure classes are dropped.

Registration - Dropping Without Penalty

Courses may be added during the first fourteen days of classes. Courses may be dropped without academic penalty during the first nine days of classes. See the Calendar section or www.sjsu.edu/registrar for exact dates and deadlines. Courses dropped during this initial period will not appear on the student's transcript. With instructor consent, students may late add a class up to one week later. Please view the pro-rata refund schedule for the appropriate semester at http://www.sjsu.edu/bursar/payment_refunds/prorata_refund/index.html

Registration - Dropping Classes After Drop Deadline

Dropping Classes After the Fourteenth Day of Instruction

Students may petition to late or retroactively drop a course or withdraw from an entire semester of courses for serious and compelling reasons after the drop deadline. Check the official academic calendar to verify the date.

Conditions and circumstances are defined as "serious and compelling" only if beyond the student's control. Those acceptable as justifications for a late drop must have occurred after the drop deadline. A personal statement with supporting documentation must be submitted with the late and retroactive drop and withdrawal forms.

Undergraduates may download the appropriate petition (course drop or withdrawal from all courses) at www.sjsu.edu/aars/forms. Graduate students may download the appropriate petition at www.sjsu.edu/gape/forms.

Submission of these forms, even with an instructor's signature, does not constitute approval. Continue attending class and complete all assignments until the petition is approved or denied.

Registration - Instructor Drops

Instructors are permitted to drop a student who fails to establish a committed presence in the class. "Establishing a committed presence" is defined as the following options for the student:

1. In-person classes. Attending the first class meeting or informing the instructor of the intention to continue in the class before 48 hours after the first official class meeting.
2. Online classes. Logging on to the LMS class shell on the first scheduled day of the class or informing the instructor of the intention to continue in the class before 48 hours after the official class start date.

Some instructors will drop students who do not meet the stated course prerequisites. However, they are not required to do so. **It is the student's responsibility to make sure classes are dropped.**

Detailed information for instructors is available for download at www.sjsu.edu/registrar/docs/instructor_Drops_Procedure.pdf

Registration - Late Drop Petitions

Students may petition to Late Drop for serious and compelling reasons after the drop deadline. To verify the official dates, see www.sjsu.edu for links to the official academic calendar. Petitions are available at www.sjsu.edu/aars/forms for undergraduates and www.sjsu.edu/gape/forms for graduate students.

Conditions and circumstances are defined as 'serious and compelling' and are considered beyond the student's control, and which occurred after the drop deadline.

A personal statement submitted without supporting documentation is not acceptable. Acceptable documentation includes:

Personal health or serious family illness
Serious health reasons out of your control (e.g. personal health, serious family illness or assigned caretaker). Attach Healthcare Provider Form found at http://sjsu.edu/aars/forms.

Military (orders from CO)
Submit military assignment papers.

Divorce
Divorce papers or certification of pending divorce.

Natural Disaster: (e.g. fire, earthquake)
Submit verifiable documentation.

Employment
Letter from employer, on letterhead indicating reason(s) for work schedule circumstances conflicting with the class requested to drop and date of change in schedule.

Personal/Other (rarely approved)
Submit verifiable and appropriate documentation **other than** student's statement.

Administrative Error
University documentation from appropriate departments. Students must understand that their personal letter alone will not suffice as verifiable documentation.

Late drops are to be submitted to the counter of Academic Advising and Retention Services in the Student Services Center.

Neither an instructor's signature nor submission of a Late Drop petition constitutes approval. Continue attending class and complete all assignments until you are notified via MySJSU message that the petition has been approved or denied.

Academic Renewal

Graduating seniors with a grade point average (GPA) below 2.0 in the major, minor, SJSU, or overall college coursework, may request that all grades earned in a previous semester (or two semesters) be disregarded, to permit graduation. If the petition is approved, all grades and units earned during the semester will be disregarded when calculating GPAs for graduation, but the courses and grades will still appear on the transcript.

ALL OF THE FOLLOWING CONDITIONS MUST BE MET:

- You must have applied for graduation and be ready to graduate.
- You must have a GPA below 2.0 in a category required for graduation (major, minor, overall, SJSU)
- At least 5 years must have elapsed since the semester you want to disregard.
- You must have at least a 3.0 GPA in your most recent 15 units at SJSU, or 2.5 in the past 30 units, or 2.0 in the past 45 units.
- No courses or units earned during the semester you want to disregard may be counted toward graduation.
- You must document extenuating circumstances associated with the semester you want disregarded and show that your performance is not representative of your ability.

Apply for Academic Renewal (formerly known as 'Disregard of Previous Semester's Work') at www.sjsu.edu/gup/allForms.

Cancellation of Registration or Withdrawal From the Institution

Students who find it necessary to cancel their registration or to withdraw from all classes after enrolling for any academic term **are required** to follow the university's official withdrawal procedures. Failure to follow formal university procedures may result in an obligation to pay fees as well as the assignment of failing grades in all courses and the need to apply for readmission before being permitted to enroll in another academic term. Information on canceling registration and withdrawal procedures is available from Academic Advising and Retention Services (AARS) at 408-924-2129.

Students who receive financial aid funds **must consult** with the Financial Aid office prior to withdrawing from the university regarding any required return or repayment of grant or loan assistance received for that academic term or payment period. Students who have received financial aid and withdraw from the institution during the academic term or payment period may need to return or repay some or all of the funds received, which may result in a debt owed to the institution.

Please contact the Office of the Registrar at 408-924-5680 for more information

Registration - Restrictions

Graduate students

Cannot enroll in lower division classes during Advance Registration. Lower division classes will need to be starting on the first day of instruction for the term.

Matriculated SJSU students cannot concurrently enroll in Open University.

Matriculated students are those who have been admitted to SJSU as regular students for the current semester or were registered as matriculated students in at least one of the two previous semesters and did not graduate. This policy does not apply to disqualified students.

Students returning after an absence:

After an absence of more than one semester (without a formal leave of absence), students must reapply for admission before access to registration is granted.

Maximum Unit Load:

Each student is provided a specific priority registration begin date and time (based on university policy). Please check the Office of the Registrar website for more information.

Repeating a Class - Registration Restriction

Any matriculated student who is repeating a course for the first time shall be allowed to register for the course during the Advance Registration period no earlier than approximately three weeks prior to the start of the semester. Students who have received a grade of "W" will be treated as a first-time registrant for a course. Students who are repeating a class for two or more times shall submit a completed petition to the Registrar's Office (the petition form is available through the Registrar's Office).

Returning After an Absence - Registration Restriction

If you are in good standing and you were not disenrolled for non-payment of fees and you choose not to enroll or "stop out" for one semester, there is no need to reapply for admission. However, in order to maintain your matriculation at SJSU, you must enroll in classes the semester immediately following the one semester you stopped out. Some examples:

- You attended a spring term, earned grades and you are still in good standing. You do not enroll in the fall term, but return to take classes in the following spring. You do not need to reapply for admission.

When you must reapply for admission

- You attended a fall term, earned grades and are in good standing. You do not enroll in the next spring or fall terms. You must reapply for admission.
- If you take a full year off from school--you must reapply for admission. Consider alternatives: read the "leave of absence" section of the catalog.
- You do not enroll in classes in your initial admission term and wish to attend a subsequent term. You must reapply for admission.

How to reapply for admission

Complete the online application at http://www.calstate.edu/apply.

If you intend to stop out for one semester but decide to extend your absence, you may not request a leave of absence.

If you return to SJSU after an absence of more than one semester you must reapply for admission before access to registration is granted. Note that a summer term is not included in this policy.

First Year Course Placement - English and Mathematics/Quantitative Reasoning Supported Instruction

- Students required to participate in Supported Instruction in Math and/or English may be restricted from enrolling in certain classes for which they do not meet prerequisites. Go to www.sjsu.edu/supportedinstruction for more details.
- Students required to participate in Supported Instruction in Math and/or English are required to enroll in an appropriate Math and/or English class during their first year and each successive term until those classes are completed with a grade of at least C-.
- All entering SJSU frosh assigned to enrollment category E-II or E-III must enroll in their A2 course(s) during their first academic year. All entering SJSU frosh assigned to enrollment category M-II or M-III must enroll in their B4 course(s) during their first academic year (Spring admits choosing either Stretch English or Statway, both of which start only in Fall semesters, may extend their enrollment start date to their first Fall semester.
- Entering SJSU frosh assigned to enrollment category E-IV must enroll in their appropriate A2 course(s) in Fall of their first academic year. Entering SJSU frosh assigned to enrollment category M-IV must enroll in their appropriate B4 course(s) in Fall of their first academic year. (Spring admits choosing either Stretch English or Statway, both of which start only in Fall semesters, may extend their enrollment start date to their first Fall semester.)
- Students required to participate in Supported Instruction in Math and/or English who do not enroll or who drop out of the appropriate class(es) during any registration period for fall or spring terms without consultation with the specified advisor in Academic Advising and Retention Services may be subject to having all courses dropped. If this occurs, students must re-register for courses with no guarantee that classes in which they were previously enrolled will be available.

Writing Skills Test (WST) - Registration Restriction

- Are you planning on taking an SJSU Studies General Education course?
- Are you planning on taking a 100W course outside of your major?

You must satisfy the WST requirement in order to register for any SJSU Studies (Area R, S, V, and Z) course. This is true even if you want to take the class for a major requirement, instead of GE. If you have not yet taken the WST, plan to take it as soon as possible. Check the General Education Section in this schedule for an explanation.

SJSU offers courses (LLD 100A and ENGL 100A) that satisfy the WST requirement, if completed with a grade of "C" or better.

There are designated 100W classes for most degree programs. Clear any substitutions with your major advisor before attempting to register for a 100W class that is included in your major's required courses.

Immunization Requirements - California State University

Entering CSU students are required to present proof of the following immunizations to the CSU campus they will be attending before the beginning of their first term of enrollment.

Measles and Rubella: All new and readmitted students must provide proof of full immunization against measles and rubella prior to enrollment. Students enrolled in a California public high school for the seventh grade or higher on or after July 1, 1999 may have satisfied this requirement.

Hepatitis B: All new students who will be 18 years of age or younger at the start of their first term at a CSU campus must provide proof of full immunization against Hepatitis B before enrolling.

Conditions of Enrollment: Providing proof of the indicated immunizations (or immunity) is a condition of enrollment in the CSU. Students need to obtain immunizations (or proof of immunity) and upload their documentation online BEFORE their first term on campus.

For Further Details: Visit http://www.sjsu.edu/registrar/students/immunization

Immigration Requirements for Licensure

The Personal Responsibility and Work Opportunity Reconciliation Act of 1996 (P.L. 104-193), also known as the Welfare Reform Act, includes provisions to eliminate eligibility for federal and state public benefits for certain categories of lawful immigrants as well as benefits for all illegal immigrants.

Students who will require a professional or commercial license provided by a local, state, or federal government agency in order to engage in an occupation for which the CSU may be training them must meet the immigration requirements of the Personal Responsibility and Work Opportunity Reconciliation Act to achieve licensure. Information concerning the regulation these requirements are available from the Registrar's Office, Student Services Center.

Registration Holds

Students should periodically check for holds at MySJSU. Follow the instructions on how to clear them.

Holds on student accounts and records will prevent students from registering Students should periodically check for holds at MySJSU. Follow the instructions on how to clear them. **Monetary holds of $50.00** or more will block you from registration, obtaining official transcripts, diplomas and other miscellaneous services

College of Engineering Advising

All College of Engineering undergraduates must see an advisor every semester, prior to registration. Graduate Engineering students (except Civil and Environmental Engineering, Computer Engineering, General Engineering, and Industrial Systems Engineering) must also see a major advisor prior to enrolling every semester.

College of Science Advising

All undergraduate College of Science majors and graduate students in Chemistry, Computer Science and Physics must see a major advisor prior to registering every semester.

AARS Advising Hold

All Undeclared and Undeclared-PreNursing students are required to see an advisor in Academic Advising and Retention Services (AARS) prior to registering every semester.

ELM/EPT

Students might also see ELM (Entry Level Math) and EPT (English Placement Test) "service indicators" that indicate the need to enroll in remedial math or English. These do not prevent registration.

Financial Holds

- Do you have a balance due on your student account?

If so, you will not be able to register until the debt has been paid. Be aware - balances can fluctuate on your student account depending on activity. Clear up any balance as soon as possible by paying your outstanding balance using the Pay Now option at MySJSU after the log-in under Self Service. Remember, payments are applied to the oldest balance first. Keep your account current by paying all charges by the assigned due date.

Online Title IX Training Hold

All incoming students (undergraduate and graduate) are required to complete online title IX training course addressing sexual assault prevention. A hold (HW1) will be placed if course is not completed. Questions? Email titleixeducation@sjsu.edu

AlcoholEdu Hold

All incoming undergraduates are required to complete AlcoholEdu, an online training course addressing alcohol abuse prevention. A hold (HW2) will be placed if the course is not completed. Questions? Email titleixeducation@sjsu.edu

Hepatitis B Immunization Series

- Are you a first time SJSU student?
- Will you be 18 years or younger on the first day of instruction?

If the answer to both of these questions is yes, you may be required to submit proof of full immunization or immunity against Hepatitis B.

For further details please visit: http://www.sjsu.edu/registrar/students/Immunization

International student Health Insurance

Proof of health insurance is required prior to registration each semester. For questions about this hold, please call International Student and Scholar Services (ISSS) (408) 924-5920.

Measles and Rubella

- Are you a new or readmitted SJSU student?
- Were you born on or after January 1, 1957?

If the answer to both of these questions is yes, you may be required to submit proof of full immunization or immunity against Measles and Rubella. For further details please visit: http://www.sjsu.edu/registrar/students/Immunization

Missing Document Holds

If you owe documents or transcripts to the Undergraduate Admissions office, please submit by the deadline posted in your MySJSU account. You must submit final, official transcripts or official documents as instructed in your MySJSU "to do" items before you are allowed to register.

Probation Holds

- Is your SJSU cumulative grade point average below 2.00 for undergraduates (3.00 for graduate students)?
- Are you on a reinstated status on probation?

For undergraduates, if the answer is yes, you must see your major advisor or an Academic Advising and Retention Services advisor before you can register. This will happen each term until you are no longer on probation.

Graduation Registration Restriction

Students who have not taken the WST by the time they earn 75 units (counting no more than 70 transfer units) may have their registration held after being notified of the need to test. Students with 120 or more units who have not applied for graduation will not be allowed to register until they have submitted that application. Students with 150 or more units may be required to meet with an advisor in Academic Advising and Retention Services before registration and may have their registration for remaining requirements managed. Students who have changed their graduation date multiple times or who are otherwise in potential violation of Presidential Directive 2009-05 may be required to meet with an AARS advisor.

Records Holds

SJSU has the authority to withhold permission to register, receive services, materials, food or merchandise, or any combination of these, from any person owing a debt to the university. A debt is defined as an unpaid obligation of a student or former student, however incurred, arising while the debtor was a student. For students who have been recipients of Federal Perkins Loan funds, SJSU has the authority to withhold certain services for failure to complete a Perkins Exit Interview upon departure from SJSU.

A Record Hold is a method of implementing these restrictions or for a past due amount of the Federal Perkins Loan.

A automatic financial hold will be placed against the student's records whenever a student has a past due balance with the University.

Services that may be held include, but are not limited to:

- Registration
- Grades
- Diploma
- Transcripts

When all due debts are cleared, the financial hold will be removed.

Alternative Enrollment Programs

e-Learning

San José State University delivers distance education courses via Web-based learning management systems and resources. These courses are offered by individual departments in regular and special sessions.

Intrasystem and Intersystem Enrollment Programs

Students enrolled at any CSU campus will have access to courses at other CSU campuses on a space available basis unless those campuses/programs are impacted or desired programs/admission categories. This access is offered without students being required to be admitted formally to the host campus and sometimes without paying additional fees. Although courses taken on any CSU campus will transfer to the student's home CSU campus as elective credit, students should consult their home campus academic advisors to determine how such courses may apply to their specific degree programs before enrolling at the host campus.

There are a few programs for enrollment within the CSU and one for enrollment between CSU and the University of California or California Community Colleges. Additional information about these programs is available from the Registrar's Office. Forms are available online at www.sjsu.edu/registrar/forms.

CSU Concurrent Enrollment

Matriculated students in good standing may enroll on a space available basis at both their home CSU campus and a host CSU campus during the same term. Credit earned at the host campus is reported at the student's request to the home campus to be included on the student's transcript at the home campus. Many online courses at CSU campus are available for concurrent enrollment.

CSU Fully Online Courses

Matriculated students in good standing may request enrollment in one course per term, offered by a CSU host campus. Enrollment requests will be granted based on available space, as well as completion of any stated pre-requisites. Credit earned at the host campus is electronically reported to the student's home campus to be included on the student's transcript at the home campus.

CSU Visitor Enrollment

Matriculated students in good standing enrolled at one CSU campus may enroll on a space available basis at another CSU campus for one term. Credit earned at the host campus is reported at the student's request to the home campus to be included on the student's transcript at the home campus.

Intersystem Cross Enrollment

Matriculated CSU, UC, or community college undergraduate students may enroll on a space available basis for one course per term at another CSU, UC, or community college and request that a transcript of record be sent to the home campus. This program is not available to graduate students.

Step-to-College/Unitrack

SJSU sponsors a low-cost concurrent enrollment program for area high school students through the Step-to-College program. Students must have permission from their school principal and meet all SJSU course prerequisites, including placement exams. Applications and more information are available at the Registrar's Office.

Office of the Registrar
Student Services Center
408-924-2076
registrar@sjsu.edu

Open University

Open University is not available to matriculated students.

Open University allows students to earn degree units from SJSU or to take noncredit or Continuing Education Unit programs.

- Fall schedule available online in July.
- Spring schedule available online in December.

College of Professional and Global Education (PGE)
(Formerly College of International and Extended Studies)
Student Union
408-924-2670
www.sjsu.edu/openuniversity
cpge@sjsu.edu

Summer Session

Summer Session offers both matriculated and non-matriculated students the opportunity to enroll in summer classes at San José State University. The program offers hundreds of courses to choose from across three sessions. Schedule policy, procedures and course information are available in April.

College of Professional and Global Education (PGE)
(Formerly College of International and Extended Studies)
Student Union
408-924-2670
www.sjsu.edu/summer
cpge@sjsu.edu

Winter Session

Winter Session offers both matriculated and non-matriculated students the opportunity to earn three units in three weeks during SJSU's winter intersession. The program allows students to complete graduation requirements, enroll in highly sought after classes, and advance towards their degree.

College of Professional and Global Education (PGE)
(Formerly College of International and Extended Studies
Student Union
408-924-2670
www.sjsu.edu/winter
cpge@sjsu.edu

Professional Degree Programs offered through Special Session

Professional Degree programs offered through Special Session, offer unique opportunities to both traditional students and working professionals to earn graduate degrees and certificates on an alternate/flexible schedule, often online and/or off campus.

College of Professional and Global Education (PGE)
(Formerly College of International and Extended Studies)
Student Union
408-924-2670
www.sjsu.edu/pdp
cpge@sjsu.edu

Registration Fees, Payments and Refunds

CAUTION!

- **Fees are subject to change without notice.**
- You are responsible for keeping your MySJSU (one.sjsu.edu) account current.
- If a check or e-check is dishonored by the bank for any reason, including keying errors for e-checks, your registration is subject to cancellation.
- Any delinquent outstanding charges owed to the university will be submitted to the Franchise Tax Board for tax refund offset.

All payments apply to the oldest balance on your account. For example, if you are making a registration payment and you have a housing balance with an earlier due date, the payment will apply to the housing charges first. Keep your account current to avoid the possibility of enrollment cancellation.

When you register, your MySJSU will show the balance due and due date. Fees are payable by the due date(s) and must be posted to your account before or on the due date to avoid enrollment cancellation. Please see acceptable methods of payment and payment plan options on the Bursar's Office website at www.sjsu.edu/bursar/

Failure to pay fees by the due date will result in enrollment cancellation and all classes will be dropped. Note: Classes are not automatically dropped after census. Students wishing to partially drop or withdraw from all classes must do so by following the university policies and procedures.

General Information, Refunds
Bursar's Office
Student Services Center
408-924-1601
www.sjsu.edu/bursar

Residence Status
Enrollment Services
Student Services Center
408-283-7500

Financial Aid Awards
Financial Aid and Scholarship Office
Student Services Center
408-283-7500

Registration Fees

Schedule of Tuition Fees

Mandatory tuition fee pays the cost of student services such as counseling, testing, student activities, health services and student financial aid administration. In addition, these fees cover some supplies and service costs of instruction and instructional resources.

The CSU makes every effort to keep student costs to a minimum. Tuition and fees listed in published schedules or student accounts may need to be increased when public funding is inadequate. Therefore, CSU reserves the right, even after tuition or fees are initially charged or initial payments are made, to increase or modify any listed tuition fees. All listed fees, other than mandatory systemwide tuition, are subject to change without notice, until the date when instruction for a particular semester or quarter has begun. All CSU listed tuition and fees should be regarded as **estimates** that are subject to change upon approval by the Board of Trustees, the Chancellor, or the Presidents, as appropriate. Changes in mandatory systemwide tuition will be made in accordance with the requirements of the Working Families Student Fee Transparency and Accountability Act (Sections 66028 - 66028.6 of the Education Code).

The following reflects applicable systemwide tuition and fees for semester campuses that were authorized by the Board of Trustees at the March 2017 meeting. **These rates are subject to change.**

BASIC TUITION

Undergraduate	1.0 - 6.0 units	$1,665.00
Undergraduate	6.1 - or more units	$2,871.00
Teacher Credential	1.0 - 6.0 units	$1,932.00
Teacher Credential	6.1 or more units	$3,330.00
Postbac/Graduate	1.0 - 6.0 units	$2,082.00
Postbac/Graduate	6.1 - or more units	$3,588.00
Doctorate- Audiology	per semester	$7,317.00
Doctorate- Education	per semester	$5,919.00
Doctorate- Nursing Practice	per semester	$7,635.00

MANDATORY CAMPUS FEES

Students are charged campus fees in addition to tuition fees and other systemwide fees.

Student Association	$98.00
Student Union	$ 381.00
Heath Center Operations	$ 190.00
Health Center Facility Fee	$ 35.00
Document Fee	$ 16.50
SSETF - IRA	$ 167.00
SSETF - Course	$ 34.00
SSETF - Student Success	$ 133.50
Subtotal (Campus Fees)	$ 1,055.00

ESTIMATED TOTALS - CALIFORNIA RESIDENTS

Undergraduate	1.0 - 6.0 units	$2,720.00
Undergraduate	6.1 - or more units	$3,836.00
Teacher Credential	6 units or fewer	$2,987.00
Teacher Credential	6.1 units or more	$4,385.00
Postbac/Graduate	1.0 - 6.0 units	$3,137.50
Postbac/Graduate	6.1 - or more units	$4,643.00
Doctorate (Education)	1.0 or more	$ 6,974.00

Note: These fees do not include the $2.00 optional Student Involvement and Representation Fee (SIRF).

Fees and dates subject to change without notice

Billing

SJSU does not issue bills. To see the amount of fees owed in MySJSU (one.sjsu.edu), after you register for classes, go to: Student Center> Scroll down to Finances> Account Inquiry (link) > Charges Due (tab). Due dates are posted within 24 hours after class registration. **It is the student's responsibility to make payments by the stated deadline - failure to pay fees by the due date or making a partial payment will result in all classes being dropped.** Note: SJSU does not automatically drop classes after census. If you are on a waitlist, please check your account daily since enrollment in waitlisted classes may result in additional fees owed.

Changing your unit load from 6.0 units to 6.1 or more, will result in additional fees being charged. Check your MySJSU account for your payment due date.

Fees for Non-Residents/International Students

Non-Residents of California and international students must pay all tuition listed above, plus mandatory non-resident fee of $396.00 per unit multiplied by the number of units for which the student is registered. Adding classes will increase the balance on the student account for non-resident students, so check your account after adding classes.

Graduate Business Professional Tuition Fee

For students pursuing the MBA or MS Accountancy degrees, the Graduate Business Professional Fee is charged on a $270.00 per unit basis **in addition** to basic tuition and campus fees.

Parking Fees

A variety of parking permits of varying pricing and duration are available for sale through Parking Online Services. For more information, please visit Parking Services http://www.sjsu.edu/parking, e-mail parking@sjsu.edu, or call 408-924-6556.

Nonresident Tuition Exemptions (AB 540)

If you attended high school in California for at least three full years and graduated or earned an equivalent, you may be eligible for resident tuition. Students must file an affidavit with SJSU stating that they have filed an application with INS to legalize their immigration status or will do so as soon as they are eligible. You will need to show proof of attendance and graduation.

On October 11, 2001, Governor Gray Davis signed Assembly Bill 540 (now Education Code Section 68130.5) creating a new exemption from nonresident tuition for any student who meets ALL of the following criteria:

a) attended high school in California for 3 or more years;

b) graduated from a California high school or attained the equivalent;

c) is registered at, or attending an accredited institution of higher education in California not earlier than Fall 2001; and

d) if a student without lawful immigration status files an affidavit with the campus stating that he or she has applied to legalize immigration status (using INS form I-130, Petition for Alien Relative) or will do so as soon as he or she is eligible.

See www.sjsu.edu/bursar/students_parents/faqs/exemption_faqs/index.html for additional information.

Registration Late Fees

Students eligible for participation in advance registration who do not register..... $25
Registration after add deadline through census..... $45
Post Census Late Enrollment Fee..... $200

Those exempt from the late fee(s) prior to enrollment census date are:

- Students enrolled in the Step to College program
- Graduate students who cannot enroll in lower division classes during Advance Registration.

Registration Fees - Late Registration Participants

If you add classes during the Late Registration period which change your unit load from 6.0 units to 6.1 or less, additional tuition fees will be due. Review your account via MySJSU (one.sjsu.edu) to find the amount due and the payment deadline. **Billing statements are not issued.**

Registration - Deferrals and Waivers

In order to receive a tuition fee deferral, your financial aid file must be complete and all requested documents submitted. Check your "To Do" list at MySJSU for requested documents. Once you have submitted all requested documents, a fee deferral will be assigned to your record to hold your classes and delay the payment of registration tuition fees while your financial aid process is completed. To prevent enrollment cancellation, it is your responsibility to submit all requested documents prior to the scheduled tuition fee payment deadline. Be sure to monitor your account at MySJSU for file status changes and "To Do" items.

Important! Financial Aid fee deferrals are temporary and are issued once all requested financial aid documents are submitted. A financial aid fee deferral holds classes and delays the payment of enrollment fees while the financial aid process is completed. To prevent enrollment cancellation, it is the student's responsibility to submit all requested financial aid documents prior to the scheduled fee payment deadline. **The financial aid fee deferral does not cover housing charges.**

If your tuition fees are to be paid by a third party (i.e. employer, government agency, college savings plan, or foreign embassy), documents must be on file before your payment deadline authorizing the university to bill the agency for your fees. Authorization may be given in person, mailed or faxed to the Bursar's Office at 408-924-1654. If documentation is not received by your payment due date, classes may be dropped.

When financial aid or the amount to be paid by the a third party is less than the amount due, you must pay the difference owed.

Federal regulations prevent the university from deducting parking permit charges from financial aid. Financial aid recipients must pay for parking permits separately.

Payment Deadlines - Registration

The following dates are tentative. Check the Bursar's Office website at http://www.sjsu.edu/bursar/fees_due_dates/due_dates/index.html for up to date information.

Advance Registration: Tuesday, April 30, 2019 - Saturday, August 18, 2019

REGISTER	PAYMENT DUE
April 30 - July 4, 2019	July 10, 2019
July 5 - August 3, 2019	August 9, 2019
August 4 - September 3, 2019	September 9, 2019
After September 3 - three days to pay	
Final Due Date - October 10, 2019	

If students do not pay the amount due by the payment due date(s), all classes will be dropped. Note: We do not automatically drop classes after census. Students wishing to partially drop or withdraw from all classes must do so by following the university policies and procedures.

Returned check/ACH payments - 1st time.....$25

Returned check/ACH payments - after 1st time.....$35

For more information

Email: bursar@sjsu.edu
408-924-1601
www.sjsu.edu/bursar/

Registration - Installment Payment Plans (IPPs)

If register for classes for classes April 30, 2019 through September 9, 2019 you may sign up for an installment payment plan.

To enroll in the installment plan, log on to MySJSU, navigate to Self service > Student Center > scroll to Finance section > Payment Plans and Account Services. See www.sjsu.edu/bursar for more detailed information on payment plans.

INSTALLMENT TYPE	NON-REFUNDABLE PROCESSING FEE
Installment Payment Plan (IPP) for tuition and fees	$35
Installment Payment Plan (IPP) for housing	$35

See www.sjsu.edu/bursar/fees/installments for installment payment due dates.

Payment Plan Features

- There are fees for the payment plans, one for the tuition and fee plan and one for the housing plan.
- There will be a separate payment plan for housing charges
- Payments divided equally

Loan, Short Term

Short Term loans are available through the Bursar's Office

To be eligible, you must:

- Be current on any outstanding debts to the university
- Must have sufficient financial aid or be gainfully employed
- Must be enrolled in at least half-time (six undergraduate or four graduate units).

Selective Service-Eligibility for Aid

The federal Military Selective Service Act (the "Act") requires most males residing in the United States to present themselves for registration with the Selective Service System within thirty days of their eighteenth birthday. Most males between the ages of 18 and 25 must be registered. Males born after December 31, 1959 may be required to submit a statement of compliance with the Act and regulations in order to receive any grant, loan or work assistance under specified provisions of existing federal law. In California, students subject to the Act who fail to register are also ineligible to receive any need-based student grants funded by the state or a public postsecondary institution.

Selective Service registration forms are available at any U.S. Post Office, and many high schools have a staff member or teacher appointed as a Selective Service registrar. Applicants for financial aid can also request that information provided on the Free Application for Federal Student Aid (FAFSA) be used to register them with the Selective Service. Information on the Selective Service System is available and the registration process may be initiated online at

http://www.sss.gov.

Refunds - Registration

A 100% refund of basic and/or non-resident fees will be given to students who drop all classes or withdraw from the university no later than August 18, 2019. Refundable fees include basic registration fees, non-resident fees, course fees and the miscellaneous SJSU fees.

A prorated refund will be given to students who withdraw from SJSU from the first day of instruction, August 21 through October 26, 2019.

Students who drop units resulting in a lower fee structure and/or mandatory fee obligation will be entitled to a refund of applicable tuition and mandatory fees up to the end of the designated SJSU Late Registration drop period on September 3, 2019. There are no refunds for individual course drops after this date.

See www.sjsu.edu/bursar/payment_refunds/prorata_refund/index.html for detailed information on refund percentages.

Financial Aid Students

When students who are receiving financial aid withdraw, the unearned portion of federal and state funds must be returned to the appropriate fund. The Financial Aid and Scholarship Office provides this information.

For All Students

Saturday, August 18, 2019

Last day for full refund of **both basic registration tuition fees and non-resident tuition**.

Wednesday, August 21, 2019

Pro rata refund schedule begins for both basic registration tuition fees and non-resident tuition for students who withdraw from the university. Fees owed will calculated based on units enrolled after the last day to add (Monday, September 10, 2019).

Tuesday, September 3, 2018

After this date, students who remain enrolled but drop classes resulting in a lower fee category will not be eligible for a refund

Saturday, October 26, 2019

The last day to receive a pro-rated refund based on withdrawal or dropping courses.

See http://www.sjsu.edu/bursar/fees_due_dates/ for specific refund details.

Special Session and Open University students

Consult www.sjsu.edu/cpge for specific refund policies.

Refund - Registration - Non-Resident

If a student completely withdraws or there is a reduction in units, any adjustments to the non-resident tuition is based on the transaction date according to the refund schedule as noted above.

Refunds - Parking Permits

Parking permits can be returned for a prorated refund (which adjusts weekly) minus a $10 administrative fee. No returns are accepted during the last month of each semester.

For questions or additional information, please contact Parking Services at 408-924-6556 or via email at parking@sjsu.edu.

All refunds are processed at Parking Services, located in the University Police Building.

California State University Tuition Fee Policies

Mandatory Fees Including Non-resident Tuition

Regulations governing the refund of tuition and mandatory fees, including nonresident tuition, for students enrolling at the California State University are included in Section 41802 of Title 5, California Code of Regulations. For purposes of the refund policy, mandatory fees are defined as those systemwide and campus fees that are required to be paid in order to enroll in state-supported academic programs at the CSU. Refunds of fees and tuition charges for self-support, special session, and Professional Education programs or courses at the CSU are governed by a separate policy established by the University, available at the College of Professional and Global Education (CPGE).

In order to receive a full refund of tuition and mandatory fees, including nonresident tuition, a student must cancel registration or drop all courses prior to the first day of instruction for the term. Information on procedures and deadlines for canceling registration and dropping classes is available in the Payments and Refunds section and at www.sjsu.edu/bursar.

For state-supported semesters, quarters, and non-standard terms or courses of four (4) weeks or more, a student who withdraws during the term in accordance with the university's established procedures or drops all courses prior to the campus-designated drop period will receive a refund of tuition and mandatory fees, including nonresident tuition, based on the portion of the term during which the student was enrolled. No student withdrawing after the 60 percent point in the term will be entitled to a refund of any mandatory fees or nonresident tuition.

A student who, within the campus designated drop period and in accordance with campus procedures, drops units resulting in a lower tuition and/or mandatory fee obligation shall be entitled to a refund of applicable tuition and mandatory fees established by the campus.

For state-supported non-standard terms or courses of less than four (4) weeks, no refunds of tuition and mandatory fees, including nonresident tuition, will be made unless a student cancels registration or drops all classes, in accordance with the university's established procedures and deadlines, prior to the first day of instruction for state-supported non-standard terms or courses or prior to the first meeting for courses of less than four (4) weeks.

Students will also receive a refund of tuition and mandatory fees, including nonresident tuition, under the following circumstances:

- The tuition and fees were assessed or collected in error;
- The course for which the tuition and fees were assessed or collected was cancelled by the university;
- The university makes a delayed decision that the student was not eligible to enroll in the term for which tuition and mandatory fees were assessed and collected and the delayed decision was not due to incomplete or inaccurate information provided by the student; or
- The student was activated for compulsory military service.

Students who are not entitled to a refund as described above may petition the Bursar's Office for a refund demonstrating exceptional circumstances.

Information concerning any aspect of the refund of fees may be obtained from the Bursar's Office, Student Services Center, 408-924-1601 or via e-mail at bursar@sjsu.edu

Parking Permit Refunds

Parking permits can be returned for a prorated refund minus an administrative fee. No returns are accepted during the last month of each semester. More information can be found at http://www.sjsu.edu/parking/permits/refunds/

Fees and Debts Owed to the University

Should a student or former student fail to pay a fee or a debt owed to the institution, including tuition and student charges, the institution may "withhold permission to register, to use facilities for which a fee is authorized to be charged, to receive services, materials, food or merchandise or any combination of the above from any person owing a debt" until the debt is paid (see Title 5, California Code of Regulations, Sections 42380 and 42381).

Prospective students who register for courses offered by the university are obligated for the payment of charges and fees associated with registration for those courses. Failure to cancel registration in any course for an academic term prior to the first day of the academic term gives rise to an obligation to pay student charges and fees including any tuition for the reservation of space in the course.

The institution may withhold permission to register or to receive official transcripts of grades or other services offered by the institution from anyone owing fees or another debt to the institution. The institution may also offset the amount due against any future state tax refunds due the student or refer the debt to an outside collection agency.

If a person believes he or she does not owe all or part of an asserted unpaid obligation, that person may contact the Bursar's Office. The Bursar's Office will review all pertinent information provided by the person and available to the campus and will advise the person of its conclusions.

Failure to pay full registration fees when due or to clear any debt by the given deadline may result in an additional Administrative Fee or cancellation of classes.

Nonresident Students (U.S. and Foreign) Tuition

Nonresident Tuition (in addition to basic tuition fees and other systemwide fees charged all students): $396 per unit each semester. The total nonresident tuition paid per term will be determined by the number of units taken.

Exemption from Non-Resident Tuition for Certain Students

If you attended high school in California for at least three full years and graduated or earned an equivalent, you may be eligible for resident tuition. Students must file an affidavit with the CSU campus stating that they have filed an application with USCIS to legalize their immigration status or will do so as soon as they are eligible. You will need to show proof of attendance and graduation.

Determining Residency for Tuition Purposes

University requirements for establishing residency for tuition purposes are independent from those of other types of residency, such as for tax purposes, or other state or institutional residency. These regulations were promulgated not to determine whether a student is a resident or nonresident of California, but rather to determine whether a student should pay University fees on an in-state or out-of- state basis. A resident for tuition purposes is someone who meets the requirements set forth in the Uniform Student Residency Requirements. These laws governing residency for tuition purposes at the California State University are California Education Code sections 68000-68086, 68120-68133, and 89705-89707.5, and California Code of Regulations, Title 5, Subchapter 5, Article 4, sections 41900- 41915. This material can be viewed by accessing the California State University's website at www.calstate.edu/GC/resources.shtml.

Each campus' Admissions Office is responsible for determining the residency status of all new and returning students based on the Application for Admission, Residency Questionnaire, Reclassification Request Form, and, as necessary, other evidence furnished by the student. A student who fails to submit adequate information to establish eligibility for resident classification will be classified as a nonresident.

Generally, establishing California residency for tuition purposes requires a combination of physical presence and intent to remain indefinitely in the State of California. An adult who, at least 366 days prior to residency determination date for the term in which resident status is sought, can demonstrate both physical presence in the state combined with evidence of intent to remain in California indefinitely may establish California residency for tuition purposes. A student under the age of 19 by the residency determination date derives residency from the parent(s) with whom he/she resides or most recently resided.

Evidence demonstrating intent may vary from case to case but will include, and is not limited to, the absence of residential ties to any other state, California voter registration and voting in California elections, maintaining California vehicle registration and driver's license, maintaining active California bank accounts, filing California income tax returns and listing a California address on federal tax returns, owning residential property or occupying or renting a residence where permanent belongings are kept, maintaining active memberships in California professional or social organizations, and maintaining a permanent military address and home of record in California.

A nonresident student seeking reclassification are required to complete a Residency Questionnaire that includes questions concerning his/her financial independence. Financial independence is required, in addition to physical presence and intent to remain indefinitely, to be eligible for reclassification. Financial independence is established if in the calendar year the reclassification application is made and in any of the three calendar years preceding the reclassification application the student:

- Has not and will not be claimed as an exemption for state and federal tax purposes by his/her parent(s);
- Has not and will not receive more than $750 per year in financial assistance from his/her parent(s); and
- Has not lived and will not live longer than six (6) weeks in the home of his/her parent(s).

A nonresident student who has been appointed as a graduate student teaching assistant, a graduate student research assistant, or a graduate student teaching associate on any CSU campus and is employed on a 0.49 or more time basis is exempt from the financial independence requirement.

Exceptions to the general residency requirements are contained in California Education Code sections 68070-68086 and California Code of Regulations, Title 5, Subchapter 5, Article 4, sections 41906- 41906.6, 41910. Whether an exception applies to a particular student can only be determined after the submission of an application for admission and, as necessary, additional supporting documentation. Because neither the campus nor Chancellor's Office staff may give advice on the application of these laws, applicants are strongly urged to review the material for themselves and consult with a legal advisor.

The Chancellor's Office can either decide the appeal or send the matter back to the campus for further review. Students incorrectly classified as residents or incorrectly granted an exception from nonresident tuition are subject to reclassification as nonresidents and payment of nonresident tuition in arrears. If incorrect classification results from false or concealed facts, the student is also subject to discipline pursuant to Section 41301 of Title 5 of the California Code of Regulations.

Resident students who become nonresidents or who no longer meet the criteria for an exception must immediately notify the Admissions Office. Changes may have been made in the rate of nonresident tuition and in the statutes and regulations governing residency for tuition purposes in California between the time this information is published and the relevant residency determination date. Students are urged to review the statutes and regulations stated above.

Average Support Cost Per Full-Time Equivalent Student and Sources of Funds

The total support cost per full-time equivalent student (FTES) includes the expenditures for current operations, including payments made to students in the form of financial aid, and all fully reimbursed programs contained in state appropriations. The average support cost is determined by dividing the total cost by the number of FTES. The total CSU 2018-19 budget amounts were $3,627,143,000 from state General Fund (GF) appropriations and before adding $22.5 million CalPERS retirement adjustment, $2,479,020,000 from gross tuition revenue, and $639,084,000 from other fee revenues for a total of $6,745,247,000. The 2018-19 resident FTES target is 364,131 and the nonresident FTES based on past-year actual is 24,416 for a total of 388,547 FTES. The GF appropriation is applicable to resident students only whereas fee revenues are collected from resident and nonresident students. FTES is determined by dividing the total academic student load (e.g. 15 units per semester) (the figure used here to define a full-time student's academic load).

The 2016/17 average support cost per FTES based on GF appropriation and net tuition fee revenue only is $13,152 and when including all sources as indicated below is $14,528, which includes all fee revenue (e.g. tuition fees, application fees, and other campus mandatory fees) in the CSU Operating Fund. Of this amount, the average net tuition and other fee revenue per FTES is $5,764.

AVERAGE COST 2018-19	AMOUNT	AVERAGE COST PER FTE STUDENT	PERCENTAGE
State Appropriation(GF)*	3,627,143,000	9,961	55.4%
Gross Tuition Revenue**	2,479,020,000	6,380	35.5%
Other Fees Revenue**	639,084,000	1,645	9.1%
Total Support Cost	**6,745,247,000**	**17,986**	**100%**

*Represents state GF appropriation in the Budget Act of 2018/19; GF is divisible by resident students only (364,131 FTES)

**Represents CSU Operating Fund, gross tuition and other fees revenue amounts (net of tuition fee discounts) submitted in campus August 2018/19 final budgets. Revenues are divisible by resident and nonresident students (388,547 FTES).

The average CSU 2018/19 academic year, resident, undergraduate student basic tuition fee and other mandatory fees required to apply to, enroll in, or attend the university is $7,303 ($5,742 tuition fee plus $1,561 average campus-based fees). However, the costs paid by individual students will vary depending on campus, program, and whether a student is part-time, full-time, resident or nonresident.

Cancellation of Registration or Withdrawal from the University

Students who find it necessary to cancel their registration or to withdraw from all classes after enrolling for any academic term are required to follow the university's official withdrawal procedures. Failure to follow formal university procedures may result in an obligation to pay fees as well as the assignment of failing grades in all courses and the need to apply for readmission before being permitted to enroll in another academic term. Information on canceling registration and withdrawal procedures is available from the Office of the Registrar.

Students who receive financial aid funds **must consult** with Financial Aid and Scholarships prior to withdrawing from the university regarding any required return or repayment of grant or loan assistance received for that academic term or payment period. If a recipient of student financial aid funds withdraws from the institution during an academic term or a payment period, the amount of grant or loan assistance received may be subject to return and/or repayment provisions.

For further information, consult www.sjsu.edu/bursar and www.sjsu.edu/faso.

Fee Waivers - CSU Systemwide

The California Education Code includes provisions for the waiver of mandatory systemwide fees as follows:

Section 66025.3

Military - Dependent eligible to receive assistance under Article 2 of Chapter 4 of Division 4 of the Military and Veterans Code; child of any veteran of the United States military who has a service-connected disability, has been killed in service, or has died of a service-connected disability, and meets specified income provisions; dependent, or surviving spouse who has not remarried, of any member of the California National Guard who, in the line of duty, and while in the active service of the state, was killed, died of a disability resulting from an event that occurred while in the active service of the state, or is permanently disabled as a result of an event that occurred while in the active service of the state; and undergraduate student who is a recipient of a Medal of Honor, or undergraduate student who is a child of a recipient of a Medal of Honor who is no more than 27 years old, meets the income restriction and California residency requirement. The waiver of tuition or fees under this section applies only to a person who is determined to be a resident of California pursuant to Chapter 1 (commencing with Section 68000) of Part 41.

Foster Youth - Current or former foster youth who are 25 years of age or younger; have been in foster care for at least 12 consecutive months after reaching 10 years of age; meet one of the following: is under a current foster care placement order by the juvenile court, was under a foster care placement order by the juvenile court upon reaching 18 years of age, or was adopted, or entered guardianship, from foster care; completes and submits the Free Application for Federal Student Aid (FAFSA); maintains a minimum grade point average and meets the conditions necessary to be in good standing at the campus; and meets the financial need requirements established for Cal Grant A awards. The waiver of mandatory systemwide tuition and fees under this section applies only to a person who is determined to be a resident of California pursuant to Chapter 1 (commencing with Section 68000) of Part 41 of the California Education Code.

Section 66602 - A qualifying student from the California State University who is appointed by the Governor to serve as Trustee of the California State University for the duration of his or her term of office.

Section 68120 - Surviving spouse or child of a deceased California resident who was employed by a public agency, or was a contractor or an employee of a contractor, performing service for a public agency, and was killed in the performance of his/her principal duties of active law enforcement or fire suppression and prevention duties (referred to as Alan Pattee Scholarships). A person who qualifies for the waiver under this section as a surviving child of a contractor or of an employee of a contractor, who performed services for a public agency must have enrolled as an undergraduate student at the California State University and meets income restriction requirement.

Section 68121 - A qualifying student enrolled in an undergraduate program who is the surviving dependent of any individual killed in the September 11, 2001 terrorist attacks on the World Trade Center in New York City, the Pentagon building in Washington, D.C., or the crash of United Airlines Flight 93 in southwestern Pennsylvania, if the student meets the financial need requirements set forth in Section 69432.7 for the Cal Grant A Program and either the surviving dependent or the individual killed in the attacks was a resident of California on September 11, 2001.

Students who may qualify for the above benefits should contact the Registrar's Office for further information and/or an eligibility determination.

The California Education Code provides for the following nonresident tuition exemptions:

Section 68075 - A student who is a member of the Armed Forces of the United States stationed in this state, except a member of the Armed Forces assigned for educational purposes to a state-supported institution of higher education, is entitled to resident classification only for the purpose of determining the amount of tuition and fees.

If that member of the Armed Forces of the United States who is in attendance at an institution is thereafter transferred on military orders to a place outside this state where the member continues to serve in the Armed Forces of the United States, he or she shall not lose his or her resident classification so long as he or she remains continuously enrolled at that institution.

Section 68075.7 - A nonresident student is exempt from paying nonresident tuition or any other fee that is exclusively applicable to nonresident students if the student (1) resides in California, (2) meets the definition of "covered individual" as defined in either: (A) Section 3679(c)(2)(A) or (B)(ii)(I) of Title 38 of the United States Code, as that provision read on January 1, 2017; or (B) Section 3679(c)(2)(B)9(i) or (ii)(II) of Title 38 of the United States Code, as that provision read on January 1, 2017; and (3) is eligible for education benefits under either the federal Montgomery GI Bill-Active Duty program or the Post-9/11 GI Bill program as each read on January 1, 2017.

Section 68122 - A student who is a victim of trafficking, domestic violence, and other serious crimes who has been granted T or U visa status shall be exempt from paying nonresident tuition to the same extent as individuals who are admitted to the United States as refugees under Section 1157 of Title 8 of the United States Code.

Section 68130.5 - A student, other than an nonimmigrant alien, who is not a resident of California is exempt from paying nonresident tuition if the student meets the requirements of (1) through (4) below:

(1) Satisfaction of the requirements of either subparagraph (A) or subparagraph (B): (A) A total attendance of, or attainment of credits earned while in California equivalent to, three or more years of full-time attendance or attainment of credits at any of the following:

(i) California high schools.

(ii) California high schools established by the State Board of Education.

(iii) California adult schools established by a county office of education, a unified school district or high school district, or the Department of Corrections and Rehabilitation (subject to the class hours' requirement).

(iv) Campuses of the California Community Colleges (subject to the credit requirements).

(v) A combination of those schools set forth in clauses (i) to (iv), inclusive.

(B) Three or more years of full-time high school coursework, and a total of three or more years of attendance in California elementary schools, California secondary schools, or a combination of California elementary and secondary schools.

(2) Satisfaction of any of the following:

(A) Graduation from a California high school or attainment of the equivalent thereof.

(B) Attainment of an associate degree from a campus of the California Community Colleges.

(C) Fulfillment of the minimum transfer requirements established for the California State University for students transferring from a campus of the California Community Colleges.

(3) Registration as an entering student at, or current enrollment at, an accredited institution of higher education in California not earlier than the fall semester or quarter of the 2001-02 academic year.

(4) In the case of a person without lawful immigration status, the filing of an affidavit with the institution of higher education stating that the student has filed an application to legalize his or her immigration status, or will file an application as soon as he or she is eligible to do so.

Nonresident Alien Tax Assessment

International students and scholars receiving payments from San José State University must comply with all federal and state tax reporting responsibilities. The Internal Revenue Service requires that SJSU comply with specific federal tax withholding and reporting regulations when making payments to nonresident aliens. Non-U.S. citizens will be required to complete a Foreign National Information Form to assist in the determination of tax residency and applicable tax withholding liability. Payments affected by these IRS rules include, but are not limited to: compensation, wages, honoraria, consulting fees, scholarships, fellowships, stipends, and some reimbursements for travel and other expenses. Questions regarding nonresident alien tax assessment can be addressed by contacting the Human Resources Service Group at 408-924-2250.

Fees - Dishonored Checks

An individual is not officially enrolled until the university has received full payment of fees. The university has not received payment if personal checks or E-checks are subsequently dishonored by the bank.

Individuals paying registration fees by personal check or E-check are hereby given notice that if their check is dishonored from the bank for any reason, the registration is subject to cancellation. A $25.00 fee is charged for the first returned check and $35.00 thereafter. An additional administrative fee may be charged. All dishonored checks must be paid with money order, cashier check or cash.

Fees - Establishment or Abolishment of Campus-Based Mandatory Fees

The law governing the California State University provides that specific campus fees defined as mandatory, such as a student association fee and a student center fee, may be established. A student association fee must be established upon a favorable vote of two-thirds of the students voting in an election held for this purpose (Education Code, Section 89300). The campus president may adjust the student association fee only after the fee adjustment has been approved by a majority of students voting in a referendum established for that purpose. The required fee shall be subject to referendum at any time upon the presentation of a petition to the campus president containing the signatures of 10 percent of the regularly enrolled students at the university. Student association fees support a variety of cultural and recreational programs, childcare centers, and special student support programs. A student center fee may be established only after a fee referendum is held which approves by a two-thirds favorable vote the establishment of the fee (Education Code, Section 89304). Once bonds are issued, authority to set and adjust student center fees is governed by provisions of the State University Revenue Bond Act of 1947, including, but not limited to, Education Code sections 90012, 90027, and 90068.

The process to establish and adjust other campus-based mandatory fees requires consideration by the campus fee advisory committee and a student referendum as established by Executive Order 1102, Section III. The campus president may use alternate consultation mechanisms if he/she determines that a referendum is not the best mechanism to achieve appropriate and meaningful consultation. Results of the referendum and the fee committee review are advisory to the campus president. The president may adjust campus-based mandatory fees but must request the chancellor to establish a new mandatory fee. The president shall provide to the campus fee advisory committee a report of all campus-based mandatory fees. The campus shall report annually to the chancellor a complete inventory of all campus-based mandatory fees.

For more information or questions, please contact the Budget Office in the CSU Chancellor's Office at 562-951-4560.

Fees - Voluntary

The CSU Board of Trustees established a voluntary student fee, the Student Involvement and Representation Fee (SIRF), which went into effect in the fall 2015 term. This is charged to all students unless they choose to opt out of the fee, which can be done via the student portal. The fee amount is $2.00 per term. For more information, please visit the California State Student Association (CSSA) website at http://www.csustudents.org.

Determining Residency for Tuition Purposes

University requirements for establishing residency for tuition purposes are independent from those of other types of residency, such as for tax purposes, or other state or institutional residency. These regulations were promulgated not to determine whether a student is a resident or nonresident of California, but rather to determine whether a student should pay University fees on an in-state or out-of- state basis. A resident for tuition purposes is someone who meets the requirements set forth in the Uniform Student Residency Requirements. These laws governing residency for tuition purposes at the California State University are California Education Code sections 68000-68085, 68120-68133, and 89705-89707.5, and California Code of Regulations, Title 5, Subchapter 5, Article 4, sections 41900- 41916.

Each campus' Admissions Office is responsible for determining the residency status of all new and returning students based on the Application for Admission, Residency Questionnaire, Reclassification Request Form, and, as necessary, other evidence furnished by the student. A student who fails to submit adequate information to establish eligibility for resident classification will be classified as a nonresident.

Generally, establishing California residency for tuition purposes requires a combination of physical presence and intent to remain indefinitely. An adult who, at least 366 days prior to the residency determination date for the term in which enrollment is contemplated, can demonstrate both physical presence in the state combined with evidence of intent to remain in California indefinitely may establish California residency for tuition purposes. A minor normally derives residency from the parent(s) they reside with or most recently resided with.

Evidence demonstrating intent may vary from case to case but will include, and is not limited to, the absence of residential ties to any other state, California voter registration and voting in California elections, maintaining California vehicle registration and driver's license, maintaining active California bank accounts, filing California income tax returns and listing a California address on federal tax returns, owning residential property or occupying or renting a residence where permanent belongings are kept, maintaining active memberships in California professional or social organizations, and maintaining a permanent military address and home of record in California.

Nonresident students seeking reclassification are required to complete a supplemental questionnaire that includes questions concerning their financial independence. Financial independence is required, in addition to physical presence and intent, to be eligible for reclassification. Financial independence is established if in the calendar year the reclassification application is made and in any of the three calendar years preceding the reclassification application the student:

- Has not and will not be claimed as an exemption for state and federal tax purposes by his/her parent;
- Has not and will not receive more than seven hundred and fifty dollars ($750) per year in financial assistance from his/her parent; and
- Has not lived and will not live longer than six (6) weeks in the home of his/her parent.

A nonresident student who has been appointed as a graduate student teaching assistant, a graduate student research assistant, or a graduate student teaching associate on any CSU campus and is employed on a 0.49 or more time basis is exempt from the financial independence requirement.

Exceptions to the general residency requirements are contained in California Education Code sections 68070-68085 and California Code of Regulations, Title 5, Subchapter 5, Article 4, sections 41906- 41906.6, 41910 and include, but are not limited to, members of the military and their dependents, certain credentialed employees of school districts and most students who have attended three or more years of high school (grades 9-12) in California and graduated from a California high school or attained the equivalent of graduation. Whether an exception applies to a particular student can only be determined after the submission of an application for admission and, as necessary, additional supporting documentation. Because neither campus nor Chancellor's Office staff may give advice on the application of these laws, applicants are strongly urged to review the material for themselves and consult with a legal advisor.

A student classified as a nonresident may appeal a final campus decision within 30 days of notification by the campus. Information on the appeal process may be found at http://www.calstate.edu/sas/residency/appeals.shtml. A campus residency classification appeal must be submitted via the InfoReady online Residence Appeal Form to the California State University Chancellor's Office at: https://calstate.infoready4.com/#competitionDetail/1760156

Appeals via email, fax and U.S. mail will not be accepted. A student with a documented disability that prohibits the student from submitting an appeal through the InfoReady site should contact Student Academic Services:

California State University
Attn: Student Academic Services
401 Golden Shore, 6th Floor
Long Beach, CA 90802-4210
Email: residencyappeals@calstate.edu

The Chancellor's Office will either decide the appeal or send the matter back to the campus for further review. Students incorrectly classified as residents or incorrectly granted an exception from nonresident tuition are subject to reclassification as nonresidents and payment of nonresident tuition in arrears. If incorrect classification results from false or concealed facts, the student is also subject to discipline pursuant to Section 41301 of Title 5 of the California Code of Regulations.

Resident students who become nonresidents or who no longer meet the criteria for an exception must immediately notify the Admissions Office. Changes may have been made in the rate of nonresident tuition and in the statutes and regulations governing residency for tuition purposes in California between the time this information is published and the relevant residency determination date. Students are urged to review the statutes and regulations stated above.

Student Responsibilities and Rights

University Policies

To see official SJSU University Policies, see http://www.sjsu.edu/senate/policies/

Academic Standards

Students studying for a baccalaureate degree are expected to maintain a grade point average of 2.0 "C" or better in their academic work at SJSU and in their overall collegiate record in order to continue in good standing. In determining a student's eligibility to remain enrolled in the university, both quality of performance and progress toward the student's objective are weighed. Use of grade points and grade point average for all letter-graded courses determines quality of performance. The length of time in meeting requirements is a factor in determining progress toward objectives. While the Registrar's Office makes every effort to notify students of their academic status, it is the student's responsibility to continuously monitor his or her own academic standing at MySJSU (one.sjsu.edu).

Attendance Policy

University Policy F15-12, Attendance and Participation

Students are expected to attend all meetings for the courses in which they are enrolled as they are responsible for material discussed therein, and active participation is frequently essential to ensure maximum benefit to all class members. In some cases, attendance is fundamental to course objectives; for example, students may be required to interact with others in the class. Attendance is the responsibility of the student.

Participation may be used as a criterion for grading when the parameters and their evaluation are clearly defined in the course syllabus and the percentage of the overall grade is stated.

View the policy in its entirety here: http://www.sjsu.edu/senate/docs/F15-12.pdf

Academic Integrity Policy

The University emphasizes responsible citizenship and an awareness of ethical choices inherent in human development. Academic honesty and fairness foster ethical standards for all those who depend upon the integrity of the university, its courses, and its degrees. University degrees are compromised and the public is defrauded if faculty members or students knowingly or unwittingly allow dishonest acts to be rewarded academically. This policy sets the standards for such integrity and shall be used to inform students, faculty and staff of the university's Academic Integrity Policy. See University Academic Integrity Policies at http://www.sjsu.edu/studentconduct/policies/

Student Role

The San José State University Academic Integrity Policy requires that each student:

1. Know the rules that preserve academic integrity and abide by them at all times. This includes learning and abiding by rules associated with specific classes, exams and course assignments.
2. Know the consequences of violating the Academic Integrity Policy.
3. Know the appeal rights, and the procedures to be followed in the event of an appeal.
4. Foster academic integrity among peers.

Faculty Member Role

The San José State University Academic Integrity Policy requires that each faculty member:

1. Provide a clear and concise course syllabus that apprises students of the Academic Integrity Policy and the ethical standards and supporting procedures required in a course.
2. Make every reasonable effort to foster honest academic conduct. Specifically, examinations should be appropriately proctored or monitored to prevent students from copying, using non-cited resources, or exchanging information. Examinations and answers to examination questions should be kept private. Efforts should be made to give unique and varied assignments.
3. Take action against a student in accordance with this policy when supporting evidence indicates that the student has violated the Academic Integrity Policy.
4. Comply with the rules and standards of the Academic Integrity Policy.

Office of Student Conduct and Ethical Development Role

The San José State University Academic Integrity Policy requires that the Student Conduct Administrator:

1. Comply with and enforce the Student Conduct Code (http://www.sjsu.edu/studentconduct) which includes the Academic Integrity Policy.
2. Adjudicate student conduct cases and assign administrative sanctions to students who have violated the Student Conduct Code.
3. Serve as a resource for faculty, staff and students on matters of academic integrity and this policy.
4. Ensure dissemination of the policy to the campus community when changes are made to the policy or procedures.

1.0 Definitions Of Academic Dishonesty

1.1 Cheating

At SJSU, cheating is the act of obtaining or attempting to obtain credit for academic work through the use of any dishonest, deceptive, or fraudulent means. Cheating at SJSU includes but is not limited to:

1.1.1. Copying, in part or in whole, from another's test or other evaluation instrument including homework assignments, worksheets, lab reports, essays, summaries, quizzes, etc.;

1.1.2. Submitting work previously graded in another course unless this has been approved by the course instructor or by departmental policy;

1.1.3. Submitting work simultaneously presented in two courses, unless this has been approved by both course instructors or by the department policies of both departments;

1.1.4. Using or consulting, prior to, or during an examination, sources or materials not authorized by the instructor;

1.1.5. Altering or interfering with the grading process;

1.1.6. Sitting for an examination by a surrogate, or as a surrogate;

1.1.7. Any other act committed by a student in the course of their academic work which defrauds or misrepresents, including aiding or abetting in any of the actions defined above.

1.2 Plagiarism

At SJSU plagiarism is the act of representing the work of another as one's own without giving appropriate credit, regardless of how that work was obtained, and/or submitting it to fulfill academic requirements. Plagiarism at SJSU includes but is not limited to:

1.2.1 The act of incorporating the ideas, words, sentences, paragraphs, or parts of, and/or the specific substance of another's work, without giving appropriate credit, and/or representing the product as one's own work;

1.2.2 Representing another's artistic/scholarly works such as musical compositions, computer programs, photographs, paintings, drawing, sculptures, or similar works as one's own.

2.0 Notification of Standards of Detecting Plagiarism

2.1 SJSU or its faculty may subscribe to and/or use plagiarism detection services.

2.2 Any plagiarism detection service with which SJSU contracts must ensure the anonymity of all submitted work to third parties.

2.3 Except for the stated purpose of storing submitted work in databases and/or using the database solely for the intended purpose of detecting plagiarism, any plagiarism detection service with which SJSU contracts shall agree that to the fullest extent possible, ownership rights of all submitted work shall remain with the work's author and not with the plagiarism detection service.

3.0 Evaluation and Reporting

When a faculty member suspects and has supporting evidence to substantiate that the behavior of a student or students fall(s) within one or both of the above sets of definitions, it is the faculty member's responsibility to take the following steps:

3.1 Any classroom confrontation should be discreet. Faculty members should not discuss specific charges of cheating, plagiarism, or any other violations involving specific individuals in the classroom before other members of the class.

3.2 Communicate with the student concerning the alleged infraction; arrange for a conference to present documentation. Advise the student of the allegations and make them aware of the supporting evidence and the probable consequences. As a result of this conference, if the faculty member believes that the student's response is insufficient to offset the charge of violating the Academic Integrity Policy, the instructor will inform the student of the sanctions to be assessed or recommended in accordance with section 3.0.

All notes and/or discussions between the student and the faculty member will be kept confidential except as may be relevant in subsequent disciplinary proceedings or any subsequent legal actions.

3.3 Report the alleged infraction and the academic action taken to the Office of Student Conduct & Ethical Development on the reporting form for violations to the Academic Integrity Policy. A copy of the supporting documentation must be attached to the reporting form.

3.4 The instructor may impose the recommended penalty and make the report called for in section 3.3 without a conference when a student fails to attend a scheduled conference to discuss the alleged dishonesty, or when the apparent dishonesty is detected only near the end of the semester and the faculty makes a good-faith effort to contact the student but is unable to do so. In either case, the student's right to appeal is preserved.

4.0 Sanctions

There shall be two major classifications of sanctions that may be imposed for violations of this policy: academic and administrative. Academic sanctions are those actions related to the course work and/or grades which are the province of the faculty. Administrative sanctions are concerned with a student's status on campus and are acted on by the

Office of Student Conduct and Ethical Development. The imposition of either an academic or administrative sanction will not preclude the additional imposition of the other.

4.1 Academic Sanctions

Faculty members are responsible for determining the type of academic sanction to be applied to students involved in incidents of cheating or plagiarism. Faculty may find it helpful to consult with their department chair, senior faculty, and/or the Conduct Officer in consideration of appropriate academic sanctions. Such sanctions shall be proportional to the offense against the Academic Integrity Policy that has occurred. Usually a form of "grade modification" will be employed. Before sanctions can be employed, the faculty member must have verified the instances of academic dishonesty by personal observation and/or documentation. In all cases, the violation must be reported to the Office of Student Conduct & Ethical Development on the reporting form for violations to the Academic Integrity Policy. A student may be:

4.1.1 Reprimanded orally.

4.1.2 Failed in the evaluation instrument (paper or exam).

4.1.3 Reduced in course grade.

4.1.4 Failed in the course.

4.1.5 Referred for administrative sanctions. A faculty member may choose to refer a student to the Office of Student Conduct & Ethical Development for disciplinary action in addition to the academic sanction the faculty member has taken.

4.1.6 Faculty Discretion:

Cases involving the careless or inept handling of quoted material but which fall short of the definitions of the acts of cheating and/or plagiarism as defined in Items 1.1 and 1.2 of this policy may be dealt with at the discretion of the faculty member concerned. The faculty has the discretion to deal with any other act committed by a student in the course of their academic work which defrauds or misrepresents, including aiding or abetting other students who violate this policy.

4.1.7 Academic Sanctions:

For violations of sections 1.1.5 and 1.1.6, the student must be referred to the Office of Student Conduct & Ethical Development for administrative sanctions as outlined in 4.1.5.

For violations of other sections of this policy, the instructor should choose between sanctions 4.1.1 through 4.1.4 based on the severity of the infraction.

4.2 Administrative Sanctions

As stipulated in the California Administrative Code, Section 41301, cheating or plagiarism in connection with an academic program may warrant expulsion, suspension, probation or a lesser sanction. Administrative action involving academic dishonesty at SJSU is the responsibility of the Office of Student Conduct & Ethical Development.

The Office of Student Conduct & Ethical Development will respond to:

1. referrals from the faculty;
2. violations of the Academic Integrity Policy;
3. repeat violations as brought to attention by the faculty or through the centralized reports filed in the Office of Student Conduct & Ethical Development.

Faculty members will be notified by the Office of Student Conduct & Ethical Development when action has been taken. The Office of Student Conduct & Ethical Development shall maintain a record of students who have been reported for violating the Academic Integrity Policy. The information in this record will be used to identify and discipline students who have been reported.

5.0 Protection of Rights

Nothing in this policy is intended to deny students who come within its scope appropriate "due process," including the right to be informed of the charges, the nature of the evidence supporting the charges, and to have a meeting with the faculty member, the Office of Student Conduct & Ethical Development or other decision-makers, at which time statements and evidence on behalf of the student may be submitted. Nor is it intended to deny the right to appeal, through appropriate university channels, any decision resulting from such a meeting.

5.1 The handling of student conduct code violations should be separated from the processes handling student disputes with other members of the university community. Specifically, grades resulting from **cheating** are not a matter of student fairness. Therefore the Office of the Ombudsperson and the Student Fairness Committee should be removed from the student conduct processes regarding academic misconduct (F15-7). Students may, however, consult with the Ombudsperson confidentially and informally regarding the Academic Integrity policy and/or process.

5.2 When an administrative sanction is being considered, Executive Order 1073, Student Disciplinary Procedures for the California State University, stipulates that a student is entitled to a hearing to determine whether violations of conduct and/or conduct-related regulations have occurred. Students may, however, consult with the Ombudsperson confidentially and informally regarding the Academic Integrity policy and/or process.

6.0 Threats

Any threats against any member of the faculty as a consequence of implementing this policy on academic integrity will be cause for disciplinary action under Section 41301, Title 5, California Code of Regulations, in addition to civil and criminal liabilities.

7.0 Dissemination of Information

7.1 This policy shall be published in the **Schedule of Classes** each semester and in the **University Catalog**. There shall also be copies of this policy in every department office and copies will be available to all interested parties in the Office of Student Conduct & Ethical Development.

7.2 Dissemination of this information shall be the responsibility of the Office of Student Conduct & Ethical Development. Information is available at http://www.sjsu.edu/studentconduct

7.3 The Office of Student Conduct & Ethical Development shall submit a statistical report on the number and type of infractions and their eventual disposition to the Academic Senate annually.

7.4 Colleges and departments are encouraged to periodically include at faculty meetings, discussion of this policy and strategies for ensuring academic integrity among students.

7.5 Department chairs and school directors should ensure that new faculty members receive a copy of this policy and a verbal explanation at the time they are given their first class assignment.

Complaints

A student involved in a dispute must first attempt to resolve the matter with the other party. If an agreement is not reached, the student should seek the aid of the University Ombudsperson or the immediate supervisor of the other party. Students may seek the counsel of the Ombudsperson before speaking with parties directly involved in the conflict. If this informal process fails to resolve the matter, the student should contact the University Ombusperson regarding the formal complaint process.

Complaint Procedures - Alleged Violations of State Law

Student/Applicant Complaint Procedure for Alleged Violations of State Law Not Covered by Another CSU Complaint Procedure

This executive order fulfills the requirements of the Higher Education Act Title IV, 34 Code of Federal Regulations sections 600.9(a)(1)(i)(A) and 668.43(b), by establishing a complaint procedure for CSU students and student applicants alleging that the CSU has violated one or more state laws, where there is no other applicable CSU complaint procedure.

I. Scope of Procedure

This complaint procedure is for CSU students and student applicants who believe the CSU has violated one or more state laws. It does not encompass complaints already covered by another CSU complaint procedure (e.g., student complaints alleging discrimination, harassment and retaliation, covered by Executive Order No. 1045). It also does not encompass complaints regarding CSU's compliance with academic program quality and accrediting standards; such complaints may be filed with the Western Association of Schools and Colleges (WASC), the agency that accredits the CSU's academic program, at http://www.wascsenior.org/comments.

II. The Complaint

A. The complaint must be filed within 30 work days of the CSU's alleged violation of one or more state laws, or the complainant's discovery thereof.

B. The complaint must be made in writing and clearly indicate the intent to file a complaint alleging that the CSU violated one or more state laws or specifically reference this executive order.

C. The complaint must contain the following:

The complainant's name, student I.D. number, mailing address and telephone number.

The term and year of the complainant's last active academic status or the term and year the complainant sought admission to the university.

A detailed description of the specific actions that constituted the alleged violation of one or more state laws, including the specific law or laws alleged to have been violated and, if known, the name(s) and title(s) of the responsible CSU employee(s).

The date(s) the alleged improper activities occurred or the condition developed.

A list of witnesses, if any, including their contact information and the facts known by each.

Copies of any documentary evidence that supports the complaint.

Descriptions of documents that support the complaint and, if known, where the documents are maintained and by whom if the actual documents are not in the possession of the complainant.

A dated and signed statement by the complainant under penalty of perjury that the complaint is true, or is believed by the complainant to be true.

D. The complaint may be filed with the campus president or designee ("campus administrator").

E. The complaint must be personally delivered, or sent by electronic or certified mail. The complaint filing date is the date of personal service, the date on the electronic transmission or the postmark date of the mailing.

III. The Level I Campus Investigation

A. The campus administrator shall review the complaint to determine whether it is timely filed, contains all the required information and falls within the scope of this executive order. If it does, the campus administrator shall notify the complainant in writing within 10 work days of receipt of the complaint that the complaint has been accepted. If it is untimely or does not contain all of the required information, the campus administrator shall notify the complainant in writing within 10 work days of receipt of the complaint that the complaint has not been accepted and state the reasons.

If it is determined that the complaint falls within the scope of another CSU complaint procedure, the campus administrator shall forward the complaint to the appropriate campus official and shall notify the complainant in writing within 10 work days of receipt of the complaint that the complaint has been deemed to fall within the scope of another CSU complaint procedure, why, and to whom the complaint has been forwarded. The administrator shall not forward the complaint or disclose the complainant's identity to anyone who has or appears to have a conflict of interest in regard to the allegation(s).

B. If the complainant raises any new allegations after the complaint has been accepted, the campus administrator shall decide whether to include those allegations as part of the complaint. If they are not included as part of the initial complaint, the complainant shall be advised of the need to file a new complaint to address those allegations.

C. The campus administrator shall investigate the claim, or may appoint a third party to conduct an investigation. The investigator shall be a management personnel plan employee or an external consultant experienced in conducting investigations. If the complaint is against the CSU, the chancellor or any Chancellor's Office employee, campus president or vice president, the campus administrator shall consult with the Associate Vice Chancellor, Academic Affairs at the Chancellor's Office, who shall determine the appropriate handling of the complaint. The timelines and procedures for the process remain the same.

D. The complainant is required to fully cooperate in the investigation, and must participate in a timely intake interview. If the complainant does not cooperate, the campus administrator may end the investigation.

E. CSU employees are required to cooperate with the investigation, be truthful, maintain confidentiality, and provide all relevant and/or requested information to the investigator.

F. Complaints and other information gathered during the course of the investigation by the university shall be shared only with individuals who have a legitimate business reason to know.

IV. The Level I Campus Decision

The campus administrator shall make the final decision and issue a letter of determination to the complainant no later than 60 work days from the date the complaint was filed, unless s/he determines that extenuating circumstances warrant an extension of time. In no case shall the decision letter be issued later than 90 work days from the date the complaint was filed.

Within the investigation period, the investigator must make findings of fact and conclusions regarding the allegations, which s/he shall reduce to an investigative report. Preponderance of the evidence is the applicable standard: in order to establish a fact, the investigator must find that the evidence on one side outweighs the evidence on the other side.

The report should include the following information:

A summary of the allegations.

A description of the investigative process.

The preponderance of the evidence standard used to determine whether a violation occurred.

The evidence considered.

A determination of whether the allegations were found to be substantiated.

Within the time frame specified above, the campus administrator shall notify the complainant in writing of the outcome. The notification should include a summary of the allegations, a description of the investigative process, the preponderance of the evidence standard used, the evidence considered and a determination of whether the allegations were found to be substantiated. The notification shall also inform the complainant what, if any, actions were or will be taken (specific employee discipline is confidential), and of his/her option to file an appeal under Article V of this executive order. The campus administrator shall maintain a copy of the notification as required by the applicable document retention policy(ies).

V. The Level II Chancellor's Office Review and Decision

A. If the complainant is not satisfied with the campus decision, s/he may file a Level II appeal with the Office of the Chancellor no later than 10 work days after receipt of the Level I decision. Level II appeals shall be addressed to: Associate Vice Chancellor, Academic Affairs, CSU Office of the Chancellor, 401 Golden Shore 6th Floor, Long Beach, California 90802.

B. The appeal shall be in writing and must detail the specific disagreements with the campus decision. The issues raised on appeal shall be limited to those raised during the Level I process.

C. The Associate Vice Chancellor, Academic Affairs or designee shall review the issues raised on appeal to determine whether the campus has adequately processed and addressed the complaint and/or whether the preponderance of the evidence indicates that there has been a violation of state law.

D. The Associate Vice Chancellor, Academic Affairs or designee shall issue a decision no later than 60 work days after receipt of the appeal unless s/he determines that extenuating circumstances warrant an extension of time. In no case shall the final decision letter be issued later than 90 work days from the date the appeal was filed. The decision shall include a summary of the issues raised on appeal, a description of the review process, the preponderance of the evidence standard used, the evidence considered and a final decision. The notification shall also inform the complainant what, if any, actions were or will be taken (specific employee discipline is confidential), and note that the CSU's review of the complaint is now considered final and complete. A copy of the final decision letter shall be provided to the campus administrator.

VI. General Provisions

A. Work days are defined as Monday through Friday, excluding all official holidays or campus closures at the campus where the complaint originated.

B. A student/applicant must proceed with a complaint in good faith. A student who knowingly and intentionally files a false complaint, abuses this policy, or files a malicious or frivolous complaint may be subject to discipline. Discipline shall be taken in accordance with Section 41301, Title 5, California Code of Regulations.

C. When issuing a Level I or II response, personal delivery or certified mail shall be used. If personal delivery is used, a signature acknowledging the calendar date of delivery shall be obtained which will establish the date of response. If certified mail delivery is used, the postmark shall establish the date of response.

D. The CSU is not obligated under this executive order to investigate a complaint not timely filed under its provisions. Regardless, the CSU may investigate the underlying allegations if it determines the circumstances warrant investigation. Also, if the circumstances warrant investigation, the CSU may waive the time limits and choose to process the complaint under the complaint process set forth herein.

E. CSU will notify the California Department of Finance, Office of State Audits and Evaluation, and the Bureau of State Audits, of all cases of actual or suspected fraud, theft or other irregularities it learns of as the result of any complaint made under this executive order.

F. Time periods set forth in this executive order may be extended by the campus administrator and, at Level II, by the Associate Vice Chancellor, Academic Affairs up to the specified maximums, if any, provided s/he informs the complainant of the new time period in writing.

G. Care shall be taken to keep confidential the identity of the complainant in so far as feasible and consistent with the law.

H. CSU employees are prohibited from retaliating against complainants or others who cooperate with the investigation.

Effective: September 1, 2011

Model Complaint Procedure

Model complaint procedure for CSU students/applicants in compliance with HEA Title IV, 34 CFR, Sections 600.9 (a)(1)(i)(A) and 668.43(b)

Student/Applicant Complaint Procedure Notice

The California State University takes very seriously complaints and concerns regarding the institution. If you have a complaint regarding the CSU, you may present your complaint as follows:

(1) If your complaint concerns CSU's compliance with academic program quality and accrediting standards, you may present your complaint to the Western Association of Schools and Colleges (WASC) at http://www.wascsenior.org/comments. WASC is the agency that accredits the CSU's academic program.

(2) If your complaint concerns an alleged violation by CSU of a state law, including laws prohibiting fraud and false advertising, you may present your claim to the campus president or designee at [e-mail address]. The president or designee will provide guidance on the appropriate campus process for addressing your particular issue.

If you believe that your complaint warrants further attention after you have exhausted all the steps outlined by the president or designee, or by WASC, you may file an appeal with the Associate Vice Chancellor, Academic Affairs at the CSU Office of the Chancellor.

Note: Most complaints made to media outlets or public figures, including members of the California legislature, Congress, the Governor, or individual CSU trustees, are referred to the chancellor of the CSU.

Nothing in this disclosure should be construed to limit any right that you may have to take civil or criminal legal action to resolve your complaint.

The CSU has provided this disclosure to you in compliance with the requirements of the Higher Education Act of 1965, as amended, as regulated in 34 Code of Federal Regulations sections 600.9(a)(1)(i)(A) and 668.43(b).

Course Syllabi

Course Syllabi, University Policy, S16-9

Course syllabi enable students to better understand and fulfill their responsibilities as learners in courses. They are a necessary tool in higher education to enable students to take part in the learning process through knowing what is expected of them and what they can expect from the course. Student success is aided by students knowing in advance as much as possible about the course requirements so that they can plan their study time and coordinate work on assignments from multiple courses. Student success is also aided by encouraging students to contact their professors and providing information about key university policies to which they are subject. In addition, syllabi provide an opportunity to model thorough, clear, professional communication.

Review the policy in its entirety here: http://www.sjsu.edu/senate/docs/S16-9.pdf

Review Syllabi Information Website

Educational Equity

The California State University defines "educational equity" to be "...justice, equal opportunity, fairness and impartiality in the educational processes affecting under represented minorities. It involves the implementation of programs designed to attract, admit and support students heretofore excluded from full participation in the university by conditions of educational and economic disadvantages" (Educational Equity: A Continuing Commitment, published by the California State University, 1989).

The Office of Diversity, Equity and Inclusion leads university-wide efforts to ensure a welcoming, safe climate for every member of the San Jose State community.

San Jose State University defines diversity as the active appreciation, engagement, and support of ALL campus members in terms of their backgrounds, identities and experiences (as constituted by gender, socioeconomic class, political perspective, age, race, ethnicity, religion, sexual orientation, disability, regional origin, nationality, occupation, language, among others, and the intersection of these aspects).

For more information, visit: http://www.sjsu.edu/diversity/

Equal Opportunity

San José State University does not discriminate on the basis of accent, age, ancestry, citizenship status, color, creed, disability, ethnicity, gender, genetic information, marital status, medical condition, national origin, race, religion or lack thereof, sex, sexual orientation, transgender, or veteran's status. This policy applies to all SJSU students, faculty and staff programs and activities. Title IX of the Education Amendments of 1972, and certain other federal and state laws, prohibit discrimination on the basis of sex in all education programs and activities operated by the university (both on and off campus). Questions regarding this policy should be directed to the Office for Equal Opportunity, 408-924-1115

The California State University is committed to providing equal opportunities to men and women CSU students in all campus programs, including intercollegiate athletics.

For more information, please visit: http://www.sjsu.edu/hr/about_us/hr_directory/eo_unit/title_ix/index.html

Establishing a Committed Presence in Class

Establishing a Committed Presence in a Class, University Policy F15-3

Six instructional days before Census Day, i.e. the 14th day of instruction, is the last day for the student to add a class; this is also the last day for an instructor to drop a student who fails to establish a committed presence in the class. "Establishing a committed presence" is defined as the following options for the student:

- In-person classes. Attending the first class meeting or informing the instructor of the intention to continue in the class before 48 hours after the first official class meeting.
- Online classes. Logging on to the LMS class shell on the first scheduled day of the class or informing the instructor of the intention to continue in the class before 48 hours after the official class start date.

View the full policy here: http://www.sjsu.edu/senate/docs/F15-3.pdf

Faculty Office Hours

University Policy S12-1, Faculty Office Hours

Today's teaching and learning dynamics have changed dramatically for both students and faculty, with a much greater reliance on electronically mediated methods for communication. Faculty may now spend many hours in "unofficial" office hour time (including evenings and weekends) responding to students' instructional needs. These consultations are frequently held outside of the physical "official" office hours, but nonetheless constitute instructional and advising time.

View the full policy here: http://www.sjsu.edu/senate/docs/S12-1.pdf

Disciplinary Action Statement

Students who fail to comply with federal, state, and local laws governing the use of alcohol, illicit drugs, and other grounds upon which student discipline can be based, will be subject to sanctions ranging from disciplinary probation up to and including expulsion from the California State University. California State University Executive Order 1098 entitled Student Conduct Procedures governs the procedures that the University follows in student discipline cases.

Any permanent or probationary employee of the California State University may be dismissed, demoted or suspended for any one of several causes, including addiction to the use of controlled substances, conviction of a felony or conviction of any misdemeanor involving moral turpitude or drunkenness on duty (Educ. Code 89535). Employees challenging the imposition of such sanctions may appeal to the State Personnel Board and receive a hearing before an impartial body. Faculty employees have alternative appeal processes outlined in their collective bargaining agreement.

Student Fairness Committee

The Student Fairness Committee is under the jurisdiction of the university's Academic Senate and is guided by University Policy S14-3. This committee hears complaints of violations of student rights in instructional and curricular matters, including grade appeals, and, when appropriate, makes recommendations for redress. The committee also hears and seeks redress of non-instructional student grievances concerning individual members of the faculty, administration or staff and, when appropriate, makes recommendations for redress.

A grievance can be brought as a result of an unauthorized or unjustified act or decision by a member of the faculty or staff or an administrative officer which in any way adversely affects the status, rights, or privileges of a student. The SFC does not have the authority to receive complaints on matters of sexual harassment, civil rights, disability rights, or equity and diversity. Nor does the SFC deal with allegations of violations of the student code of conduct.

Disputes arising out of assignment of grades or grade appeals shall be considered and decided in accordance with Executive Order 1037. There is a presumption that grades assigned are correct. It is the responsibility of anyone appealing an assigned grade to demonstrate otherwise(EO 1037).

The SFC will hear grade dispute petitions when petitions are deemed to be appropriate and include evidence related to the following conditions:

1. *When there is evaluation of students that differs from announced requirements.*
2. *When there are belated impositions of requirements.*
3. *When grades are based on criteria other than academic performance in the course.*
4. *When grading criteria do not provide a clear and consistent method of evaluating students' work or performance.*
5. *When students' requests for information during the semester regarding their academic progress in the course are not responded to in a reasonable time (e.g., two weeks after the request is made).*
6. *When students' requests for an explanation of how the posted course grades for a term were determined are not responded to in a reasonable time (e.g., the later of two weeks after the request is made or one week before the add deadline for the fall or spring semester following the term in question).*
7. *When students are penalized for expressing opinions.*
8. *When students are given to understand that they are removed from a course without due process of a hearing*

Petitions must be filed no later than the end of the subsequent fall or spring semester following that in which the alleged cause of the dispute occurred. Prior to lodging a formal complaint, the student must secure informal, confidential advisement from the University Ombudsperson. Before the committee will accept a petition, the student must exhaust all available avenues for informal resolution (i.e., prior to filing a petition, consult with instructor, Department Chair, and the College Dean - if applicable - about the specific complaint).

Any student may contact the University Ombudsperson ADM 269, 408-924-5995.

Ombudsperson

What steps should I take if I feel my rights have been violated?

If you feel that your rights have been violated or you would like to have an informal discussion with a confidential and neutral point person on campus you are encouraged to connect with the University Ombudsperson.

The University Ombudsperson is an advocate for procedural fairness who supports the integrity of the campus policies and procedures and ensures the equity of their application.

The Ombudsperson provides a neutral, confidential, and informal place to discuss a concern with the assurance that no action will be taken, nor will the visit be disclosed to anyone, without consent.

For More Information:

Administration 269
408-924-5995
ombuds@sjsu.edu
http://www.sjsu.edu/ombudsperson/

CSU and SJSU Administrative Items

- SJSU Policies - View a list of current University Policies listed chronologically
- Coded Memos - Coded Memos for the CSU system affecting Academic and Student Affairs
- Executive Orders - CSU Executive Orders Indexed by Number
- Presidential Directives - SJSU - Presidential directives and memos address campus/university policies, issues and various topics

Religious Holidays

Accommodation to Students' Religious Holidays, University Policy S14-7

San José State University shall provide accommodation on any graded class work or activities for students wishing to observe religious holidays when such observances require students to be absent from class. It is the responsibility of the student to inform the instructor, in writing, about such holidays before the add deadline at the start of each semester. If such holidays occur before the add deadline, the student must notify the instructor, in writing, at least three days before the date that he/she will be absent. It is the responsibility of the instructor to make every reasonable effort to honor the student request without penalty, and of the student to make up the work missed.

To review the policy in its entirety click here: http://www.sjsu.edu/senate/docs/S14-7.pdf

Student Conduct & Ethical Development

Student Conduct and Ethical Development promotes fairness and consistency in the administration of the student conduct process while supporting a safe and inclusive living and learning environment. Student Conduct and Ethical Development commits to the principles of empathy, ethics, equity, integrity, and respect.

Through effective prevention (interactions, outreach, presentations) and response (student conduct process) initiatives, Student Conduct and Ethical Development facilitates ethical development, effective decision making, and problem solving skills and contributes to students' personal and academic success.

Student Conduct & Ethical Development
ADM 218
408-924-5985
www.sjsu.edu/studentconduct/

Student Conduct Code

Title 5, California Code of Regulations, 41301. Standards for Student Conduct

(a) Campus Community Values

The university is committed to maintaining a safe and healthy living and learning environment for students, faculty, and staff. Each member of the campus community should choose behaviors that contribute toward this end. Students are expected to be good citizens and to engage in responsible behaviors that reflect well upon their university, to be civil to one another and to others in the campus community, and contribute positively to student and university life.

(b) Grounds for Student Discipline

Student behavior that is not consistent with the Student Conduct Code is addressed through an educational process that is designed to promote safety and good citizenship and, when necessary, impose appropriate consequences.

The following behavior is subject to disciplinary sanctions and are the grounds upon which student discipline can be based:

(1) Dishonesty, including:

- (A) Cheating, plagiarism, or other forms of academic dishonesty that are intended to gain unfair academic advantage.
- (B) Furnishing false information to a university official, faculty member, or campus office.
- (C) Forgery, alteration, or misuse of a university document, key, or identification instrument.
- (D) Misrepresenting oneself to be an authorized agent of the university or one of its auxiliaries.

(2) Unauthorized entry into, presence in, use of, or misuse of university property.

(3) Willful, material and substantial disruption or obstruction of a university-related activity, or any on-campus activity.

(4) Participating in an activity that substantially and materially disrupts the normal operations of the university, or infringes on the rights of members of the university community.

(5) Willful, material and substantial obstruction of the free flow of pedestrian or other traffic, on or leading to campus property or an off-campus university-related activity.

(6) Disorderly, lewd, indecent, or obscene behavior at a university-related activity, or directed toward a member of the university community.

(7) Conduct that threatens or endangers the health or safety of any person within or related to the university community, including physical abuse, threats, intimidation, harassment, or sexual misconduct.

(8) Hazing, or conspiracy to haze. Hazing is defined as any method of initiation or pre-initiation into a student organization or student body, whether or not the organization or body is officially recognized by an educational institution, which is likely to cause serious bodily injury to any former, current, or prospective student of any school, community college, college, university or other educational institution in this state (Penal Code 245.6), and in addition, any act likely to cause physical harm, personal degradation or disgrace resulting in physical or mental harm, to any former, current, or prospective student of any school, community college, college, university or other educational institution. The term "hazing" does not include customary athletic events or school sanctioned events.

Neither the express or implied consent of a victim of hazing, nor the lack of active participation in a particular hazing incident is a defense. Apathy or acquiescence in the presence of hazing is not a neutral act, and is also a violation of this section.

(9) Use, possession, manufacture, or distribution of illegal drugs or drug-related paraphernalia, (except as expressly permitted by law and university regulations) or the misuse of legal pharmaceutical drugs.

(10) Use, possession, manufacture, or distribution of alcoholic beverages (except as expressly permitted by law and university regulations), or public intoxication while on campus or at a university-related activity.

(11) Theft of property or services from the university community, or misappropriation of university resources.

(12) Unauthorized destruction, or damage to university property or other property in the university community.

(13) Possession or misuse of firearms or guns, replicas, ammunition, explosives, fireworks, knives, other weapons, or dangerous chemicals (without the prior authorization of the campus president) on campus or at a university-related activity.

(14) Unauthorized recording, dissemination, or publication of academic presentations (including handwritten notes) for a commercial purpose.

(15) Misuse of computer facilities or resources, including:

- (A) Unauthorized entry into a file, for any purpose.
- (B) Unauthorized transfer of a file.
- (C) Use of another's identification or password.
- (D) Use of computing facilities, campus network, or other resources to interfere with the work of another member of the university community.
- (E) Use of computing facilities and resources to send obscene or intimidating and abusive messages.
- (F) Use of computing facilities and resources to interfere with normal university operations.
- (G) Use of computing facilities and resources in violation of copyright laws.
- (H) Violation of a campus computer use policy.

(16) Violation of any published university policy, rule, regulation or presidential order.

(17) Failure to comply with directions of, or interference with, any University official or any public safety officer while acting in the performance of his/her duties.

(18) Any act chargeable as a violation of a federal, state, or local law that poses a substantial threat to the safety or well-being of members of the university community, to property within the university community or poses a significant threat of disruption or interference with university operations.

(19) Violation of the Student Conduct Procedures, including:

- (A) Falsification, distortion, or misrepresentation of information related to a student discipline matter.
- (B) Disruption or interference with the orderly progress of a student discipline proceeding.
- (C) Initiation of a student discipline proceeding in bad faith.
- (D) Attempting to discourage another from participating in the student discipline matter.
- (E) Attempting to influence the impartiality of any participant in a student discipline matter.
- (F) Verbal or physical harassment or intimidation of any participant in a student discipline matter.
- (G) Failure to comply with the sanction(s) imposed under a student discipline proceeding.

(20) Encouraging, permitting, or assisting another to do any act that could subject him or her to discipline.

(c) Procedures for Enforcing this Code

The Chancellor shall adopt procedures to ensure students are afforded appropriate notice and an opportunity to be heard before the university imposes any sanction for a violation of the Student Conduct Code. [Note: At the time of publication, such procedures are set forth in California State University Executive Order 1098 (Revised June 23, 2015), available at http://calstate.edu/eo/EO-1098-rev-6-23-15.html.]

(d) Application of this Code

Sanctions for the conduct listed above can be imposed on applicants, enrolled students, students between academic terms, graduates awaiting degrees, and students who withdraw from school while a disciplinary matter is pending. Conduct that threatens the safety or security of the campus community, or substantially disrupts the functions or operation of the University is within the jurisdiction of this Article regardless of whether it occurs on or off campus. Nothing in this Code may conflict with Education Code section 66301 that prohibits disciplinary action against students based on behavior protected by the First Amendment

Title 5, California Code of Regulations, 41302. Disposition of Fees: Campus Emergency; Interim Suspension.

The president of the campus may place on probation, suspend, or expel a student for one or more of the causes enumerated in Section 41301. No fees or tuition paid by or for such student for the semester, quarter, or summer session in which he or she is suspended or expelled shall be refunded. If the student is readmitted before the close of the semester, quarter, or summer session in which he or she is suspended, no additional tuition or fees shall be required of the student on account of the suspension.

During periods of campus emergency, as determined by the president of the individual campus, the president may, after consultation with the chancellor, place into immediate effect any emergency regulations, procedures, and other measures deemed necessary or appropriate to meet the emergency, safeguard persons and property, and maintain educational activities.

The president may immediately impose an interim suspension in all cases in which there is reasonable cause to believe that such an immediate suspension is required in order to protect lives or property and to insure the maintenance of order. A student so placed on interim suspension shall be given prompt notice of charges and the opportunity for a hearing within 10 days of the imposition of interim suspension. During the period of interim suspension, the student shall not, without prior written permission of the president or designated representative, enter any campus of the California State University other than to attend the hearing. Violation of any condition of interim suspension shall be grounds for expulsion.

Student Conduct Procedures

SJSU is committed to ensuring a safe learning and living environment for students, faculty, and staff. The privilege of attending San José State University is accompanied by certain responsibilities to ensure this environment. The California Code of Regulations, Title 5, Section 41301 establishes behavioral expectations of our students to promote safety and good citizenship. The California State University issued Executive Order 1098, entitled, Student Conduct Procedures, on June 23, 2015 to outline the procedures for administering the Student Conduct Code as well as ensuring students' rights to due process. The process is intended to be educational in nature, and appropriate sanctions may be administered.

Policy and Implementation

At San José State University the responsibility for administering the Student Conduct Code resides with the Director of Student Conduct and Ethical Development in the Division of Student Affairs. This position is responsible for carrying out the duties in Executive Order No. 1098 assigned to the Student Conduct Administrator, including the determination of whether to initiate disciplinary action.

Students may be accompanied by an advisor of their choice. The advisor's role is limited to observing and providing consultation, support, and advice to the Student. The advisor may not speak on the Student's behalf.

San Jose State University excludes attorneys from student discipline proceedings except in limited circumstances where there are (a) pending criminal (felony) charges or (b) the recommended sanction is Expulsion. (Refer to Executive Order 1098, Article II, Section C for additional details about attorneys.)

The duties of the president in Executive Order No. 1098 are delegated to the Vice President for Student Affairs, including the appointment of hearing officers (Article II, section B), review of final reports of hearing officers and issuing notice of the final decision (Article III, Sections E and F), and the imposition of interim suspension (Article VI, Sections H and I).

Student Discipline and Conduct

Questions regarding student disciplinary matters should be directed to Student Conduct & Ethical Development, Administration 218, 408-924-5985 or www.sjsu.edu/studentconduct/.

Student Disciplinary Process

The student conduct process is governed by Executive Order 1098. Copies of this document are available in Student Conduct & Ethical Development, Administration 218, 408-924-5985 or www.sjsu.edu/studentconduct/.

California Code of Regulations

Inappropriate conduct by students or by applicants for admission is subject to discipline as provided in Sections 41301 through 41304 of Title 5, California Code of Regulations.

Regulation - Disposition of Fees

Disposition of Fees - Campus Emergency - 41302 - Interim Suspension

The president of the campus may place on probation, suspend, or expel a student for one or more of the causes enumerated in Section 41301. No fees or tuition paid by or for such student for the semester, quarter, or summer session in which he or she is suspended or expelled shall be refunded. If the student is readmitted before the close of the semester, quarter, or summer session in which he or she is suspended, no additional tuition or fees shall be required of the student on account of the suspension.

During periods of campus emergency, as determined by the president of the individual campus, the President may, after consultation with the chancellor, place into immediate effect any emergency regulations, procedures, and other measures deemed necessary or appropriate to meet the emergency, safeguard persons and property, and maintain educational activities.

The president may immediately impose an interim suspension in all cases in which there is reasonable cause to believe that such an immediate suspension is required in order to protect lives or property and to insure the maintenance of order. A student so placed on interim suspension shall be given prompt notice of charges and the opportunity for a hearing within 10 days of the imposition of interim suspension. During the period of interim suspension, the student shall not, without prior written permission of the President or designated representative, enter any campus of the California State University other than to attend the hearing. Violation of any condition of interim suspension shall be grounds for expulsion.

Regulation - Conduct by Applicants for Admission - 41303

Notwithstanding any provision in this Chapter 1 to the contrary, admission or readmission may be qualified or denied to any person who, while not enrolled as a student, commits acts which, were he enrolled as a student, would be the basis for disciplinary proceedings pursuant to Sections 41301 or 41302. Admission or readmission may be qualified or denied to any person who, while a student, commits acts which are subject to disciplinary action pursuant to Section 41301 or Section 41302. Qualified admission or denial of admission in such cases shall be determined under procedures adopted pursuant to Section 41304.

Regulation - Student Disciplinary Procedures for the California State University - 41304

The chancellor shall prescribe, and may from time to time revise, a code of student disciplinary procedures for the California State University. Subject to other applicable law, this code shall provide for determinations of fact and sanctions to be applied for conduct which is a ground of discipline under Sections 41301 or 41302, and for qualified admission or denial of admission under Section 41303; the authority of the campus president in such matters; conduct-related determinations on financial aid eligibility and termination; alternative kinds of proceedings, including proceedings conducted by a hearing officer; time limitations; notice; conduct of hearings, including provisions governing evidence, a record and review; and such other related matters as may be appropriate. The chancellor shall report to the board actions taken under this section.

Drug-Free Schools Statement

In accordance with the Drug-Free Workplace and the Drug-Free Schools and Communities Act (P.L. 102-226) and the Presidential Directive (90-92), SJSU recognizes that the abuse of alcohol and other drugs is a threat to the health and welfare of the campus community and is not compatible with an environment where education takes place. Therefore, the following principles will serve as standards of conduct.

The unlawful manufacture, possession, distribution or use of a controlled substance is prohibited on campus. Violation of this standard may result in dismissal under the applicable regulations of the Title V and will be subject to civil and criminal penalties.

No individual below the age of 21 and no intoxicated individual may use, purchase or possess alcoholic beverages or they may be subject to the penalties imposed by local, state and federal laws.

SJSU recognizes that its policy on illicit drugs and alcohol meets the legal requirements of public laws 101-226, 100-440, 100-690 and the California Penal Code. For more explicit information on the policy and sanctions, contact the Office of the Vice President for Student Affairs or the Student Health Center.

SJSU's Commitment to Student Health and Safety

SJSU is sincerely concerned for the welfare of all members of its community. The university recognizes that college and university campuses may be particularly vulnerable to the abuse of alcohol and other drugs. Concern for the potential impairment of education and learning and the safety and good health of all members of the campus community, as well as the effective conduct of campus affairs, has led SJSU to issue this information.

This information was prepared to inform members of the campus community of the problems associated with alcohol and illicit drug abuse; to indicate sources of assistance for such problems; to emphasize standards of conduct desired of students, faculty and employees; and to note sanctions associated with infractions of these standards and other illegal acts related to abuse.

All colleges and universities that receive federal funds in any form are required to comply with Public Law 101-226. Partial compliance with this new law requires annual distribution of information to students and employees. This law, in addition to the Drug Free Workplace Act (Public Law 100-690) which requires applicants for federally funded grants and contracts (including certain forms of student financial aid) to certify that they will take affirmative steps to prohibit the unlawful manufacture, distribution, possession and use of controlled substances in the workplace, establishes the legal requirements for SJSU.

A more complete compendium on Federal, State and Local laws is available at the following locations:

- Vice President for Student Affairs, ADM 242
- Human Resources, UPD
- Wellness and Health Promotion Office, Student Wellness Center 101

Safety Report

The Annual Security and Fire Safety Report is published each year in compliance with the Jeanne Clery Disclosure of Campus Security Policy and Campus Crime Statistics Act. The report contains important safety information, SJSU policies, and crime statistics for the previous 3 years.

University Police
www.sjsu.edu/police
408-924-2172

Sexual Harassment

San José State University is committed to maintaining a learning and working environment free from sexual harassment of its students, employees, and those who apply for employee or student status. Sexual harassment is conduct subject to disciplinary action.

SJSU policy defines sexual harassment to include "behaviors such as sexual advances, request for sexual favors, and other verbal or physical conduct of a sexual nature directed towards an employee, student, or applicant when one or more of the following circumstances are present:

- Submission to or toleration of the conduct is an explicit or implicit term or condition of appointment, employment, admission or academic evaluation
- Submission to or rejection of such conduct is used as a basis for a personnel decision or an academic evaluation affecting an individual
- The conduct has the purpose of interfering with an employee's work performance or creating an intimidating, hostile, offensive or otherwise adverse working environment
- The conduct had the purpose or effect of interfering with a student's academic performance, creating an intimidating, hostile, offensive or otherwise adverse learning environment, or adversely affecting any student.

All complaints dealing with sexual harassment should be directed to the Office for Equal Opportunity, which is located in UPD 303, 408-924-1115.

CSU Nondiscrimination Policy and Complaint Procedures

Regulation - CSU Executive Order 1045

California State University (CSU) Student/Applicant for Admission Discrimination/Harassment/Retaliation Complaint Process Timeline

Systemwide Policy Prohibiting Discrimination, Harassment and Retaliation, Sexual Misconduct, Dating and Domestic Violence, and Stalking against Students and Systemwide Procedure for Addressing Such Complaints by Students

California State University Executive Order 1097 governs the procedures that SJSU follows when students make a complaint regarding Discrimination, Harassment and Retaliation, Sexual Misconduct, Dating and Domestic Violence, and Stalking.

California State University Executive Order 1097 informs students of their rights and responsibilities when they make a complaint and describes the Campus Early Resolution Process, Campus Investigation Process, Appeal Review-Office of the Chancellor, and Remedies that may be imposed.

Regulation - Campus Climate

Tolerance, Respect and Understanding

As members of a university community it is our responsibility to advocate tolerance, respect and understanding at a level above that which is minimally required of us by law. While SJSU has largely succeeded in creating a diverse campus community, it must also actively promote a civil campus climate. This may require changes in attitudes and behaviors as we develop our common bonds.

Several of the convictions that might help us as members of an educational institution create these bonds are:

Respect for the individual: In recognition of individual uniqueness and value, whether as students, faculty, staff or administrators, it is our commitment to discourage appropriately any actions, behaviors, communication or programs that erode this fundamental concern for the individual.

Commitment to issue and problem resolution: It is the intent of the university to recognize the process of problem and issue resolution as integral to the successful achievement of its mission. SJSU is committed to addressing problems and issues in a responsive, equitable and timely manner.

Open communication and feedback: The university endorses and supports an environment of open communication and feedback. In support of this principle, the university will develop internal programs to educate, evaluate and provide feedback to support the growth process, including the growth of community and civility.

Regulation - Protected Status: Genetic Information, Marital Status, Medical Condition, Nationality, Race or Ethnicity (including color or ancestry), Religion or Religious Creed, and Veteran or Military Status

The California State University does not discriminate on the basis of age, genetic information, marital status, medical condition, nationality, race or ethnicity (including color and ancestry), religion (or religious creed), and veteran or military status - as these terms are defined in CSU policy - in its programs and activities, including admission and access. Federal and state laws, including Title VI of the Civil Rights Act of 1964 and the California Equity in Higher Education Act, prohibit such discrimination.

CSU Executive Order 1097 (www.calstate.edu/EO/EO-1097-rev-6-23-15.pdf) is the systemwide procedure for all complaints of discrimination, harassment or retaliation made by students against the CSU, a CSU employee, other CSU students or a third party. The Director of Compliance has been designated to coordinate the efforts of San José State University to comply with all applicable federal and state laws prohibiting discrimination on these bases. Inquiries concerning compliance may be presented to this person at 408-924-1200 or the Office for Equal Opportunity, UPD 303, 408-924-1115.

Regulation - Protected Status: Disability

The California State University does not discriminate on the basis of disability (physical and mental) - as this term is defined in CSU policy - in its programs and activities, including admission and access. Federal and state laws, including sections 504 and 508 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990, prohibit such discrimination. Each campus has been designated to coordinate the efforts to comply with all applicable federal and state laws prohibiting discrimination on the basis of disability. Inquiries concerning compliance may be presented to this person at 408-924-1115. CSU Executive Order 1097 Revised October 5, 2016 (http://www.calstate.edu/EO/EO-1097-rev-10-5-16.pdf) (or any successor executive order) is the systemwide procedure for all complaints of discrimination, harassment or retaliation made by students against the CSU, a CSU employee, other CSU students or a third party.

The Office for Equal Opportunity has been designated to coordinate the efforts of SJSU to comply with all relevant disability laws. Inquiries concerning compliance may be addressed to this office at 408-924-1115.

Regulation - Protected Status: Gender (or sex), Gender Identity (including transgender), Gender Expression and Sexual Orientation

The California State University does not discriminate on the basis of gender (or sex), gender identity (including transgender), gender expression or sexual orientation - as these terms are defined in CSU policy - in its programs and activities, including admission and access. Federal and state laws, including Title IX of the Education Amendments of 1972, prohibit such discrimination. The California State University is committed to providing equal opportunities to all CSU students in all campus programs, including intercollegiate athletics. Inquiries concerning compliance may be presented to this person at 408-924-1200 or the Office for Equal Opportunity, UPD 303, 408-924-1115. CSU Executive Order 1097 Revised October 5, 2016 (www.calstate.edu/EO/EO-1097-rev-10-5-16.pdf) (or any successor executive order) is the systemwide procedure for all complaints of discrimination, harassment or retaliation made by students against the CSU, a CSU employee, other CSU students or a third party.

Title IX of the Education Amendments of 1972 protects all people regardless of their gender, gender identity, gender expression or sexual orientation from gender discrimination, which includes sexual harassment and violence:

Sexual Discrimination means an adverse action taken against a student by the CSU, a CSU employee, or another student because of gender or sex (including sexual harassment, sexual violence, domestic violence, dating violence, and stalking) that is perpetrated against an individual on a basis prohibited by Title IX of the Education Amendments of 1972, 20 U.S.C.1681 et seq., and its implementing regulations, 34 C.F.R. Part 106 (Title IX); California Education Code 766250 et seq., and/or California Government Code 11135.

Sexual Harassment, a form of sex discrimination, is unwelcome verbal, nonverbal or physical conduct of a sexual nature that includes, but is not limited to, sexual advances, requests for sexual favors, and any other conduct of a sexual nature where:

1. Submission to, or rejection of, the conduct is explicitly or implicitly used as the basis for any decision affecting a complainant's status or progress, or access to benefits and services, honors, programs, or activities available at or through the university; **or**
2. The conduct is sufficiently severe, persistent or pervasive that its effect, whether or not intended, could be considered by a reasonable person in the shoes of the complainant, and is in fact considered by the complainant, as limiting his or her ability to participate in or benefit from the services, activities or opportunities offered by the university; **or**

3. The conduct is sufficiently severe, persistent or pervasive that its effect, whether or not intended, could be considered by a reasonable person in the shoes of the complainant, and is in fact considered by the complainant, as creating an intimidating, hostile or offensive environment.

Sexual harassment could include being forced to engage in unwanted sexual contact as a condition of membership in a student organization; being subjected to video or photographic exploitation, or a campaign of sexually explicit graffiti; or frequently being exposed to unwanted images of a sexual nature in a classroom that are unrelated to the coursework. Executive Order 1097 covers unwelcome conduct of a sexual nature. While romantic, sexual, intimate, personal or social relationships between members of the University community may begin as consensual, they may evolve into situations that lead to sexual harassment or sexual misconduct, including dating or domestic violence, or stalking, subject to this policy. Claiming that the conduct was not motivated by sexual desire is not a defense to a complaint of harassment based on gender.

Sexual Misconduct: All sexual activity between members of the university community must be based on affirmative consent. Engaging in any sexual activity without first obtaining affirmative consent to the specific activity is sexual misconduct, whether or not the conduct violates any civil or criminal law. Sexual activity includes, but is not limited to, kissing, touching intimate body parts, fondling, intercourse, penetration of any body part, and oral sex. It also includes any unwelcome physical acts, such as unwelcome sexual touching, sexual assault, sexual battery, rape, and dating violence. When based on gender, domestic violence or stalking also constitute sexual misconduct. Sexual misconduct may include using physical force, violence, threat or intimidation, ignoring the objections of the other person, causing the other person's intoxication or incapacitation through the use of drugs or alcohol, or taking advantage of the other person's incapacitation (including voluntary intoxication) to engage in sexual activity. Men as well as women can be victims of these forms of sexual misconduct. Sexual activity with a minor is never consensual when the complainant is under 18 years old, because the minor is considered incapable of giving legal consent due to age.

Sexual Assault is a form of sexual misconduct and is an attempt, coupled with the ability, to commit a violent injury on the person of another because of that person's gender or sex.

Sexual Battery is a form of sexual misconduct and is any willful and unlawful use of force or violence upon the person of another because of that person's gender or sex as well as touching an intimate part of another person against that person's will and for the purpose of sexual arousal, gratification or abuse.

Rape is a form of sexual misconduct and is non-consensual sexual intercourse that may also involve the use of threat of force, violence, or immediate and unlawful bodily injury or threats of future retaliation and duress. Any sexual penetration, however slight, is sufficient to constitute rape. Sexual acts including intercourse are considered non-consensual when a person is incapable of giving consent because s/he is incapacitated from alcohol and/or drugs, is under 18 years old, or if a mental disorder or developmental or physical disability renders the person incapable of giving consent. The respondent's relationship to the person (such as family member, spouse, friend, acquaintance or stranger) is irrelevant.

Acquaintance Rape is a form of sexual misconduct committed by an individual known to the victim. This includes a person the victim may have just met; i.e., at a party, introduced through a friend, or on a social networking website.

Affirmative Consent means an informed, affirmative, conscious, voluntary, and mutual agreement to engage in sexual activity. It is the responsibility of each person involved in the sexual activity to ensure that s/he has the affirmative consent of the other participant(s) to engage in the sexual activity. Lack of protest or resistance does not mean consent nor does silence mean consent. Affirmative consent must be voluntary, and given without coercion, force, threats or intimidation.

- The existence of a dating or social relationship between those involved, or the fact of past sexual activities between them, should never by itself be assumed to be an indicator of affirmative consent. A request for someone to use a condom or birth control does not, in and of itself, constitute affirmative consent.
- Affirmative consent can be withdrawn or revoked. Consent to one form of sexual activity (or sexual act) does not constitute consent to other forms of sexual activity. Consent given to sexual activity on one occasion does not constitute consent on another occasion. There must always be mutual and affirmative consent to engage in sexual activity. Consent must be ongoing throughout a sexual activity and can be revoked at any time, including after penetration. Once consent is withdrawn or revoked, the sexual activity must stop immediately.
- A person who is incapacitated cannot give affirmative consent. A person is unable to consent when s/he is asleep, unconscious or is incapacitated due to the influence of drugs, alcohol, or medication so that s/he could not understand the fact, nature or extent of the sexual activity. A person is incapacitated if s/he lacks the physical and/or mental ability to make informed, rational decisions. Whether an intoxicated person (as a result of using alcohol or other drugs) is incapacitated depends on the extent to which the alcohol or other drugs impact the person's decision- making capacity, awareness of consequences, and ability to make fully informed judgments. A person's own intoxication or incapacitation from drugs or alcohol does not diminish that person's responsibility to obtain affirmative consent before engaging in sexual activity.
- A person with a medical or mental disability may also lack the capacity to give consent.
- Sexual activity with a minor (a person under 18 years old) is not consensual, because a minor is considered incapable of giving legal consent due to age.
- It shall not be a valid excuse that a person affirmatively consented to the sexual activity if the respondent knew or reasonably should have known that the person was unable to consent to the sexual activity under any of the following circumstances:

The person was asleep or unconscious;

The person was incapacitated due to the influence of drugs, alcohol or medication, so that the person could not understand the fact, nature or extent of the sexual activity;

The person was unable to communicate due to a mental or physical condition.

- It shall not be a valid excuse that the respondent believed that the person consented to the sexual activity under either of the following circumstances:

The respondent's belief in affirmative consent arose from the intoxication or recklessness of the respondent;

The respondent did not take reasonable steps, in the circumstances known to the respondent at the time, to ascertain whether the person affirmatively consented.

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Consensual Relationships: Consensual relationship means a sexual or romantic relationship between two persons who voluntarily enter into such a relationship. While sexual and/or romantic relationships between members of the University community may begin as consensual, they may evolve into situations that lead to discrimination, harassment, retaliation, sexual misconduct, dating or domestic violence, or stalking.

- A university employee shall not enter into a consensual relationship with a student or employee over whom s/he exercises direct or otherwise significant academic, administrative, supervisory, evaluative, counseling, or extracurricular authority. In the event such a relationship already exists, each campus shall develop a procedure to reassign such authority to avoid violations of this policy.
- This prohibition does not limit the right of an employee to make a recommendation on the personnel matters concerning a family or household member where the right to make recommendations on such personnel matters is explicitly provided for in the applicable collective bargaining agreement or MPP/ confidential personnel plan.

Domestic Violence is abuse committed against someone who is a current or former spouse, current or former cohabitant, someone with whom the abuser has a child, someone with whom the abuser has or had a dating or engagement relationship, or a person similarly situated under California domestic or family violence law. Cohabitant means two unrelated persons living together for a substantial period of time, resulting in some permanency of relationship. It does not include roommates who do not have a romantic, intimate, or sexual relationship. Factors that may determine whether persons are cohabiting include, but are not limited to (1) sexual relations between the parties while sharing the same living quarters, (2) sharing of income or expenses, (3) joint use or ownership of property, (4) whether the parties hold themselves out as husband and wife, (5) the continuity of the relationship, and (6) the length of the relationship. For purposes of this definition, "abuse" means intentionally or recklessly causing or attempting to cause bodily injury or placing another person in reasonable apprehension of imminent serious bodily injury to himself or herself, or another. Abuse does not include non-physical, emotional distress or injury.

Dating Violence is abuse committed by a person who is or has been in a social or dating relationship of a romantic or intimate nature with the victim. This may include someone the victim just met; i.e., at a party, introduced through a friend, or on a social networking website. For purposes of this definition, "abuse" means intentionally or recklessly causing or attempting to cause bodily injury or placing another person in reasonable apprehension of imminent serious bodily injury to himself or herself, or another. Abuse does not include non-physical, emotional distress or injury.

Stalking means a repeated course of conduct directed at a specific person that would cause a reasonable person to fear for his/her or others' safety or to suffer substantial emotional distress. For purposes of this definition:

- Course of conduct means two or more acts, including but not limited to, acts in which the stalker directly, indirectly, or through third parties, by any action, method, device, or means, follows, monitors, observes, surveys, threatens, or communicates to or about a person, or interferes with a person's property;
- Reasonable person means a reasonable person under similar circumstances and with the same protected status(es) as the complainant;
- Substantial emotional distress means significant mental suffering or anguish that may, but does not necessarily, require medical or other professional treatment or counseling.

Regulation - Racial Incidents at Educational Institutions

Federal Statute and Guidelines on Handling Racial Incidents at Educational Institutions

Title VII of the Civil Rights Act of 1964 is enforced by the U.S. Department of Education's Office for Civil Rights issued guidelines for educational institutions receiving federal assistance to follow in handling "Racial Incidents and Harassment Against Students at Educational Institutions." These guidelines clarify conduct that violates Title VI:

"Under Title VI of Civil Rights Act of 1964 (Title VI) and its implementing regulations, no individual may be excluded from participation in, be denied the benefits of, or otherwise be subjected to discrimination on the ground of race, color or national origin under any program or activity that receives federal funds. Racially based conduct that has such an effect and that consists of different treatment of students on the basis of race by agents or employees, acting within the scope of their official duties, violates Title VI. In addition, the existence of a racially hostile environment that is created, encouraged, accepted, tolerated or left uncorrected ... also constitutes different treatment on the basis of race in violation of Title VI."

These same Title VI guidelines further define a "racially hostile environment" as harassing conduct (e.g. physical, verbal, graphic or written) that is sufficiently severe, pervasive or persistent so as to interfere with or limit the ability of an individual to participate in or benefit from the services, activities or privileges provided.

Regulation - Discrimination, Harassment and Retaliation Reporting and Protection

SJSU policies prohibit retaliation against persons who file a complaint of discrimination, or assist with or participate in an SJSU or government agency investigation, proceeding or hearing concerning discrimination complaint. Retaliation complaints can be separately filed in the Office for Equal Opportunity, 408-924-1115. Or go to www.sjsu.edu/hr for more information

San José State University is committed to creating an atmosphere in which all persons and groups can work and study free of unlawful discrimination.

Unit 11 Academic Student Employee: See Office of Faculty Affairs

Students

If you have any complaints regarding unlawful discrimination or harassment follow the complaint guidelines outlined in CSU Executive Order 1097 and complete the Student Complaint Form for Discrimination, Harassment, Retaliation & Sexual Misconduct under Title IX (PDF) and return it to Office for Equal Opportunity.

For more information, see our FAQs or contact Office for Equal Opportunity.

For more information, visit http://www.sjsu.edu/hr/students/students_harassment_complaints/index.html

Regulation - Sexual Harassment Policy and Complaints

SJSU is committed to maintaining a working and learning environment free from sexual harassment for its students, employees and those who apply for employee or student status. Sexual harassment is conduct subject to disciplinary action.

CSU policy defines sexual harassment to include "such behavior as sexual advances, requests for sexual favors and other verbal or physical conduct of a sexual nature directed towards an employee, student or applicant when one or more of the following circumstances are present:

- Submission to, or rejection of, the conduct is explicitly or implicitly used as the basis for any decision affecting a Complainant's academic status or progress, or access to benefits and services, honors, programs, or activities available at or through the University; or
- The conduct is sufficiently severe, persistent or pervasive that its effect, whether or not intended, could be considered by a reasonable person in the shoes of the Complainant, and is in fact considered by the Complainant, as limiting his or her ability to participate in or benefit from the services, activities or opportunities offered by the University; or
- The conduct is sufficiently severe, persistent or pervasive that its effect, whether or not intended, could be considered by a reasonable person in the shoes of the Complainant, and is in fact considered by the Complainant, as creating an intimidating, hostile or offensive environment.

Sexual Harassment could include being forced to engage in unwanted sexual contact as a condition of membership in a student organization; being subjected to video exploitation or a campaign of sexually explicit graffiti; or frequently being exposed to unwanted images of a sexual nature in a classroom that are unrelated to the coursework.

Sexual Harassment also includes acts of verbal, non-verbal or physical aggression, intimidation or hostility based on Gender or sex-stereotyping, even if those acts do not involve conduct of a sexual nature.

Executive Order 1097 covers unwelcome conduct of a sexual nature. While romantic, sexual, intimate, personal or social relationships between members of the University community may begin as consensual, they may evolve into situations that lead to Sexual Harassment or Sexual Misconduct, including Dating or Domestic Violence, or Stalking, subject to this policy.

Claiming that the conduct was not motivated by sexual desire is not a defense to a complaint of harassment based on Gender.

All complaints dealing with sexual harassment should be directed to the Director, Office for Equal Opportunity, who has been designated to investigate such allegations.

Regulation - ROTC Recruiting

This notice is to inform you that San José State University hosts the Air Force Reserve Officers Training Corps program on campus solely in compliance with the federal requirements contained in The Solomon Amendment. This law, passed as an attachment to the FY97 Federal Appropriations Bill, allows the government to deny federal funding, including federal student aid, to any school that does not provide access to ROTC programs and military recruiters on its campus.

San José State University is guided by the principle of equal opportunity, including the conviction that there will be no differential treatment or harassment of persons because of race, color, religion, national origin, age, sex, marital status, pregnancy, disability, veteran's status, or sexual orientation. The university has a firm and unambiguous commitment to the active elimination of discrimination, and the affirmative recruitment of a diverse, multi-racial community of students, faculty and staff.

Information Regarding Campus, Criminal and Civil Consequences of Committing Acts of Sexual Violence

Individuals alleged to have committed sexual misconduct may face criminal prosecution by law enforcement and may incur penalties as a result of civil litigation. In addition, employees and students may face discipline at the university, up to and including suspension or expulsion. Employees may face sanctions up to and including dismissal from employment, pursuant to established CSU policies and provisions of applicable collective bargaining unit agreements.

Students who are charged by the university with gender discrimination, harassment or misconduct will be subject to discipline, pursuant to the California State University Student Conduct Procedures (see Executive Order 1098 at www.calstate.edu/EO/EO-1098-rev-6-23-15.pdf or any successor executive order) and will be subject to appropriate sanctions. In addition, during any investigation, the university may implement interim measures in order to maintain a safe and non-discriminatory educational environment. Such measures may include but not be limited to: immediate interim suspension from the university; a required move from university-owned or affiliated housing; adjustments to course schedule; and/or prohibition from contact with parties involved in the alleged incident.

Confidentiality and Sexual Misconduct, Dating Violence, Domestic Violence and Stalking

The university encourages victims of sexual misconduct, dating violence, domestic violence or stalking to talk to someone about what happened - so they can get the support they need, and so the university can respond appropriately.

Privileged and Confidential Communication

Physicians, Psychotherapists, Professional Licensed Counselors, Licensed Clinical Social Workers, and Clergy - Physicians, psychotherapists, professional, licensed counselors, licensed clinical social workers, and clergy who work or volunteer on or off campus, acting solely in those roles or capacities as part of their employment, and who provide medical or mental health treatment or counseling (and those who act under their supervision, including all individuals who work or volunteer in their centers and offices) including those who act in that role under their supervision) may not report any information about an incident of sexual misconduct to anyone else at the university, including the Title IX Coordinator, without the victim's consent. A victim can seek assistance and support from physicians, psychotherapists, professional, licensed counselors, licensed clinical social workers and clergy without triggering a university investigation that could reveal the victim's identity or the fact of the victim's disclosure. However, see limited exceptions below regarding when health care practitioners must report to local law enforcement agencies. Health care practitioners should explain these limited exceptions to victims, if applicable.

Sexual Assault and Domestic Violence Counselors and Advocates - Sexual assault and domestic violence counselors and advocates who work or volunteer on or off campus in sexual assault centers, victim advocacy offices, women's centers and health centers and who are acting solely in that role (including those who act in that role under their supervision, along with non-professional counselors or advocates who work or volunteer in sexual assault centers, victim advocacy offices, women's centers, gender equity centers, or health centers), may talk to a victim without revealing any information about the victim and the incident of sexual misconduct to anyone else at the university, including the Title IX Coordinator, without the victim's consent. A victim can seek assistance and support from these counselors and advocates without triggering a university investigation that could reveal his/her identity or that a victim disclosed an incident to them. However, see limited exceptions below regarding when sexual assault and domestic violence counselors and advocates must report to local law enforcement agencies. Counselors and advocates should explain these limited exceptions to victims, if applicable.

The university will be unable to conduct an investigation into a particular incident or pursue disciplinary action against a perpetrator if a victim chooses to (1) speak only to a physician, professional licensed counselor, licensed clinical social worker, clergy member, sexual assault counselor, domestic violence counselor or advocate; and (2) maintain complete confidentiality. Even so, these individuals will assist victims in receiving other necessary protection and support, such as victim advocacy, disability, medical/health or mental health services, or legal services, and will advise victims regarding their right to file a Title IX complaint with the university and a separate complaint with local or university police. If a victim insists on confidentiality, such professionals, counselors and advocates will likely not be able to assist the victim with: university academic support or accommodations; changes to university-based living or working schedules; or adjustments to course schedules. A victim who at first requests confidentiality may later decide to file a complaint with the university or report the incident to the police, and thus have the incident fully investigated. These counselors and advocates can provide victims with that assistance if requested by the victim. These counselors and advocates will also explain that Title IX includes protections against retaliation, and that the university will not only take steps to prevent retaliation when it knows or reasonably should know of possible retaliation, but will also take strong responsive action if it retaliation occurs.

EXCEPTIONS: Under California law, any health practitioner employed in a health facility, clinic, physician's office, or local or state public health department or clinic is required to make a report to local law enforcement if he or she provides medical services for a physical condition to a patient/victim who he or she knows or reasonably suspects is suffering from (1) a wound or physical injury inflicted by a firearm; or (2) any wound or other physical injury inflicted upon a victim where the injury is the result of assaultive or abusive conduct (including sexual misconduct, domestic violence, and dating violence). This exception does not apply to sexual assault and domestic violence counselors and advocates. Health care practitioners should explain this limited exception to victims, if applicable.

Additionally, under California law, all professionals described above (physicians, psychotherapists, professional counselors, licensed clinical social workers, clergy, and sexual assault and domestic violence counselors and advocates) are mandatory child abuse and neglect reporters, and are required to report incidents involving victims under 18 years of age to local law enforcement. These professionals will explain this limited exception to victims, if applicable.

Finally, some or all of these professionals may also have reporting obligations under California law to: (1) local law enforcement in cases involving threats of immediate or imminent harm to self or others where disclosure of the information is necessary to prevent the threatened danger; or (2) to the court if compelled by court order or subpoena in a criminal proceeding related to the sexual misconduct, dating or domestic violence, or stalking incident. If applicable, these professionals will explain this limited exception to victims.

SJSU Policies

San José State University does not discriminate on the basis of accent, age, ancestry, citizenship status, color, creed, disability, ethnicity, gender, genetic information, marital status, medical condition, national origin, race, religion or lack thereof, sex, sexual orientation, transgender, or veteran's status. This policy applies to all SJSU students, faculty and staff programs and activities. Title IX of the Education Amendments of 1972, and certain other federal and state laws, prohibit discrimination on the basis of sex in all education programs and activities operated by the university (both on and off campus). Questions regarding this policy should be directed to the Office for Equal Opportunity, 408-924-1115

San Jose State University is committed to creating a safe, healthy, and supportive learning environment for our whole community. In this spirit, and to comply with educational mandates under CSU Chancellor's Office Executive Order 1095, all students are required to complete sexual assault prevention training annually.

Title IX (Nondiscrimination)

SJSU does not discriminate on the basis of sex in the educational programs and activities it conducts. Such programs and activities include admission of students and employment.

Department of Education, Office for Civil Rights: (800) 421-3481 or ocr@ed.gov

If you wish to fill out a complaint form online with the OCR, you may do so at: www2.ed.gov/about/offices/list/ocr/complaintintro.html.

Title IX requires the university to adopt and publish complaint procedures that provide for prompt and equitable resolution of gender discrimination complaints, including sexual harassment and misconduct as well as provide training, education and preventive measures related to sex discrimination. CSU Executive Order 1097 (http://www.calstate.edu/EO/EO-1097-rev-10-5-16.pdf) is the systemwide procedure for all complaints of discrimination, harassment or retaliation made by students against the CSU, a CSU employee, other CSU students or a third party.

Except as provided below under confidentiality and sexual misconduct, dating violence, domestic violence, and stalking, any University employee who knows or has reason to know of allegations or acts that violate University policy shall promptly inform the Title IX Coordinator. These employees are required to disclose all information including the names of the parties, even where the person has requested that his/her name remain confidential. The Title IX Coordinator will determine whether confidentiality is appropriate given the circumstances of each such incident (see confidential reporting options outlined below).

Regardless of whether an alleged victim of gender discrimination ultimately files a complaint, if the campus knows or has reason to know about possible sexual discrimination, harassment or misconduct, violence, it must review the matter to determine if an investigation is warranted. The campus must then take appropriate steps to eliminate any gender discrimination/harassment/misconduct, prevent its recurrence, and remedy its effects.

Inquiries and complaints concerning the application of Title IX to programs and activities of SJSU may be referred to the Director of Compliance, SAB 106, 408-924-1200 or the Office for Equal Opportunity, UPD 303, 408-924-1115.

Reporting to the Title IX Coordinator and Other University Employees

Most university employees have a duty to report incidents of sexual misconduct when they are on notice of it. When a victim tells the Title IX Coordinator or another university employee about an incident of sexual misconduct, the victim has the right to expect the university to take immediate and appropriate steps to investigate what happened and to resolve the matter promptly and equitably. In all cases, the university strongly encourages victims to report incidents of sexual misconduct directly to the campus Title IX Coordinator. As detailed above, in the "Privileged and Confidential Communications" section of this policy, all university employees except physicians, licensed professional counselors, licensed clinical social workers, sexual assault counselors and advocates, must report to the Title IX Coordinator all relevant details about any incidents of sexual misconduct of which they become aware. The university will need to determine what happened - and will need to know the names of the victim(s) and the perpetrator(s), any witnesses, and any other relevant facts, including the date, time and specific location of the incident.

Student Complaint Procedure (Complaints Regarding the CSU)

The California State University takes very seriously complaints and concerns regarding the institution. If you have a complaint regarding the CSU, you may present your complaint as follows:

1. If your complaint concerns CSU's compliance with academic program quality and accrediting standards, you may present your complaint to the Western Association of Schools and Colleges (WASC) at www.wascsenior.org/comments. WASC is the agency that accredits the CSU's academic program. If you believe that your complaint warrants further attention after you have exhausted all the steps outlined by WASC, you may file an appeal with the Assistant Vice Chancellor, Academic and Student Affairs at the CSU Chancellor's Office.
2. If your complaint concerns an alleged violation by CSU of any law that prohibits discrimination, harassment or retaliation based on a protected status (such as age, disability, gender (or sex), gender identity, gender expression, nationality, race or ethnicity (including color or ancestry), religion or veteran or military status), you may present your complaint as described in Section XVI (Nondiscrimination Policy).
3. If your complaint concerns an alleged violation by the CSU of other state law, including laws prohibiting fraud and false advertising, you may present your claim to the campus president or designee. See Procedure for Student Complaints-Executive Order No. 1063 for details regarding the complaint requirements and complaint process: www.calstate.edu/eo/eo-1063.html.
4. Other complaints regarding the CSU may be presented to the campus dean of students, who will provide guidance on the appropriate campus process for addressing your particular issue.

This procedure should not be construed to limit any right that you may have to take legal action to resolve your complaint.

Civil and Criminal Penalties for Violation of Federal Copyright Laws

Anyone who is found to be liable for copyright infringement may be liable for either the owner's actual damages along with any profits of the infringer or statutory damages of up to $30,000 per work infringed. In the case of a willful infringement, a court may award up to $150,000 per work infringed. (See 17 U.S.C. %A7504.) Courts also have discretion to award costs and attorneys' fees to the prevailing party. (See 17 U.S.C. %A7505.) Willful copyright infringement can also result in criminal penalties, including imprisonment and fines. (See 17 U.S.C. %A7506 and 18 U.S.C. %A72319.)

Health Policies

Regulation - Health Risks

Federal Law requires the university to provide a description of health risks associated with alcohol and drug abuse.

Regulation - Alcohol

Alcohol consumption causes a number of marked changes in behavior. Even low doses significantly impair the judgment and coordination required to drive a car safely, increasing the likelihood that the driver will be involved in an accident. Low to moderate doses of alcohol also increase the incidence of a variety of aggressive acts. Moderate to high doses of alcohol caused marked impairments in higher mental functions, severely altering a person's ability to learn and remember information. Very high doses cause respiratory depression and death. If combined with other depressants of the central nervous system, much lower doses of alcohol will produce the effects just described. Repeated use of alcohol can lead to dependence and addiction. Sudden cessation of alcohol intake is likely to produce withdrawal symptoms, including severe anxiety, tremors, hallucinations and convulsions. Addictions often require medical support. Long-term consumption of large quantities of alcohol, particularly when combined with poor nutrition, can also lead to permanent damage to vital organs such as the brain and liver.

Mothers who drink alcohol during pregnancy may give birth to infants with fetal alcohol syndrome. These infants have irreversible physical abnormalities and mental retardation. In addition, research indicates that children of alcoholic parents are at greater risk than other youngsters of becoming alcoholics.

California Alcohol and Drug Abuse Law

The Alcoholic Beverage Control Act was enacted in 1953. This Act is intended to protect the safety, welfare, health, peace and morals of Californians, eliminate the unlicensed and unlawful manufacture, sale and disposal of alcoholic beverages and promote temperance in the consumption and use of alcoholic beverages. (Bus and Prof. Code 23001)

A person convicted of a violation of the Alcohol and Beverage Control Act is guilty of a misdemeanor or felony depending on the violation.

The Uniform Controlled Substances Act may be found in the Health and Safety Code, Section 11000-11651. This Act is the result of a growing concern over substances. Controlled Substances are divided into five Schedules and the substances under each Schedule may be found in Sections 11053-11058.

Local Laws

Local laws generally are consistent with Federal and State laws.

University Regulations

Use and Abuse of Alcohol and Other Drugs- University Policy F10-1

This policy delineates University policy concerning alcohol and illegal drugs or substances, provides procedural guidelines, and communicates the consequences of failing to adhere to established policies. Provision for the purchase, sale, service, and consumption of alcoholic beverages on campus is a privilege accorded to University members with the understanding that they will comply with internal rules, regulations, and relevant legislation (local, state or national). All members of the University community as well as their guests have a responsibility to ensure that alcohol is used in a responsible manner by persons twenty-one (21) years of age or older. The use of alcohol and other drugs should not interfere with the primary mission of the University as an educational institution.

Review the full policy here http://www.sjsu.edu/senate/docs/F10-1.pdf

University regulations controlling student behavior may be found in the Student Conduct Code (Title 5 of the California Code of Regulations Section 41301). The Campus Alcohol Policy includes procedures for serving alcoholic beverages on campus.

The University is required to post in designated areas information concerning the use of anabolic steroids.

Conduct Regarding Drugs and Alcohol

SJSU students, faculty and staff are expected to comply with Federal, State and Local laws governing the use of alcohol and illicit drugs on the University campus and as part of university activities both on and off the campus. These laws control the possession, use and distribution of alcohol and unlawful drugs.

All incoming students are required to complete AlcoholEdu, an online alcohol education course. All incoming students starting in the fall will receive information regarding AlcoholEdu in June. Those starting in the Spring will receive information in January.

The sale, possession, distribution or use of illicit drugs will not be tolerated. Students, faculty and staff are expected to comply with laws governing the possession, distribution and consumption of alcohol as promulgated by the State of California and the university.

It is the responsibility of every student, faculty member and employee to report incidents involving infractions of federal, state and local drug and alcohol laws on campus or at officially sponsored Off-Campus Activities to the Executive Vice President for Faculty Affairs, the Human Resources Officer or the Vice President for Student Affairs.

As is the case in courts, lack of awareness and/or failure to comprehend the regulations are not acceptable defense of one's actions.

Available Drug or Alcohol Counseling and Treatment Programs

SJSU students are encouraged to seek assistance for drug and alcohol problems at the Counseling & Psychological Services (CAPS) or at the Student Health Center. The State also maintains an Employee Assistance Program to help employees and their dependents with problems of alcohol and drugs.

State Employee Assistance Program
Concern 1-800-344-4222
www.concern-eap.com

Counseling & Psychological Services (CAPS)
Student Wellness Center, 3rd Floor
408-924-5910
www.sjsu.edu/counseling/

Student Health Center
Student Wellness Center 101

408-924-6122 (appointment line)
www.sjsu.edu/studenthealth/

Regulation - Federal Trafficking Penalties

Federal penalties for trafficking are dependent upon several conditions including the substance, amounts involved and whether the matter is a first or second offense.

Penalties involve monetary sanctions and/or prison terms up to and including life in prison.

Federal Penalties and Sanctions For Illegal Possession Of A Controlled Substance 21 U.S.C. 844(a) - 1st conviction: Up to 1 year imprisonment and fined at least $1,000 but not more than $100,000 or both.

After 1 prior drug conviction: At least 15 days in prison, not to exceed 2 years and fined at least $2,500 but not more than $250,000 or both.

After 2 or more prior drug convictions: At least 90 days in prison, not to exceed 3 years and fined at least $5,000 but not more than $250,000 or both.

Special sentencing provisions for possession of crack cocaine: Mandatory at least 5 years in prison, not to exceed 20 years and fined up to $250,000 or both if:

- 1st crack conviction and the amount of crack possessed exceeds 5 grams.
- 2nd crack conviction and the amount of crack possessed exceeds 3 grams.
- 3rd or subsequent crack conviction and the amount of crack possessed exceeds 1 gram.

21 U.S.C. 853(a)(2) and 881(a)(7) - Forfeiture of personal and real property used to possess or to facilitate possession of a controlled substance if that offense is punishable by more than 1 year imprisonment.

21 U.S.C. 881 (a)(4) - Forfeiture of vehicles, boats, aircraft or any other conveyance used to transport or conceal a controlled substance.

21 U.S.C. 844a - Civil fine of up to $10,000 (pending adoption of final regulations).

21 U.S.C. 853a - Denial of Federal benefits, such as student loans, grants, contracts and professional and commercial licenses, up to 1 year for first offense, up to 5 years for second and subsequent offenses.

18 U.S.C. 922(g) - Ineligible to receive or purchase a firearm.

Regulation - Tobacco

As of August 2015, SJSU is a Smoke and Tobacco Free campus. For more information see Presidential Directive (PD1014-01) and CSU Executive Order 1108.

For more information: http://www.sjsu.edu/tobaccofree/

For tobacco cessation services:

- Counseling and Psychological Services (CAPS)

  408-924-5910
- Student Health Center- Wellness and Health Promotion

  408-924-6202

  www.sjsu.edu/wellness/tobacco
- Low Cost Nicotine Replacement Therapies (NRT):

Patches and gum are available at Student Health Center Pharmacy

  408-924-6115
- California Smoker's Helpline

  1-800-662-8887 (1-800-NO-BUTTS)
- VA-San Jose Community Clinic

  408-363-3000

  http://www.paloalto.va.gov/locations/sanjose.asp

Some of the rationale for a smoke free campus includes:

- Tobacco, both smoked and smokeless, is the leading cause of cancers of the cheeks, gums, palate, tongue and lips.
- A one-pack-a-day smoker increases their chances of cancer of the esophagus by as much as 500%.
- Cigarette smokers are ten times more likely to die of lung cancer than non-smokers.
- Cancer is not the only disease associated with smoking.
- Cigarette smokers are twice as likely to get peptic ulcers as are non-smokers.
- Nicotine is a powerful constrictor of blood vessels and small arteries and results in the restriction of oxygen flow to the heart and elsewhere.
- Heart attacks and strokes are results of oxygen restriction.
- Smoking more than 1/2 pack daily is also associated with higher incidence of infertility in women.
- Babies born to women who smoke are lighter and smaller than those born to non-smokers. This is important because birth weight is a predictor of infant health.

Regulation - Human Immunodeficiency Virus (HIV)/Acquired Immune Deficiency Syndrome (AIDS)

HIV/AIDS is a viral disease which destroys the body's ability to fight specific illnesses.

The risks of HIV/AIDS can be reduced by:

- Avoiding the exchange of body fluids. HIV can be passed through the exchange of blood, semen, vaginal secretions and breast milk.
- Using condoms correctly and consistently to greatly reduce the exchange of body fluids.
- Reducing the number of sexual partners.
- Avoiding the use of intravenous drugs or sharing needles.
- Abstinence.
- Communicating with sexual partners before having sex about being tested for sexually transmitted infections and protection.

CONTENTS

For more information about HIV/AIDS prevention, confidential testing, safer sex and free condoms, contact:

Student Health Center, Wellness and Health Promotion
Student Wellness Center 101
408-924-6280
www.sjsu.edu/wellness
www.sjsu.edu/studenthealth/

For anonymous HIV testing, please contact the following locations:

Santa Clara County Public Health (Crane Center)
976 Lenzen Ave., Suite 1800
San José, CA 95126
408-792-3720

Billy DeFrank LGBT Center
938 The Alameda
San José, CA 95126
408-293-3040

Asian Americans for Community Involvement (AACI)
2400 Moorpark Ave #300
San José, CA 95128
408-975-2730 ext 381

Privacy Rights of Students in Education Records

The federal Family Educational Rights and Privacy Act of 1974 (20 U.S.C. 1232g) and regulations adopted thereunder (34 C.F.R. 99) set out requirements designed to protect students' privacy in their records maintained by the campus. The statute and regulations govern access to certain student records maintained by the campus and the release of such records. FERPA provides that the campus must give students access to most records directly related to the student, and must also provide opportunity for a hearing to correct the records if the student claims they are inaccurate, misleading, or otherwise inappropriate. The right to a hearing under this law does not include any right to challenge the appropriateness of a grade determined by the instructor. FERPA generally requires the campus obtain a student's written consent before releasing personally identifiable data pertaining to the student. The campus has adopted a set of policies and procedures governing implementation of FERPA and the regulations. Copies of these policies and procedures may be obtained at (designate location on campus). Among the types of information included in the campus statement of policies and procedures are: (1) the types of student records maintained and the information they contain; (2) the official responsible for maintaining each type of record; (3) the location of access lists indicating persons requesting or receiving information from the record; (4) policies for reviewing and expunging records; (5) student access rights to their records; (6) the procedures for challenging the content of student records; (7) the right of the student to file a complaint with the Department of Education. The Department of Education has established an office and review board to investigate complaints and adjudicate violations. The designated office is: Family Policy Compliance Office, U.S. Department of Education, 400 Maryland Avenue, SW, Washington, D.C. 20202-5920.

The campus is authorized under the Act to release "directory information" concerning students. "Directory information" may include the student's name, address, telephone listing, electronic mail address, photograph, date and place of birth, major field of study, participation in officially recognized activities and sports, weight and height of members of athletic teams, dates of attendance, grade level, enrollment status, degrees, honors, and awards received, and the most recent previous educational agency or institution attended by the student. The above-designated information is subject to release by the campus at any time unless the campus has received prior written objection from the student specifying what information the student requests not be released. Written objections should be sent to the Registrar's Office. It should be noted, however, that University Policy S66-20 is more restrictive than the law. SJSU policy guidelines indicate that the only directory information routinely released to outside parties without student consent is enrollment status and degree completion (if applicable). Requests for addresses and telephone numbers are not honored, especially if requested for commercial purposes.

The campus is authorized to provide access to student records to campus officials and employees who have legitimate educational interests in such access. These persons have responsibilities in the campus's academic, administrative or service functions and have reason for accessing student records associated with their campus or other related academic responsibilities. Student records will be disclosed to the Chancellor's Office of the CSU in order to conduct research, to analyze trends, or to provide other administrative services on behalf of the CSU. Student records may also be disclosed to other persons or organizations under certain conditions (e.g., as part of the accreditation or program evaluation; in response to a court order or subpoena; in connection with financial aid; or to other institutions to which the student is transferring).

University Development (Advancement) Programs

Directory information (see definition earlier) may be used by the university for the development of campus affiliated programs.

Regulation - Career Placement Information

The Career Center may furnish, upon request, information about the employment of students who graduate from programs or courses of study preparing students for a particular career field. Any such data provided must be in a form that does not allow for the identification of any individual student. This information includes data concerning the average starting salary and the percentage of previously enrolled students who obtained employment. The information may include data collected from either graduates of the campus or graduates of all campuses in the California State University system.

Regulation - Student Identification Information

SJSU ID Number

San José State University is concerned about keeping your personal data private. We are required to use Social Security numbers to process payroll; award financial aid and document fees paid for tax relief purposes. However, for all other purposes, we will use your SJSU ID number for identification, rather than your Social Security Number.

Use of Social Security Number

Applicants are required to include their correct social security numbers in designated places on applications for admission pursuant to the authority contained in Section 41201, Title 5, California Code of Regulations, and Section 6109 of the Internal Revenue Code (26 U.S.C. 6109). The university uses the social security number to identify students and their records including identification for purposes of financial aid eligibility and disbursement and the repayment of financial aid and other debts payable to the institution. Also, the Internal Revenue Service requires the university to file information returns that include the student's social security number and other information such as the amount paid for qualified tuition, related expenses, and interest on educational loans. This information is used by the IRS to help determine whether a student, or a person claiming a student as a dependent, may take a credit or deduction to reduce federal income taxes.

Campus and Information Resources

Accreditation

San José State University is accredited by the WASC Senior College and University Commission (WSCUC) - 985 Atlantic Avenue, Suite 100, Alameda, CA 94501, 510-748-9001, one of the six major regional college accreditation agencies in the United States; the California State Board of Education; and by a number of other agencies in special fields. The Teacher Education programs of the University also are accredited by the National Council for Accreditation of Teacher Education and approved by the California Commission on Teacher Credentialing.

Art and Design
National Association of Schools of Art and Design

Advertising
Accrediting Council on Education in Journalism and Mass Communications

Business
Association to Advance Collegiate Schools of Business International

Chemistry
American Chemical Society, Committee on Professional Training (ACS-CPT)

Computer Science
ABET

Dance
National Association of Schools of Dance (NASD)

Dietetics
American Dietetic Association - Commission on Accreditation for Dietetics Education

Education
California Commission on Teacher Credentialing (CTC)

Engineering
ABET (Aerospace, Biomedical, Chemical, Civil, Computer, Electrical, Industrial and Systems, Materials, and Mechanical)

Industrial Technology
Association of Technology, Management, and Applied Engineering (ATMAE)

Journalism
Accrediting Council on Education in Journalism and Mass Communications

Kinesiology
Commission on Accreditation of Athletic Training Education (undergraduate)

Library and Information Science
American Library Association

Music
National Association of Schools of Music

Nursing
California Board of Registered Nursing and Commission on Collegiate Nursing Education

Nutrition and Food Science
The Institute of Food Technologists uses the term "approved" rather than accredited.

Occupational Therapy
Accreditation Council for Occupational Therapy Education of American Occupational Therapy Association

Public Administration
National Association of Schools of Public Affairs and Administration

Public Health
Council on Education for Public Health

Public Relations
Accrediting Council on Education in Journalism and Mass Communications

Recreation
Council on Accreditation of Park, Recreation, and Tourism Related Professions
Council for Higher Education

Social Work
Council on Social Work Education

Speech-Language Pathology
Council on Academic Accreditation in Audiology and Speech-Language Pathology

Theatre Arts
National Association of Schools of Theatre

Urban and Regional Planning
Association of Collegiate Schools of Planning, Inc.
Planning Accreditation Board

Colleges

Health and Human Sciences, College of

The College of Health and Human Sciences provides both liberal and well-defined professional education at the undergraduate and graduate levels. Course work prepares students to be competent and transformative professionals in a technologically complex and culturally diverse society. The college's courses and programs provide students with a theoretical base that is developed and tested through: (1) research; (2) knowledge that can be applied in diverse systems; (3) processes that incorporate human understanding, social justice and cooperation, and (4) supervised practice through internships, field work and/or preceptorships in a variety of career-related settings. Graduates become leaders and establish professional careers as administrators, educators, practitioners, information specialists and applied researchers in a variety of settings. These settings include both private and public agencies, government institutions at all levels, community and health care organizations and educational institutions. The College of Health and Human Sciences values and respects diversity, inclusion, civility and individual uniqueness; we recognize the strength these factors bring to our community and learning environment. All of our interactions should reflect trust, caring and mutual respect. We value education and intellectual curiosity above all. The academic freedom of faculty and students is vital to our role of promoting life-long learning through intellectual inquiry, scholarship and the pursuit of knowledge. An overarching goal is that faculty and our academic programs will be recognized for outstanding research, teaching and service across disciplinary and geographic boundaries.

Internships

The departments/schools within the College offer internships that involve advanced practical experience, fieldwork or clinical experience in a professional work setting under direct supervision of qualified professionals. Interns would be assigned various duties and experiences related to their particular areas of specialization. Internships may include seminars, practica or preceptorships to further develop beginning and advanced level practice skills.

International Experience Requirement

The goal of the international experience requirement is to introduce students to international and intercultural perspectives in order to prepare them to live and work in an increasingly globalized world. A number of different types of international experiences, ranging in length from 9 days to one year, can meet this requirement. Most international experience courses also allow students to earn credit towards the degree. Scholarships and Financial Aid are available to defray the costs of international travel. See http://www.sjsu.edu/chhs/international-experience/ for more information.

Teaching Credential Programs

The Department of Kinesiology, in collaboration with the College of Education, provides two single subject professional programs designed for individuals who are interested in teaching physical education or adapted physical education in grades K-12. The California School Nurse Credential prepares Registered Nurses at the Master's and Post Master's level to provide and manage health services and programs in the school setting. The School of Library and Information Science offers a Teacher Librarian Credential. The teacher librarian impacts K-12 student outcomes by collaborating with teachers, working directly with students, championing reading and providing information-rich learning environments.

Organized Research Units and Unique Programs

The programs of the College of Applied Sciences and Arts are further enriched by educational, research, global partnerships, as well as cultural and training opportunities provided by the following specialized research units and unique programs: Institute of Nursing Research and Practice, Center for International Sport and Human Performance, Research Institute for Foster Youth Initiatives (RIFYI), Timpany Center, The Center for Research on Effective Services (CRES), and the Center for Healthy Aging in Multicultural Populations (CHAMP).

Business, Donald and Sally Lucas College and Graduate School of

The Donald and Sally Lucas College and Graduate School of Business is the institution of opportunity, providing innovative business education and research for the Silicon Valley region and beyond since 1928. The College offers an accessible, high value education that empowers people of all ages and backgrounds to transform their lives. Faculty and staff are strongly committed to the College's mission; maintain a collegial, inclusive teaching and learning environment; and are dedicated to continuous improvement in all areas of academic achievement, scholarship, teaching and service.

The college is an active member of the San José and Silicon Valley community and provides a talent pool, thought leadership and service that supports the region's growth in the global marketplace. The college is one of the 755 institutions worldwide that are accredited by the prestigious AACSB International, the Association to Advance Collegiate Schools of Business. In addition, the college is accredited by the Western Association of Schools and Colleges and the California State Board of Education.

The college is dedicated to equipping graduates with the tools, work ethic and skills to succeed in the ever-changing global economy. This is accomplished through a challenging undergraduate curriculum and an innovative, high quality graduate education in the Donald and Sally Lucas Graduate School of Business.

Undergraduate Business Education

The college provides a rich undergraduate education through five departments and schools - Accounting and Finance, Information Systems and Technology, Management, Global Innovation and Leadership, and Marketing and Decision Sciences. Infused throughout the undergraduate program are opportunities to develop competencies in a number of key areas -- communication, teamwork, global perspectives, critical thinking, ethics, entrepreneurship, community service, and innovation. The rigorous and challenging curriculum prepares graduates to be future leaders that succeed in the global economy.

The college is building upon its existing expertise in entrepreneurship, management, global finance, accounting, and leadership and organizational change. In addition, the college showcases the best and brightest students through the Gary J. Sbona Honors Program and the Thompson Global Internship Program.

Donald and Sally Lucas Graduate School of Business

The Donald and Sally Lucas Graduate School of Business offers a high-value education with a global focus, innovative programs, and deep ties to Silicon Valley corporations and leaders. Our distinguished faculty provide a relevant business education focusing on excellence in teaching and applied research and serving the needs of diverse students from the Silicon Valley and beyond.

We offer an on-campus Early Career MBA program with three tracks: accelerated (12 months), full-time (21-24 months), and part-time (33-36 months). Our off-campus MBA for Professionals is a flexible part-time program suitable for working professionals who set their own paces. We also offer Master of Science in Accountancy, Master of Science in Taxation, Master of Science in Transportation Management programs and a dual degree MBA/Master of Science in Software Engineering or MBA/Master of Science in Engineering with a specialization in Systems Engineering.

Education, Connie L. Lurie College of

The Connie L. Lurie College of Education is a professional community of students, faculty and staff engaged in supportive partnerships to serve a community of culturally diverse children, youth and families by pursuing and promoting scholarly and reflective inquiry, and access to a quality lifelong education. Faculty, staff and graduates are compassionate and ethical professionals who are mindful of our responsibilities in a democratic society. The College's core values are excellence and equity. Excellence is manifested in the rigor of our academic programs, in our teacher/scholar faculty contributions, and in the high level of staff service. We challenge our students to strive for excellence in their academic and personal pursuits, as informed and active citizens in their own communities. To achieve equity, our students, faculty, and staff continuously work for social justice and educational opportunities for all members of our society.

The college offers Bachelor's and Master's degrees, a doctoral program, and numerous professional teaching credentials. Programs are offered through seven academic departments which are supplemented by a variety of resources including the Armstead Center for Communication Disorders and the Child Development Laboratory Preschool. The college, housed in William Sweeney Hall, offers two computer laboratories that are open to both undergraduate and graduate students. Students also have access to other high tech education applications.

Student Service Centers

The Kay A. Armstead Center for Communication Disorders provides speech-language-hearing evaluations and therapy services and to students, staff, faculty, and the local San Jose community.

The Child Development Laboratory Preschool is housed in two locations on the SJSU campus, including toddler and pre-school labs. These programs provide undergraduates with both observation and hands-on clinical/practicum opportunities.

The Credentials Office and Student Services Center in Sweeney Hall 106 provides students with information about the California Basic Education Skills Test (CBEST), California Subject Examinations for Teachers (CSET), and Reading Instruction Competence Assessment (RICA). General information on elementary (Multiple Subject), secondary (Single Subject) and special education (Education Specialist) teaching credentials, as well as other service credentials and certificate programs are provided.

Advisement

The Lurie College Student Success Center works in collaboration with the academic departments to provide general education advising, academic support and guidance towards degree completion.

Engineering, Charles W. Davidson College of

The College of Engineering offers ten engineering curricula leading to BS and MS degrees in aerospace, biomedical, chemical, civil, computer, electrical, general, industrial and systems, materials, mechanical and software engineering. The college also has BS degree programs in aviation and industrial technology and a MS degree program in quality assurance . California provides, through community colleges, the California State University and the University of California, coordinated educational programs designed to meet local and statewide needs in engineering and technology.

Engineering Student Success Center

The goal of the **Engineering Student Success Center** is to mentor students from admission through graduation. The Center provides academic advising, support services, and opportunities for professional development and practice.

The **MESA Engineering Program and the Women in Engineering Program** work to increase the number of graduates entering the engineering profession from traditionally under-represented and economically disadvantaged groups. MEP actively recruits students, provides support services until graduation and acts as liaison with companies offering employment experiences. MEP assists students with admissions, academic and personal counseling, financial aid and scholarships, housing and registration. MEP maintains a study center for tutoring, workshops, individual and group study and social functions. A summer job placement program assists students in obtaining jobs in industry.

The **Community for Engineering Learning and Living (CELL)** is a themed living community offered by the University Housing Services for first year engineering students. CELL's objectives are to provide a cooperative learning environment, to encourage and build the engineering community and to foster a sense of belonging and responsibility to the community. Through facilitated study groups, CELL students will experience the academic support and cooperation of a community committed to academic success. CELL students will have regular access to faculty, advisors and industry professionals through workshops and programs. CELL is about shared experiences and creating a vibrant and caring engineering community.

Graduate and Undergraduate Programs, Office of

Graduate and Undergraduate Programs (GUP) is involved with all aspects of graduate and undergraduate academic matters which support retention and graduation of students. It includes the following areas and programs: Academic Scheduling, Accreditation, Articulation, Assessment, General Education, Program Planning, Catalog, Curriculum, MyProgress, and MyPlanner.

Administration 159

www.sjsu.edu/gup
408-924-2447

Humanities and the Arts, College of

The College of Humanities and the Arts at San José State University provides a high-quality liberal arts education focused on creativity, innovation, and problem solving. Our programs in art and design, language, linguistics, and literature, film and theater, and music and dance and philosophy prepare students to be compassionate, informed citizens of the world. The College leverages the power of the arts and humanities to explore the most important questions of our time.

Building upon a foundation of excellent oral and written communication skills, our students analyze texts, explore experiences, and perform works that deepen their understanding and appreciation of diverse artistic and intellectual traditions. Under the direction of our accomplished faculty, our students develop the intellectual values, the practical skills, and the self-confidence they need to become accomplished professionals in such diverse fields as design, theatre, teaching, music performance, and visual art.

The Humanities and Arts Student Success Center partners with our academic departments to ensure that all undergraduate students receive on-time advising and robust academic planning support.

Teaching Credential Programs

The College of Humanities and Arts houses teaching credential programs in Art, English, Liberal Studies, Music, Theatre, and World Languages. Our teaching programs benefit from an active network of SJSU alums working in schools across the state.

Special Centers

The College of Humanities and the Arts is home to the Martha Heasley Cox Center for Steinbeck Studies, the Ira F. Brilliant Center for Beethoven Studies, the Center for Literary Arts, and the Center for Comparative Philosophy. The College manages the San José State University Writing Center, a resource for all SJSU students to help them become better writers. The College also manages the Hammer Theater, a city-owned venue that offers a professional venue for our best students in theater, music, and dance.

International Student and Scholar Services (ISSS)

Services and programs for international students and students wishing to study abroad. Provide info on Full-Time course registration requirement for international students http://www.sjsu.edu/isa/new/post-arrival/index.html#full-time

International Student and Scholar Services

Student Union
408-924-5920
www.sjsu.edu/isss
international-office@sjsu.edu

Study Abroad and Away
Student Union
408-924-5931
www.sjsu.edu/studyabroad
spartansabroad@sjsu.edu

SJSU International House
360 South 11th Street
San José, CA 95112
408-924-6570
www.sjsu.edu/ihouse
ihouse@sjsu.edu

Professional and Global Education, College of

(Formerly the College of International and Extended Studies)

In the College of Professional and Global Education, we provide access to relevant educational programs that allow individuals to gain knowledge and skills that create a solid foundation for them to be engaged and productive members of a global society. We offer a learning environment that is dynamic and innovative, ensuring that we are responsive to the ever-evolving workforce and industry demands. Our college is the nexus for connecting professionals, institutions, businesses and industries, locally and from around the world, to the knowledge, resources, and talents of Silicon Valley's premier public university.

At our College, we provide career-minded students and working professionals with the real-world knowledge, experience, and access they need to compete and succeed in a contemporary work force. Within the California State University (CSU), we have the most extensive portfolio of graduate, academic programs, with the highest enrollments. Through our College or in partnership with six academic colleges, we offer a total of 22 professional degree programs at the Masters level and 15 advanced certificate, and three credential programs.

College of Professional and Global Education
Student Union
408-924-2670
www.sjsu.edu/cpge
cpge@sjsu.edu

International Student and Scholar Services (ISSS)

Services and programs for international students and students wishing to study abroad.

International Student and Scholar Services
Student Union
408-924-5920
www.sjsu.edu/isss
international-office@sjsu.edu

Study Abroad and Away (SAA)
Student Union
408-924-5931
www.sjsu.edu/studyabroad
spartansabroad@sjsu.edu

SJSU International House
Student Union
408-924-6570
www.sjsu.edu/ihouse
ihouse@sjsu.edu

Science, College of

San José is at the center of Silicon Valley, known worldwide for its research institutes and industries that set the standard for scientific and technological innovation. San José State is the metropolitan university of the region, and the academic programs of the College of Science prepare students for rewarding careers through our bachelor's and master's level degree programs in the biological sciences, physical sciences, mathematics and computer science fields. Our departments have established partnerships with local employers where students find training and employment opportunities.

The College of Science provides the lower division core biology, chemistry, mathematics and physics courses supporting majors in other technical disciplines (such as engineering). As part of the university general education requirements, we offer courses in quantitative reasoning, the physical universe and its life forms, and earth and the environment. Furthermore, we teach the discipline-specific courses for the science and mathematics teacher credential programs.

Successful science students come from many backgrounds. Some enter the university immediately upon graduation from high school. Others, who have worked or have various life experiences, enroll as either full or part-time students in order to continue their education and better their career opportunities. The maturity, laboratory skills and experience of these students enrich our programs. We have several programs to increase the participation of women and underrepresented students in professional level science. Our College of Science Advising Center (COSAC) is available to assist students with their academic advising questions as well as to provide tutoring for key science and math courses.

There are active student clubs associated with each major, several of which have won national recognition for their professional and community service activities. Club members provide mutual support and are able to network with professionals in their field.

Special Centers

The College of Science has several unique interdisciplinary instructional research centers and programs: the Biotechnology Education and Research Institute (BERI), the Masters in BioTechnology (MBT), the Master's in Medical Product Development Management, the Clinical Lab Science program, the Center for Applied Mathematics, Computation and Statistics, the Institute for Modern Optics, the Flow Cytometry Core Facility, the W.M. Keck Facility for Chemical Research, the laboratory for Conservation Genetics, the Moss Landing Marine Laboratories, and the Nuclear Science Facility. Partially funded by external grants and contracts, these centers provide our students opportunities to participate in sponsored research projects. Cooperative programs with local industries and government laboratories are additional sources of professional experience and financial support for our science majors.

Teaching Credential Programs

Two single subject credential programs are coordinated by the College of Science, in collaboration with the College of Education. The single subject professional programs are designed for individuals who are interested in teaching science or mathematics in middle schools or high schools. The Science Education Program offers single subject credential programs in biology, chemistry, earth science and physics. The Department of Mathematics and Statistics offers a mathematics single subject credential program. For detailed information, contact the appropriate program coordinator.

Through the Science Education Program, the College of Science supports the Science Education Resource Center, which provides hands-on science materials, textbooks, reference materials and technical assistance to pre-service and in-service teachers.

Social Sciences, College of

Programs in the College of Social Sciences prepare students for work and life in Silicon Valley and a rapidly changing world. Our twelve departments provide training for careers in counseling, human computer interaction, environmental impact assessment and restoration, computerized mapping, public administration, economic analysis, internet communication, and countless other positions in business, government, teaching, and human services.

Major courses of study emphasize the contributions of the many cultures that form our community. Internships are encouraged to help students relate academic work to the opportunities and needs of this diverse region. Completion of one of our undergraduate majors also provides an excellent foundation for advanced work in one of the disciplines or at a professional school such as law or business.

New technologies increasingly improve our instruction and link us to the innovative industry of our region and to the educational resources of the world, but personal interaction between students and faculty is still prized within the College of Social Sciences. Capable and interesting teacher-scholars, active student clubs and small classes provide ideal environments for learning.

Special Centers

The programs of the College of Social Sciences are further enriched by educational, research and training opportunities provided by the following specialized units:

Burdick Military History Project supports the study and teaching of military history through public lectures, the Veterans Oral History Project, and it specialized collection of materials relating to military history. Contact the History Department.

Center for the Development of Recycling advances education, research and dissemination of information in various areas of recycling. Contact the Environmental Studies Department.

Center for Economic Education supports improvement in the teaching of economics through a multi-method approach and the dissemination of economics education materials. Contact the Economics Department.

East Asian Regional Materials and Resources Center provides information and counsel about studies in Asia, including library and audio-visual material available to teachers. Contact the History Department.

Sourisseau Academy promotes better understanding and appreciation of California's state and local history, with emphasis on the history of Santa Clara Valley, through graduate scholarships and collections of historical source materials. Contact the History Department.

Teaching Credential Programs

Teacher Credential Programs - To apply to a Teacher Credential Program please see the College of Education website.

Social Science Teacher Preparation: The College of Social Science offers California Commission on Teacher Credentialing (CCTC) approved Multiple and Single Subject Social Science Teacher Preparation (SSTP) programs. Students who complete the required coursework are considered "subject matter competent" and are not required to take the California Subject Examinations for Teachers (CSET).

Facilities Unique to SJSU

Africana Center functions both as a library resource center and a community center, with the goals of scholarship, leadership, and community responsibility about and for Africana people, a term that refers to all people of African descent. The Africana Center supports and sponsors programs and scholarship specific to Africana life, history and culture.

Art Foundry, located one mile south of campus, provides facilities for casting and fabricating large-scale sculptures in bronze, aluminum, iron and steel as well as work in stone and other materials.

Asian American Resource Center is a place to study, research, gather and connect to SJSU. Community members bridge the gap between SJSU and the rich history and contributions of Asian-Americans to this region.

Aviation Facility provides hands-on aviation operation and maintenance experience from its classroom, laboratory and hanger facility at Reid-Hillview Airport.

Biological Sciences Research Collections include entomology, herpetology, vertebrate and invertebrate museums and the Carl Sharsmith Herbarium.

The Bloomberg Lab at the Lucas College of Business houses fifteen Bloomberg Terminals providing hands-on experience with the industry standard investment research platform. Supports the investment course and finance course modules, as well as the student managed Spartan Investment Fund.

Chicano Resource Center provides a single locus for books, periodicals, reference tools, pamphlets and clippings relating to Mexican- American history, culture and community.

Electro-Acoustical Studios offer undergraduate music students access to digital synthesizers.

Engineering Laboratories are state-of-the-art, the result of a $41 million project supported by many of the nation's leading high technology corporations.

The Hammer Theatre is a city-owned venue operated by the university. The Hammer offers dynamic, diversified performing arts, educational, and technology-related programming.

Ira F. Brilliant Center for Beethoven Studies is the only research facility and document repository in North America dedicated solely to the study of the life and performance of the works of Ludwig van Beethoven.

Phyllis Forward Simpkins International House is a large residence hall, located one block from campus, that is home to overseas and U.S. students interested in widening their international experience.

Journalism Laboratories include the newsroom and advertising offices of the Spartan Daily, the studios of television's Update News, and the production room of the student magazine, Access, that provide applied experience in specific media

Moss Landing Marine Laboratories provides access to the geologically and biologically important Monterey Bay Canyon and to some of the world's richest ocean and salt marsh research areas.

Science Education Resource Materials Center makes available to student teachers educational aids for science classes, including live fauna and geological models.

Speech and Hearing Center is an on-campus multilingual audiology and speech pathology community clinic.

Timpany Center is owned by Santa Clara County and operated by the Department of Kinesiology in collaboration with other schools/departments within the College of Health and Human Sciences to provide internships/research opportunities in health and physical activity for those with disability, older populations, and the obese.

Academic Advising and Pre-Admissions Counseling

Academic Advising ensures academic success and graduation in a timely manner. Undergraduates will have two types of academic advisors: a general education academic advisor and an advisor in the major department. Both types of academic advisors assist you with selecting courses and developing a plan for fulfilling SJSU requirements or choosing major requirements.

Advising Hub
www.sjsu.edu/advising

Declared Majors
Major department

Declared Minors
Minor department

College Advising Centers
Academic Counseling Center for Excellence in the Social Sciences (ACCESS)
College of Health and Human Sciences (CHHS) Student Success Center
Engineering Student Success Center
Jack Holland Student Success Center (Business)
Humanities and Arts Student Success Center
Lurie College of Education Student Success Center
College of Science Advising Center

Undeclared Majors
Academic Advising and Retention Services
Student Services Center
408-924-2129

Special Majors
Graduate & Undergraduate Programs Office
ADM 159
408-924-2447

Double Majors
Major departments

Interdisciplinary Studies Graduate majors
Graduate & Undergraduate Programs Office
ADM 146
408-924-2485

International Student and Scholar Services (ISSS)
Student Union
408-924-5931

Second Baccalaureate
Major departments

General Education Academic Advising

- Academic planning
- Academic Advising for undeclared students
- General Education Academic Advising for all undergraduates
- Probation and disqualification advising for all undergraduate majors
- Assistance with interpreting your Degree Progress Report (MyProgress).
- After the Late Registration period, process late drop and withdrawal petitions.
- Note: Students are strongly encouraged to ensure the accuracy of their Degree Progress Report (MyProgress) at least one year prior to graduation.

Academic Advising and Retention Services
Student Services Center
408-924-2129
www.sjsu.edu/aars

MyProgress Report

The **MyProgress Report** (Formerly: Academic Requirements Report), linked at your MySJSU account, allows matriculated students, advisors, and evaluators to determine what requirements a student has satisfied and what requirements are still needed. The MyProgress report matches academic requirements (university and major) against a student's individual academic record.

The report is a valuable tool in tracking your degree requirements, as well as an advising tool to assist you and your advisor in monitoring your academic progress. You should consult with your major advisor on a regular basis.

Official verification of completion of your degree requirements will be processed by the Graduation Evaluators.

Undergraduate Admission Counseling

- No appointments are needed. Students are seen on a first-come, first-serve basis
- All applicants: use access information sent to you by the Undergraduate Admissions office.
- Apply online at http://www.calstate.edu/apply for undergraduate and graduate admission.
- Receive information on admission requirements and information on majors offered at SJSU.
- Get help with questions about the undergraduate admission process or about your admission status.
- For campus tours, by appointment only, please go to http://www.sjsu.edu/soar or call the Welcome Center at 408-924-2786.
- Pick up campus directions and self-guided tour map.

Student Outreach and Recruitment
outreach@sjsu.edu
408-924-2564

Transfer Advising

Prospective Students
Student Outreach and Recruitment
Student Services Center
408-924-2564

Admitted and Continuing Students
Academic Advising and Retention Services
Student Services Center
408-924-2129

Educational Opportunity Program (EOP)

Applicants who are low-income, and who would be the first generation in their family to earn a baccalaureate degree, are encouraged to apply online through CSU Apply for consideration in the Educational Opportunity Program. For more information see http://www.calstate.edu/apply.

EOP (Educational Opportunity Program)
Clark Hall
408-924-2637
www.sjsu.edu/eop
educational.opportunity.program@sjsu.edu

Peer Connections

Peer Connections offers a range of services to assist students in developing their full academic potential. Peer Connections' tutorials and workshops are designed to guide students in developing critical thinking skills, independent learning strategies and effective study habits. All services at the Center are available free of charge to matriculated students enrolled in SJSU courses. Peer Connections' offerings include:

- Individual and group tutoring in many General Education (GE) courses taught at the university
- Writing tutorials and workshops in such areas as sentence structure, organization, grammar usage, and self-editing skills

- Skills development workshops
- Writing Skills Test (WST) preparation
- Computer Lab
- Appointments and drop-in services

Peer Connections
Student Services Center, 600
408-924-2587
peerconnections.sjsu.edu

SJSU Writing Center

The San José State University Writing Center offers a variety of resources to help students become better writers, and all our services are free for SJSU students. Our mission is to enhance the writing skills of SJSU students so they can communicate clearly in any setting (informal, academic, or professional). All our writing tutors have gone through a rigorous hiring process, and they are well trained to assist all students at all levels within all disciplines to become better writers. We accomplish this goal through offering the following services:

- tutoring appointments;
- drop-in tutoring sessions;
- online tutoring;
- one-hour workshops on various writing topics;
- numerous online resources, including videos, handouts, and a blog;
- special programming, such as writing retreats and conversation groups.

Contact Information:

http://www.sjsu.edu/writingcenter
writingcenter@sjsu.edu
408.924.2308

Locations:

Clark Hall, Suite 126 (drop-in tutoring)
Second Floor, MLK Library (scheduled tutoring appointments)

Academic Counseling Center for Excellence in the Social Sciences (ACCESS)

Academic Counseling Center for Excellence in the Social Sciences (ACCESS) is the student success center for the College of Social Sciences (CoSS). Both current CoSS students and those students interested in minoring or majoring in a social sciences degree program are encouraged to see an advisor at ACCESS for general education advising, graduation support, and/or help with changing majors. We provide both drop-in advising and appointments. We also offer career counseling and tutoring in both social sciences statistics and writing.

Academic Counseling Center for Excellence in the Social Sciences (ACCESS)
Clark Hall 240
408-924-5363
www.sjsu.edu/access/

Engineering Student Success Center (ESSC)

The Engineering Student Success Center provides General Education advising services and student success programs for the undergraduate students in the College of Engineering. We offer both drop-in advising and appointments.

Engineering Building, Room 344
408-924-3990
www.engr.sjsu.edu/students/essc

Humanities and the Arts Student Success Center (HASSC)

The Humanities and Arts Student Success Center provides general education advising, academic planning support, and graduation checks to undergraduate students pursuing majors in the College of H&A. All H&A majors should meet with one of our professional advisors to develop a plan that will ensure timely graduation.

Humanities and the Arts Student Success Center (HASSC)
Clark Hall 244
408-924-5095
www.sjsu.edu/ha-advising/

Jack Holland Student Success Center (formerly BSAC)

The Jack Holland Student Success Center, located on the garden level of the Boccardo Business Center, provides advice to students about undergraduate business courses and programs. Prospective students are encouraged to talk with advisors about requirements for business major and general education courses. Prospective graduate students are encouraged to meet a graduate advisor in the Graduate Program Office in the Business Tower.

Business Tutoring Center

The Tutoring Center gives individual and group assistance to business students seeking subject matter tutoring. It is located on the ground level of the Boccardo Business Center.

Boccardo Business Center (BBC) 008
408-924-3435
www.sjsu.edu/lcobssc/

Lurie College of Education Student Success Center (LCOE)

The Lurie College of Education Student Success Center provides a range of activities including academic advising, professional development workshops, mentoring, networking events, and access to university, college, and career resources.

All current and prospective undergraduate and graduate students are encouraged to come by the Center to meet with an advisor, participate in our scheduled activities, or to utilize the study space.

Sweeney Hall (SH) 106
408-924-2700
luriecollege-successcenter@sjsu.edu
www.sjsu.edu/education/studentsuccesscenter/index.html

Science Advising Center, College of (COSAC)

The College of Science Advising Center is located in Duncan Hall, Room 212. COSAC provides general education advising, academic advising for lower division Biology, Chemistry and Computer Science majors and other advising and student success services for students in the College of Science.

COSAC offers Change of Major workshops for students that would like to change into a Biology, Chemistry or Computer Science major. In addition, we process Chemistry Minor applications for students interested in adding a Chemistry minor. We also provide tutoring for many of our lower division and some upper division courses.

Duncan Hall (DH) 212
408-924-5193
www.sjsu.edu/cosac/

Student Success Center (CHHS)

The Student Success Center in the College of Health and Human Sciences (CHHS) provides advising for undergraduate students majoring or wanting to major in programs offered in CHHS Departments and Schools.

All CHHS students and students who would like to be in CHHS are invited to stop by the Center for general education advising, help with changing majors, academic policy related questions, meeting with peer advisors, and/or attending various regularly scheduled presentations and workshops. Looking for academic advice or maybe just some tips about how to navigate your way around SJSU? Check out the CHHS Student Success Center! It's also a great place to study, and you can check out laptops.

Contact the CHHS Student Success Centers at:

MacQuarrie Hall (MH) 533
408-924-2910

Health Building (HB) 105
408-924-8601

CHHSsuccesscenter@sjsu.edu
www.sjsu.edu/chhs/ssc/

Accessible Education Center (AEC)

AEC facilitates the delivery and referral of services for students with disabilities. Students who register and create a confidential file with AEC can receive a wide spectrum of services based on individualized needs. AEC recommends students submit an application through MyAEC prior to registering for classes; however, students can register anytime during the semester with the AEC. Access to MyAEC can be found on AEC's home page. Accommodations and services include, but are not limited to the following:

Center for Accessible Technology (CAT)

Students registered with the AEC receive individual training in the use of assistive technology and have access to an open lab located in The Center for Accessible Technology (MLK 230).

Curriculum Accommodations

An array of academically related services is provided on a case-by-case basis for students with verified disabilities to support curriculum requirements. Accommodations include but are not limited to: accessible technology, alternative media, notetaking, sign language interpreters and test accommodations.

Deaf and Hard of Hearing (DHOH)

The DHOH Program provides Educational Sign Language Interpreters or Real-Time Educational Captioners for students who are Deaf or Hard of Hearing. Eligibility for this service is determined by the Deaf and HOH Coordinator and is based in part on the professional documentation provided by the student.

Registration Priority

Priority registration is provided to assist students to manage their disability related limitations in consideration of their course schedule.

Accessible Education Center
ADM 110
Voice: 408-924-6000
www.sjsu.edu/aec
aec-info@sjsu.edu {mailto:aec-info@sjsu.edu}

Bursar's Office

Cashiering

- Collect payments owed to the university
- Cash, check, money order transactions, and international wire payments
- Post outside scholarship checks and alternative loans

Account Specialists

- Approve and disburse emergency loans
- Conduct entrance and exit interviews for Perkins Loan, Kuhlman Loan and California Dream Loan
- Provide financial counseling

- Make payment arrangements for debts owed to the university
- Process financial petitions requesting reversal of fees
- Manage third-party agreements with agencies and departments paying student fees
- Process stop payment on university-issued checks

Online Services - MySJSU

- Students can pay online by e-Check or credit card. (There is a fee to pay by credit card.)
- Sign-up for the monthly payment plan.
- Sign-up for Direct Deposit to receive electronic refunds.
- Designate an authorized user to be able to to contact the Bursar's Office to discuss the student's account
- Access the 1098-T tax form.

Student Accounts

- Provide student account information

Tower Card

- Provide SJSU identification cards for students
- Administers the Gold Points program

Bursar's Office
Student Services Center
408-924-1601
www.sjsu.edu/bursar
bursar@sjsu.edu

Tower Card

- To obtain an SJSU Tower Card, students must present a valid driver's license, state ID (issued by the DMV), passport, or other government-issued ID at the Tower Card Window located in the Student Services Center.
- Newly admitted students receive their Tower Cards during orientation after registering for classes.
- You are required to use this card as student identification to obtain services at the Event Center, Health Center, Student Services Center (including Admissions, Bursar's, Registrar Services), Career Center, MLK Library, Santa Clara County Valley Transportation Authority (buses and light rail) as well as to obtain parking permits and other frequently used student services.
- Replacement ID cards are $5.00, Cash only.

Bursar's Office
Student Services Center
408-924-1601

Career Center

Preparing for the college-to-career transition starts the moment you arrive on campus. Engage with us to discover career interests, get motivated to pursue your degree, build skills and experience, and find career opportunities open only to Spartans.

Career Readiness

- Major and career exploration resources
- Personalized career coaching from master-level career counselors with industry experience to guide you on your career journey
- Strategies to build career experience through on- and off-campus roles.
- Job- and internship-search resources to help you land a great opportunity
- Graduate study preparation resources

Career Opportunities

SJSU Handshake, the job and internship database, with thousands of new opportunities posted each month for SJSU students

- Career fairs, networking events, and interviews with top employers to help you stand out from the crowd

Services are available to:

- Currently enrolled SJSU students
- SJSU alumni who purchase a Career Center annual membership

Find the Career Center at:

Administration Building (ADM) 154/255 (accessible)
408-924-6031
careercenter@sjsu.edu
www.sjsu.edu/careercenter
sjsu.joinhandshake.com

Counseling and Psychological Services (CAPS)

Professionally trained multi-culturally sensitive staff provides confidential counseling services to enrolled SJSU students. Responding to the many pressures and demands facing students at different times, CAPS offers confidential counseling; groups and workshops; crisis intervention services; resource referral and consultation; and outreach presentations. The private offices in CAPS support an atmosphere of safety and confidentiality between a counselor and a student.

Personal/Psychological Counseling

Counselors can work with you to improve your mood, decrease your anxiety, increase your skills in handling stress, improve your skills in relationships, and help you make better decisions. Our professional staff includes licensed psychologists, professional clinical counselors, social workers, marriage family therapists and advanced doctoral-level clinical trainees supervised by licensed professionals.

Educational Counseling

CAPS Educational Programs provides students with life skills that promote academic success. Our program assist students in navigating the University by informing them of SJSU resources and policies, and serving as a bridge to personal counseling to help students' overall well-being.

Each semester, CAPS Life Skills Workshops and groups are offered to help students become more successful at SJSU. For a complete listing of these with times and dates, please see: www.sjsu.edu/counseling/students/Workshops/index.html

Outreach Service

Our professional counselors offer a variety of presentations on topics of interest to campus organizations and student groups free of charge. Outreach services also include tabling, interviews, and supportive debriefs for the campus community.

Groups

Groups are a great way for students to connect with peers, learn new skills and strategies, and grow both emotionally and educationally! We offer numerous types of groups that get students interacting and connecting to help each other.

Suicide Prevention Training

We provide learning opportunities for gaining knowledge, skill, and awareness in suicide and mental health crisis and intervention (e.g. QPR, Mental Health First Aid, and ASIST). All trainings are free and open to all SJSU members.

Counseling and Psychological Services (CAPS)

Student Wellness Center, 3rd Floor, Room 300B
408-924-5910
www.sjsu.edu/counseling

Emergency Information

Dial 911 from any on-campus or pay phone (or 408-924-2222 from mobile phones) to report a crime in progress or any life-threatening police, fire or medical emergency.

Bluelight Phones

Bluelight emergency phones are located throughout the campus grounds and inside buildings, elevators and in parking lots and garages. Bluelight phones connect to University Police 24 hours a day and can be used to report emergencies or request an evening safety escort, shuttle ride or motorist assistance. Depending on the location, Bluelight phones are activated by either pressing a call button or picking up the phone receiver.

Non-Emergency and General Information

To report crimes not in progress, general concerns or request information, contact University Police at 408-924-2222 or visit UPD in the first floor of the University Police Building 24 hours a day.

Alert-SJSU Notifications and Major Emergency Information

Alert-SJSU is the campus emergency notification system that provides information about what to do and where to go during a natural disaster or life-threatening emergency. To register or update alert settings (most students are already automatically registered), sign in to MySJSU, select Alert-SJSU and enter your contact phone numbers and e-mail addresses. For more information during a major emergency, call 408-924-SJSU and not University Police (unless you are reporting a crime in progress or a life-threatening emergency).

Financial Aid and Scholarships

The Financial Aid and Scholarships Office awards federal, state and local grants, loans and scholarships. Start by filing the federal Free Application for Federal Student Aid (FAFSA) at www.fafsa.gov. Eligible AB540 students (undocumented immigrant status) may qualify for state grant programs by completing the CA Dream Application at www.caldreamact.org. The **priority deadline is March 2 of every year**. You must apply every year to be considered for financial aid for the following academic year. By completing the process, we establish your financial need. Need is the difference between a typical student budget and what you and your family are expected to pay. Aid is awarded via:

Grants: Since grants generally do not have to be repaid, grants typically are awarded to undergraduate students with the greatest need. SJSU distributes the Federal Pell Grants, Federal Supplemental Educational Opportunity Grants (SEOG), Federal Teacher Education Assistance for College and Higher Education (TEACH) Grant; California Grants A, B; Middle Class Scholarship (MCS), the State Graduate Fellowship, Educational Opportunity Program (EOP), Graduate Professional Business, Ed.D Program - Educational Leadership Grant, Spartan Completion Grant and the State University Grants.

Loans: Loans can be helpful, but they must be repaid. If you must borrow, limit the amount to what you really need. It may seem nice now, but you will be repaying the funds, with interest, after you leave school. SJSU awards the following loan type: Kuhlman Loan, a loan program funded from the estate of a generous alumna. Also, loans are awarded through the federal government for the Federal Direct Stafford Subsidized and Unsubsidized Loans and Federal Plus Loans (for parents of college students). In addition, graduate students are eligible to borrow through the Federal Graduate Plus Loan Program, CA Dream Loans are available to students who complete the CA Dream Application and meet eligibility criteria.

Scholarships: Apply online at http://www.sjsu.edu/faso/Scholarships/. The Scholarship Office has information to assist you with your scholarship search.

Work Study: Rather than take loans, the Federal Work-Study program allows students to work part-time while learning job skills. There are both on-campus and off-campus job listings for qualified students.

Fee Deferrals: Once you have submitted all requested documents, a fee deferral will be assigned to your record to hold your classes and delay the payment of registration fees while your financial aid process is completed. To prevent enrollment cancellation, it is your responsibility to submit all requested documents prior to the scheduled fee payment deadline. Be sure to monitor your account at MySJSU for file status changes and "To Do" items. Financial Aid fee deferrals are temporary and are issued once all requested financial aid documents are submitted.

Financial Aid and Scholarships
Student Services Center
408-283-7500
www.sjsu.edu/faso

Financial Assistance

The following information concerning student financial assistance may be obtained from the Director of Financial Aid and Scholarships, Student Services Center, 408-283-7500:

A description of the federal, state, institutional, local, and private student financial assistance programs available to students who enroll at San José State University;

For each aid program, a description of procedures and forms by which students apply for assistance, student eligibility requirements, criteria for selecting recipients from the group of eligible applicants, and criteria for determining the amount of a student's award;

A description of the rights and responsibilities of students receiving financial assistance, including federal Title IV student assistance programs, and criteria for continued student eligibility under each program;

The satisfactory academic progress standards that students must maintain for the purpose of receiving financial assistance and criteria by which a student who has failed to maintain satisfactory progress may reestablish eligibility for financial assistance;

The method by which financial assistance disbursements will be made to students and the frequency of those disbursements;

The terms of any loan received as part of the student's financial aid package, a sample loan repayment schedule, and the necessity for repaying loans;

The general conditions and terms applicable to any employment provided as part of the student's financial aid package;

The responsibility of San José State University for providing and collecting exit counseling information for all student borrowers under the federal student loan programs; and

The terms and conditions for deferral of loan payments for qualifying service under the Peace Corps Act, the Domestic Volunteer Service Act of 1973, or comparable volunteer community service.

Health Services

The **Student Health Center** provides quality, convenient, affordable medical care and health promotion to any registered SJSU student. Primary care is covered by your registration fees. Additional services (some laboratory tests, immunizations, procedures, pharmacy, and specialty visits) are available at a nominal fee. Contact the Student Health Center for fee information.

Student Wellness Center

The Student Wellness Center houses the Student Health Center, Counseling and Psychological Services, Wellness and Health Promotion, a pharmacy, a lactation room, and a variety of other services. Also housed within the SWC is the Student Affairs Case Manager who assists students who are in distress or crisis-see: www.sjsu.edu/sjsucares.
(Across from the Event Center)
408-924-6122
www.sjsu.edu/studenthealth/

Wellness and Health Promotion

Wellness and Health Promotion, under the Student Health Center, provides workshops, coordinates outreach events, and hosts activities in the Wellness Lounge, where students can access many services to support their well-being.
Student Wellness Center 101
408-924-6280
www.sjsu.edu/wellness

Appointments

408-924-6122

Housing

SJSU's residence halls and apartments provide you with a great opportunity to transition into university life. Living on campus is a great way to connect with the academic, social, and cultural aspects of our campus. Immerse yourself in study groups, clubs, athletic events and social activities for the total on-campus living experience!

Visit the University Housing website for more information and to fill out an online application.

Housing License Agreement

University Housing Services strives to create a residential community that supports and enhances academic success, fosters the learning and development of our students, and promotes student involvement and civic engagement. As a department, our practices promote efficiency, operational effectiveness and fiscal responsibility.

Freshman On-campus Housing Requirement - http://www.housing.sjsu.edu}http://www.housing.sjsu.edu/housingaz/freshmanoncampushousing/

For more information related to campus housing policies and requirements, refer to the website:

http://www.housing.sjsu.edu/

University Housing Services
408-795-5600
www.housing.sjsu.edu
uhs-frontdesk@sjsu.edu

International House

The SJSU International House is home to 72 U.S. and international students attending SJSU. Residents come from approximately 30 countries including the U.S. and enjoy outstanding facilities including fully-equipped computer room, wireless internet access throughout the building, study room, grand and upright pianos, spacious living and dining rooms, sports equipment and games. I-House staff promotes cross-cultural learning and communication, encouraging active participation in a wide variety of programs and activities.

I-House meets the on-campus living requirement for freshman.

Visit the I-House website for more information and an application.

SJSU International House
360 South 11th Street
San José, CA 95112-2217
408-924-6570
www.sjsu.edu/ihouse
ihouse@sjsu.edu

Institutional Assistance

Information concerning the cost of attending San José State University is available from the Director of Budget Services, 408-924-1660, and includes tuition and fees; the estimated costs of books and supplies; estimates of typical student room, board, and transportation costs; and, if requested, additional costs for specific programs.

Information concerning the refund policies of San José State University for the return of unearned tuition and fees or other refundable portions of institutional charges is available from the Bursar's Office, Student Services Center, 408-924-1601.

Information concerning policies regarding Federal Title IV student assistance funding and return of those funds as required by regulation is available from the Financial Aid and Scholarship Office, Student Services Center, 408-283-7500.

Information regarding facilities and services available to students with disabilities may be obtained from the Director of the Disability Resource Center, 408-924-6000.

Information concerning San José State University policies, procedures, and facilities for students and others to report criminal actions or other emergencies occurring on campus may be obtained from University Police, 408-924-2222.

Information concerning San José State University annual campus security report may be obtained from Chief, University Police, 408-924-2172.

Information concerning the prevention of drug and alcohol abuse and rehabilitation programs may be obtained from the Director of Student Health Center, 408-924-6122.

Information regarding student retention and graduation rates at San José State University and, if available, the number and percentage of students completing the program in which the student is enrolled or has expressed interest may be obtained from Graduate and Undergraduate Programs Office, 408-924-2447.

Information concerning athletic opportunities available to male and female students and the financial resources and personnel that San José State University dedicates to its men's and women's teams may be obtained from the Director of Compliance, 408-924-1514.

Information concerning teacher preparation programs at San José State University, including the pass rate on teacher certification examinations, may be obtained from Credential Services, 408-924-3541.

Information concerning grievance procedures for students who feel aggrieved in their relationships with the university, its policies, practices and procedures, or its faculty and staff may be obtained from the Ombudsperson, Administration 269, 408-924-5995.

The federal Military Selective Service Act (the "Act") requires most males residing in the United States to present themselves for registration with the Selective Service System within thirty days of their eighteenth birthday. Most males between the ages of 18 and 25 must be registered. Males born after December 31, 1959, may be required to submit a statement of compliance with the Act and regulations in order to receive any grant, loan, or work assistance under specified provisions of existing federal law. In California, students subject to the Act who fail to register are also ineligible to receive any need-based student grants funded by the state or a public postsecondary institution. Selective Service registration forms are available at any U.S. Post Office, and many high schools have a staff member or teacher appointed as a Selective Service Registrar. Applicants for financial aid can also request that information provided on the Free Application for Federal Student Aid (FAFSA) be used to register them with the Selective Service. Information on the Selective Service System is available and the registration process may be initiated online at www.sss.gov.

Library

The Dr. Martin Luther King, Jr. Library, an innovative collaboration that integrates the collections, services and staffs of two major institutions: The SJSU University Library and the San José Public Library is a unique learning and community center where the entire Silicon Valley Community--students, faculty, and residents--can learn for life. The combined collections include more than 1.5 million items and the building houses 33 delightful public art installations.

King Library
408-808-2000
www.sjlibrary.org

one.sjsu.edu (formerly My.SJSU.edu)

one.sjsu.edu formerly MySJSU is the primary website for important transactions between students and the campus.

- Applicants can access information sent to them by the admissions offices (Undergraduate Admissions & Outreach and GAPE) by logging in to check application status and view messages.
- Admitted and enrolled students can view their enrollment appointment start date and time for registration.
- Admitted and enrolled students can register for classes.
- Admitted and enrolled students can search for open sections of classes.
- Admitted and enrolled students can print their own class schedule.
- Admitted and enrolled students pay fees online.
- Undergraduates can view their degree progress using MyProgress.
- Continuing and former students can print grades from Spring 1991 to the present.

ID - SJSU ID

An SJSU ID is assigned to all students. To protect your privacy, this SJSU ID replaces the use of Social Security Number for most SJSU transactions.

This number cannot be changed.

New students receive this information via admission office communications.

See **SJSU ID**, also **Tower Card**

Password

Use your password to access one.sjsu.edu on the web along with your SJSU ID. MySJSU uses your SJSUOne login information. If you have not yet set your password, you can navigate to one.sjsu.edu to MySJSU and click the Set/Reset Password button to create a password.

- New students receive this information from admission office communications.

Having trouble logging in? If you cannot reset your password using the Set/Reset Password button, please contact ithelpdesk@sjsu.edu for assistance. Include your full name, SJSU ID if known (also known as your Tower ID), date of birth, and mailing address.

IT Help Desk

The IT Help Desk provides assistance with campus software and network issues, including MySJSU, Canvas, Wi-Fi, SJSU Email, and many other applications. If you need technical assistance, start here.

ithelpdesk@sjsu.edu

408-924-1530

Operating Hours:
7:30am - 11:00pm M-Th
7:30am - 6:00pm F

ithelpdesk@sjsu.edu

Parking Permits

Parking Online Services - www.sjsu.edu/parking
Effective July 1, 2019, Parking Services at San Jose State University will start using virtual permits.

Virtual permits allow you to park in your designated area without being required to display a physical permit. The license plate registered when purchasing your parking session will become your virtual parking permit. As each vehicle's license plate is used as your parking permit, license plates must be registered precisely to avoid being issued a citation. Errors in license plate registration are the responsibility of the registrant and will cause the issuance of a violation. You can register up to three vehicles on your permit. **Only one vehicle is allowed on campus at a time.** Paid parking session is required at all times when parking on campus. 24 hours a day, 7 days a week. License Plate Recognition (LPR) verifies parking session in all garages and lots. SJSU LPR Usage and Privacy Policy can be found at www.sjsu.edu/parking.

Benefits of Virtual Permits

- Eliminates the requirement to display physical permits and the need to move permits from vehicle-to vehicle
- Eliminates the need to come to the Office to pick up physical permits. No More Lines!!!
- Easy to upgrade or downgrade semester or academic virtual parking permit
- Lost or stolen permits and the associated replacement fees, police reports, and processing times will be eliminated
- Your permit is active as soon as the permit effective date
- No more forgetting your permit or worrying about a permit being displayed improperly

No physical parking permit will be sold at the Bursar's Office. Student parking virtual permits are available for sale through Parking Online Services. For more information, please visit Parking Services http://www.sjsu.edu/parking, e-mail parking@sjsu.edu, or call 408-924-6556.

Student virtual permits purchased online with a credit card are active as soon as the permit effective date. For other form of payment, please contact Parking Services.

Availability
Please note that parking permits do not guarantee on-campus parking availability during peak periods (typically Monday through Thursday, 9:00 am to 12:00 pm). During peak periods, commuters are encouraged to use Transportation Alternatives (see next section) or the Park & Ride Lot located at 1281 S. 7th St.

Parking Services
University Police Building
408-924-6556
parking@sjsu.edu

Transportation Alternatives

Don't spend your semester stuck in traffic. Visit Transportation Solutions to explore ways to make your commute more enjoyable and environmentally-friendly. Transportation Solutions provides expert advice on how to use alternative commute options such as carpooling, public transit, and bicycling to get to campus.

Associated Students Transportation Solutions
TS Center is located in Student Union East Wing
(9th Street Plaza)
1 Washington Square,
SU 1800, San Jose,
CA 95192-0129
408-924-RIDE (7433)

Pre-Professional Study

Several sources of information and assistance are available for students who plan to enter the professions of art administration, dentistry, medicine, law, pharmacy, optometry, veterinary medicine, physical therapy, social work and theology. General information, including names and locations of faculty members who have been designated as "pre-professional" advisors, may be obtained from the appropriate academic department office. Interested students should also contact the university of their choice for information regarding the professional prerequisites for that institution. Consultants are available at the Career Center to discuss possible career paths. Application forms for admissions tests to law school, medical school and dental school are available in the Testing Office.

Student associations in pre-law, pre-medicine and pre-dentistry conduct active programs which include information about admission to professional schools, test preparation and seminars/workshops in the profession.

Pre-Law Programs

Students planning to attend law school and pursue careers in law should be aware that no major has a special advantage in preparing them to compete on the Law School Admission Test or for admission into even the most prestigious law schools. The American Bar Association emphasizes this point in its publication **Law as a Career**: "An undergraduate should be aware that there is no particular course of study that is required or preferred by law schools. Accordingly, students from a wide variety of majors (e.g., philosophy, physics, political science, engineering, and business) are admitted to law schools each year. There is no true prelaw curriculum. Generally, a broad-based education that is rigorous and that stresses analytical and verbal communication skills will be useful." Students with undergraduate degrees in the humanities and the arts as well as the social, health, and natural sciences are consistently successful in achieving competitive scores on the LSAT and in obtaining admission to law schools of distinction.

However, students should keep in mind that successful pursuit of a career in law depends on skills acquired only through particular kinds of courses. The Law School Admission Council's Official Guide to U.S. Law Schools explains: "While no single curricular path is the ideal preparation for law school, you should choose courses that sharpen analytical reasoning and writing skills. Law schools prefer students who can think, read, and write well, and who have some understanding of what shapes human experience."

Students considering careers in law should consult regularly with a pre-law faculty advisor. The number and kind of courses that prepare students for law can be offered by a variety of departments. It is therefore important that students consult with a faculty member familiar with the curricular choices that best align student aspirations with law school expectations. A faculty advisor can also provide valuable information concerning law school and law careers that will not be acquired through any set of courses. The following departments offer pre-law advising: Justice Studies, Philosophy, Political Science. A further resource for students considering a career in law is the Law School Advisor provided by Student Services.

Pre-Medical Programs

Medical schools do not require any specific major. While many applicants major in biology or biochemistry, the admission rate is quite good for non-science majors because these graduates will have shown strength in two academic areas. At a minimum, applicants must complete during their college years two years of major chemistry with lab, physics with lab, math through calculus, one year of English composition, and one year, preferably two, of biology with lab. Students interested in any medical field should get as much hands-on experience as possible volunteering or working in medical settings so that they fully understand how physicians and other health professionals spend their time. There are pre-medical advisors in Biological Sciences and in Chemistry; consult them early and often.

Service Learning

In March 2000, the California State University Board of Trustees passed a landmark resolution in response to a request from the governor for a community service requirement for all students in California's public institutions of higher education. The CSU Board of Trustees' resolution called for the chancellor and each CSU president to "ensure that all students have opportunities to participate in community service, service learning (deemed academically appropriate by faculty), or both."

To learn more about general education service learning classes, courses in your major, or other service-based leadership opportunities for students, contact the Center for Community Learning and Leadership.

Center for Community Learning and Leadership
Clark Hall 203
408-924-3540

Student Government

Associated Students, SJSU, was founded in 1897 to provide representation and services to students at San José Teachers College. Since then, the organization has evolved from a student club to a fully operational student government entity. Also, as an auxiliary to the University, we provide services that allow students to enhance their college experience.

Originally, voluntary fees were first collected in 1910 to provide services and activities. By 1957, all students were paying a portion of their registration fees to support their student government organization.

Associated Students was incorporated in 1980 and the Student Council also became the Corporation's Board of Directors.

Review our website for more information and policies related to services provided: http://as.sjsu.edu/

Student Organizations

With over 400 student organizations at SJSU, getting involved is the best way to connect with campus life! For more information on department programs and services, please visit our website at: http://www.sjsu.edu/getinvolved/recognized-student-orgs/

Student Involvement Policies and Procedures: http://www.sjsu.edu/getinvolved/recognized-student-orgs/student-org-handbook-policies/index.html

Study Abroad and Away Programs

Study Abroad and Away contributes to the internationalization of San José State University by providing students the opportunity to study abroad on longterm programs (Exchange Programs, CSU International Programs, and International Student Exchange Programs) and short-term programs (Faculty-Led Programs and Summer School Abroad Programs) for academic credit, offering Alternative Spring Break Programs for cultural immersion, and designing other globally focused opportunities. Through these channels, we seek to cultivate a diverse global community through international and domestic academic opportunities and partnerships.

For applications or more information about any of the programs described here, contact:

SJSU Study Abroad and Away Office

Student Union

408-924-5931

spartansabroad@sjsu.edu

www.sjsu.edu/studyabroad/

SJSU Exchange Programs

Study at a partner university abroad for a semester or a year with an SJSU exchange! Choose from programs in over 20 countries, receive SJSU credit for every class you take, and study with students from all over the world. There are programs for every major, and all financial aid applies. There are even scholarships just for study abroad students!

Argentina
- Universidad de Ciencias Empresariales y Sociales (Buenas Aires)

Australia
- Queensland University of Technology (Brisbane)
- Royal Melbourne Institute of Technology

Brazil
- Federal University of Itajubá (Minas Gerais)

Costa Rica
- Universidad Veritas (San Jose)

China (mainland)
- Tongji University (Shanghai)

China (Hong Kong)
- City University Hong Kong
- Hong Kong Baptist University

Finland
- JAMK University of Applied Sciences (Jyv%E4skyl%E4)

France
- Institute of Political Science (Lille)
- L'Ecole Nationale Supérieure de Création Industrielle (Paris)
- Toulouse Business School
- Universities of Strasbourg Business School

Germany
- Hochschule fur Gestaltung Schwabisch Gmund
- Technische Hochschule Ingolstadt

India
- Alliance Business School (Bangalore)
- Indian Institute of Management Bangalore

Ireland
University College Dublin

Japan
Kagoshima University
Kwansei Gakuin University (Osaka)
Kyushu University (Fukuoka)
Okayama University
Sophia University (Tokyo)
Yokohama National University

Netherlands
Rotterdam Business School Norway
University of Oslo

Portugal
University of Porto

Spain
University of Burgos

South Korea
Gyeongsang National Univeristy (Jinju)

Sweden
University West (Trollh%E4ttan)

Switzerland
Zurich University of Applied Sciences (Winterthur)

Taiwan
National Chi-Nan University (Puli)
Yuan Ze University (Taoyuan)

Thailand
Chulalongkorn University (Bangkok)

United Kingdom
Edinburgh Napier University
Nottingham Trent University
Portsmouth Business School
University of Birmingham
University of Roehampton (London)
University of Strathclyde (Glasgow)

Vietnam
RMIT University Vietnam (Ho Chi Minh City)

CSU International Programs

CSU International Programs provide students an affordable opportunity to study abroad for a full academic year. Students earn SJSU credit at their CSU campuses while they study at a host university or study center abroad. Affiliated with more than 30 recognized universities in 18 countries, CSU IP offers a wide selection of courses and study abroad destinations. SJSU students participating in CSU IP pay SJSU tuition, and financial aid applies to all programs. Scholarship opportunities are also available! Additional program information and application instructions can be found at www.csuip.calstate.edu.

Australia
Griffith University (Brisbane)
Macquarie University (Sydney)
Queensland University of Technology (Brisbane)
University of Queensland (Brisbane)
Western Sydney University

Canada
Concordia University (Montréal)

Chile
Pontificia Universidad Católica de Chile (Santiago)

China
Peking University (Beijing)

Denmark
Danish Institute for Study Abroad

France
Universities of Paris

Germany
Trossingen University of Music
Universities of Baden-Wurttemberg

Ghana
University of Ghana, (Accra)

Israel
University of Haifa

Italy
CSU Study Center (Florence)
Accademia di Belle Arti Firenze

Japan
Waseda University (Tokyo)
University of Tsukuba

Mexico
Instituto Tecnológico y de Estudios Superiores de Monterrey (Querétaro)

South Africa
Nelson Mandela University

Spain
Universidad Complutense de Madrid
Universidad de Granada
Universidad de Jaén

South Korea
Yonsei University

Sweden
Uppsala University

Taiwan
National Taiwan University (Taipei)

United Kingdom
Bradford University
Bristol University
University of Hull
Kingston University
Swansea University

Students participating in CSU IP pay CSU tuition and program fees, and are responsible for airfare, accommodations, meals and other personal expenses. Financial aid, with the exception of Federal Work-Study, is available to qualified students and limited scholarship opportunities are also available. All programs require students to maintain good academic and disciplinary standing, many programs are open to sophomores or graduate students. California Community College transfer students are eligible to apply (to select programs) directly from their community colleges. Students must possess a current cumulative grade point average of 2.75 or 3.0, depending on the program, and must fulfill all coursework prerequisites. Additional program information and application instructions can be found on our website at www.calstatele.edu/ip.

International Student Exchange Programs (ISEP)

SJSU is a member of ISEP, a non-profit organization that offers study abroad options at over 200 universities in 51 countries. Study with ISEP for an academic year, a semester, or a summer! Immerse yourself in classes at local universities and receive SJSU credits for each course. If you are interested in studying abroad in a place that is off the beaten path, ISEP has the program for you!

SJSU Faculty-Led Programs (FLP) & Summer School Abroad (SSA)

SJSU Faculty-Led Programs and Summer School Abroad programs are 1-8 week study abroad programs that take place domestically and abroad during the summer or winter sessions. FLPs are led by an SJSU faculty member and SSA programs offer direct placement into a partner university's summer school abroad for a short-term program. Both experiences provide students the opportunity to earn SJSU credit while participating in a global experience.

Request further information from Susie Morris, Director of Study Abroad and Away, College of Professional and Global Education contact:

Short-Term Study Abroad Programs 408-924-6128
http://www.sjsu.edu/studyabroad
spartansabroad@sjsu.edu

Testing Office

Information on TEAS, WST; graduate examinations (GRE, LSAT, MCAT, etc.), including registration materials.

Services include but are not limited to make-up tests; proctored examinations; as well as Waiver Exams (American Institutions, U.S. History).

Testing Office
IS 228
408-924-5980
testing-office@sjsu.edu
testing.sjsu.edu

Veterans Educational Benefits

Military and Veteran Student Services
Student Union Building, room 1500
408-924-8129
veterans@sjsu.edu
www.sjsu.edu/studentaffairs/current_students/veterans_and_military_students/index.html

California State University (CSU)

Welcome to the California State University (CSU) - the world's largest comprehensive higher education system in the nation with 23 unique campuses serving approximately 481,000 students with more than 52,000 faculty and staff. Each year, the University awards more than 125,000 degrees. CSU graduates are serving as leaders in the industries that drive California's economy, including business, agriculture, entertainment, engineering, teaching, hospitality and healthcare. Learn more at www.calstate.edu.

A Tradition of Excellence for More than Five Decades

Since 1961, the CSU has provided an affordable, accessible, and high-quality education to more than 3.7 million graduates throughout California. While each campus is unique based on its curricular specialties, location and campus culture, every CSU is distinguished for the quality of its educational programs. All campuses are fully accredited, provide a high-quality broad liberal educational program and offer opportunities for students to engage in campus life through the Associated Students, Inc., clubs and service learning. Through leading-edge programs, superior teaching and extensive workforce training opportunities, CSU students graduate with the critical thinking skills, industry knowledge and hands-on experience necessary for employment and career advancement.

Facts

- In 2016-17, the CSU received $590 million in research and education grants and contracts by federal, state and regional agencies.
- Today, one of every 20 Americans with a college degree is a CSU graduate.
- One in every 10 employees in California is a CSU alumnus.
- The CSU awards 45 percent of the bachelor's degrees earned in California.
- Almost half of all the nurses in the state earn their degrees from the CSU.
- The CSU awards 95 percent of the hospitality/tourism degrees in the state.
- Nearly half of all of the state's engineers earn their degrees from the CSU.
- The CSU is the leading provider of teacher preparation programs in the state.
- The CSU offers more than 100 fully online and 129 hybrid degree programs and concentrations.
- The CSU offers over 3,800 online courses per term, providing more educational options to students who may prefer an online format to a traditional classroom setting.
- The CSU's online concurrent enrollment program gives students the ability to enroll in courses offered by other campuses in the CSU.
- Over a recent four year period, the CSU has issued nearly 50,000 professional development certificates in education, health services, business and technology, leisure and hospitality, manufacturing, international trade and many other industries.
- Nearly half of the CSU's 481,000 students are engaged in some type of community service, totaling 32 million hours of service annually.
- More than 13,000 students participate in STEM (science, technology engineering and mathematics) service-learning courses.
- For every $1 that the state invests in the CSU, the University generates $5.43 for California's Economy.

Governance

The CSU is governed by the Board of Trustees, most of whom are appointed by the governor and serve with faculty and student representatives. The CSU Chancellor is the chief executive officer, reporting to the Board. The campus presidents serve as the campus-level chief executive officers. The Trustees, Chancellor and presidents develop systemwide educational policy. The presidents, in consultation with the CSU Academic Senate and other campus stakeholder groups, render and implement local policy decisions.

CSU Historical Milestones

The individual California State Colleges were established as a system with a Board of Trustees and a Chancellor in 1960 by the Donahoe Higher Education Act. In 1972, the system was designated as the California State University and Colleges, and in 1982 the system became the California State Universit. Today, the CSU is comprised of 23 campuses, including comprehensive and polytechnic universities and, since July 1995, the California Maritime Academy, a specialized campus.

The oldest campus-San José State University-was founded in 1857 and became the first institution of public higher education in California. The newest-CSU Channel Islands-opened in fall 2002, with freshmen arriving in fall 2003.

In 1963, the CSU's Academic Senate was established to act as the official voice of CSU faculty in systemwide matters. Also, the California State College Student Presidents Association-which was later renamed the California State Student Association-was founded to represent each campus student association on issues affecting students.

Through its many decades of service, the CSU has continued to adapt to address societal changes, student needs and workforce trends. While the CSU's core mission has always focused on providing high-quality, affordable bachelor's and master's degree programs, over time the university has added a wide range of services and programs to support student success - from adding health centers and special programs for veterans to building student residential facilities to provide a comprehensive educational experience.

To improve degree completion and accommodate students working full- or part-time, the educational paradigm was expanded to give students the ability to complete upper-division and graduate requirements through part-time, late afternoon, and evening study. The university also expanded its programs to include a variety of teaching and school service credential programs, specially designed for working professionals.

The CSU marked another significant educational milestone when it broadened its degree offerings to include doctoral degrees. The CSU independently offers Doctor of Education (Ed.D.), Doctor of Physical Therapy (DPT), Doctor of Audiology (AuD) and Doctor of Nursing Practice (DNP) degree programs. A limited number of other doctoral degrees are offered jointly with the University of California and private institutions in California.

In 2010, in an effort to accommodate community college transfer students, the CSU, in concert with the California Community Colleges (CCC), launched the Associate Degree for Transfer (ADT), which guarantees CCC transfer students with an ADT admission to the CSU with junior status. ADT has since proven to be the most effective path to a CSU for transfer students.

Always adapting to changes in technology and societal trends to support student learning and degree completion, the CSU achieved another milestone in 2013, when it launched CalState Online, a systemwide collection of services that support the delivery of fully online programs from campuses. Now, full-time students have access to fully online courses offered at other CSU campuses.

By providing an accessible, hands-on education that prepares graduates for career success, the CSU has created a network of alumni that is so extensive and renowned that it spans across the globe. As of 2018-19, more than 3.7 million CSU alumni are making a difference in the lives of the people of California and the world.

The CSU strives to continually develop innovative programs, services and opportunities that will give students the tools they need to meet their full potential. In 2016, the university launched Graduation Initiative 2025, a bold plan to support students, increase the number of California's graduates earning high-quality degrees and eliminate achievement and equity gaps for all students. Through this initiative, the CSU is ensuring that all students have the opportunity to graduate according to their personal goals, positively impacting their lives, families and communities. The CSU is committed to providing a quality higher education that prepares students to become leaders in the changing workforce.

CSU Trustees

Ex Officio Trustees

The Honorable Gavin Newsom
Governor of California

The Honorable Eleni Kounalakis
Lieutenant Governor of California

The Honorable Anthony Rendon
Speaker of the Assembly

The Honorable Tony Thurmond
State Superintendent of Public Instruction

Dr. Timothy P. White
Chancellor of the California State University

Officers of the Trustees

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President

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Treasurer

SJSU SAN JOSÉ STATE UNIVERSITY

SJSU Catalog & Class Schedule Policies & Procedures

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Appointments are for a term of eight years, except student, alumni, and faculty trustees whose terms are for two years. Terms expire in the year in parentheses. Names are listed alphabetically.

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Office of the Chancellor

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Executive Vice Chancellor and Chief Financial Officer
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California State University, Channel Islands
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California State University, Chico
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Turlock, California 95382-0299
Dr. Ellen N. Junn, President
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www.csustan.edu

Credit Hour

As of July 1, 2011 federal law (Title 34, Code of Federal Regulations, sections 600.2 and 600.4) requires all accredited institutions to comply with the federal definition of the credit hour. For all CSU degree programs and courses bearing academic credit, the "credit hour" is defined as the "amount of work represented in intended learning outcomes and verified by evidence of student achievement that is an institutionally established equivalency that reasonably approximates not less than:

1. One hour of classroom or direct faculty instruction and a minimum of two hours of out-of-class student work each week for approximately fifteen weeks for one semester or trimester hour of credit, or ten to twelve weeks for one quarter hour of credit, or the equivalent amount of work over a different amount of time; or
2. At least an equivalent amount of work as required in paragraph (1) of this definition for other academic activities as established by the institution, including laboratory work, internships, practice, studio work, and other academic work leading to the award of credit hours."

A credit hour is assumed to be a 50-minute period. In courses in which "seat time" does not apply, a credit hour may be measured by an equivalent amount of work, as demonstrated by student achievement.

Legalese

Although every effort has been made to assure the accuracy of the information in this catalog, students and others who use this catalog should note that laws, rules, and policies change from time to time and that these changes may alter the information contained in this publication. Changes may come in the form of statutes enacted by the Legislature, rules and policies adopted by the Board of Trustees of the California State University, by the Chancellor or designee of the California State University, or by the President or designee of the campus. It is not possible in a publication of this size to include all of the rules, policies and other information that pertain to students, the institution, and the California State University. More current or complete information may be obtained from the appropriate department, school, or administrative office.

Nothing in this catalog shall be construed as, operate as, or have the effect of an abridgment or a limitation of any rights, powers, or privileges of the Board of Trustees of the California State University, the Chancellor of the California State University, or the President of the campus. The Trustees, the Chancellor, and the President are authorized by law to adopt, amend, or repeal rules and policies that apply to students. This catalog does not constitute a contract or the terms and conditions of a contract between the student and the institution or the California State University. The relationship of the student to the institution is one governed by statute, rules, and policy adopted by the Legislature, the Trustees, the Chancellor, the President and their duly authorized designees.

The annual update of SJSU policies is recommended as an up-to-date source of information on course offerings, general education, registration procedures, schedule of fees and other pertinent information on policies and procedures.

Information is subject to change.

The San José State University Policies and Procedures information is coordinated by the Office of Graduate and Undergraduate Programs and Enrollment Services.

Non-Discrimination Policy and Complaint Procedures

The CSU and San José State University does not discriminate on the basis of age, genetic information, marital status, medical condition, nationality, race or ethnicity (including color and ancestry), religion (or religious creed), and veteran or military status - as these terms are defined in CSU policy - in its programs and activities, including admission and access. Federal and state laws, including Title VI of the Civil Rights Act of 1964 and the California Equity in Higher Education Act, prohibit such discrimination. The Office of Diversity, Equity and Inclusion has been designated to coordinate the efforts and comply with all applicable federal and state laws prohibiting discrimination on these bases. Questions regarding this policy should be directed to the Office of Diversity, Equity and Inclusion, 408-924-8168.

Protected Status: Disability

The California State University does not discriminate on the basis of disability (physical and mental) - as this term is defined in CSU policy - in its programs and activities, including admission and access. Federal and state laws, including sections 504 and 508 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990, prohibit such discrimination. Each campus has been designated to coordinate the efforts to comply with all applicable federal and state laws prohibiting discrimination on the basis of disability. Inquiries concerning compliance may be presented to this person at [campus address and phone number]. CSU Executive Order 1097 Revised October 5, 2016 (http://www.calstate.edu/EO/EO-1097-rev-10-5-16.pdf) (or any successor executive order) is the systemwide procedure for all complaints of discrimination, harassment or retaliation made by students against the CSU, a CSU employee, other CSU students or a third party. All San José State University classes are wheelchair accessible. If you have other needs regarding accommodations, please contact the Accessible Education Resource Center. Telephone: 408-924-6000; TTY 408-924-5990; Fax: 408-924-5999.

Campus Safety Statistics

A campus safety report is available at www.sjsu.edu/police/crime_reporting/safety_report/ or by calling 408-924-2172.

CSU Executive Order 1097 (http://www.calstate.edu/EO/EO-1097.pdf) is the systemwide procedure for all complaints of discrimination, harassment or retaliation made by students against the CSU, a CSU employee, other CSU students or a third party.

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Aerospace Engineering Department Courses

AEROSPACE ENGINEERING

LOWER DIVISION

AE 015. Air & Space Flight: Past, Present, and Future
Introduction to the history, basic principles, current and future developments of the aerospace engineering field through projects, guest speakers and field trips.
Normal Grade Rules
1 unit

AE 020. Computer-Aided Design for Aerospace Engineers
The course provides an introduction to the fundamentals of drafting and computer-aided design with applications in aircraft and spacecraft design.
Misc/Lab: Lecture 2 hours/Lab 3 hours
Normal Grade Rules
2 units

AE 030. Computer Programming for Aerospace Engineers
C language: Variables, data types, operators, functions, modular programming, input/output sequence, pointers and memory addressing, external libraries, dynamic memory allocation. MATLAB: Variables, scripts, operations, visualization, plotting and programming. Equation solving and curve fitting. Symbolics, Simulink and I/O building block.
Misc/Lab: Lecture 1 hours/Lab 3 hours
Normal Grade Rules
2 units

UPPER DIVISION

AE 100. Fundamentals of Aerospace Engineering
Introduction to the fundamental disciplines and concepts of aerospace engineering and in particular of aerodynamics, aerospace structures, stability and control, propulsion, and flight mechanics. Prerequisites: MATH 30, PHYS 50, and ENGR 10 all with C or better
Normal Grade Rules
3 units

AE 110. Space Systems Engineering
Introduction to design, analysis and operation of spacecraft power, communications, attitude determination/control, structures, propulsion, thermal management systems. Typical payload systems design and operation, including remote Earth sensors. System integration issues. Lab experiments and field trips.
Prerequisite: AE 165 with a grade of 'C-' or better.
Misc/Lab: Lecture 2 hours/Lab 3 hours.
Normal Grade Rules
3 units

AE 112. Aerospace Structural Analysis I
Aircraft loads, V-n diagram, safety factor; spacecraft boost loads. Stressed-skin wing sections. Shear force and bending moment diagrams for cantilevered wings. Strain gauges. Compression members: wing struts, landing gear, wing/fuselage skin. Shear flow and shear center in wing/tail sections.
Prerequisites: MATH 32, PHYS 50 or Graduate Standing
Corequisites: MatE 25, Engr 100W OR Graduate Standing
Normal Grade Rules
4 units

AE 114. Aerospace Structural Analysis II
Aircraft, missile, spacecraft structural design and analysis. Static, elastic and stress analysis of structures. Structural materials. Deflection analysis of structural systems. Conventional, stiffened, sandwich and composite structures. Structural dynamics. Thermal effects.
Prerequisite: AE 112 or Graduate Standing
Corequisite: ENGR 100W
Normal Grade Rules
3 units

AE 135. Introduction to Composite Materials
See MATE 135.
Normal Grade Rules
3 units

AE 138. Vector-Based Dynamics for Aerospace Applications
Vector mechanics of three degree-of-freedom particle motion. Particle kinematics, reference frames and rotational relative motion. Two degree-of-freedom rigid body motion, moments/products of inertia. Particle & rigid body equations of motion and numerical time histories.
Prerequisite: C- or better in Math 32 and Physics 50
Corequisite: AE112
Normal Grade Rules
3 units

AE 140. Rigid Body Dynamics
Coordinate frames and descriptions of absolute and relative motion. General equations of rotational motion for single and multibody systems in Euler and Lagrangian formulations. Elasticity and dissipation effects. Spinning body motions. Impulsive motions. Applications to aerospace vehicles.
Prerequisite: C- or better in AE 138 OR Graduate Standing
Normal Grade Rules
3 units

AE 142. Astrodynamics
Two-body problem analysis and orbit design; Kepler's Laws; Single-impulse orbit transfers; Hohmann transfers; Circularization; Plane changes; Kepler's Equation; Planetary sphere of influence; Vector mechanics and relative motion of interplanetary flight; Patched conic trajectory model; Gravity-assist trajectories; Case studies; Restricted three-body problem.
Prerequisite: AE 138, AE 165
Normal Grade Rules
3 units

AE 157. Aerospace Automatic Control Systems Design
Modeling and analysis of aerospace feedback control systems. Stability analysis, root locus design, and frequency response methods for aerospace vehicles and associated automatic control systems. Nyquist/Bode diagrams. Lead-lag, PID compensator designs for aircraft and spacecraft.
Prerequisite: Math 129A, Math 133A, AE 138 w. a grade of "C-" or better in each. Or Graduate Standing
Normal Grade Rules
3 units

AE 160. Aerodynamics I
Aerodynamic forces and moments. Flow classification. Flow similarity. Conservation laws with applications in the calculation of aerodynamic forces. Boundary layer theory; skin friction and pressure drag. Wind tunnel measurements of airfoil drag and boundary layer properties.
Prerequisites: MATH 032, PHYS 050 (with a grade of 'C-' or better in each) or graduate standing.
Corequisite: ENGR 100W
Normal Grade Rules
3 units

AE 162. Aerodynamics II
Two-dimensional and three-dimensional, incompressible and compressible potential flow theory. Airfoil and wing theory for subsonic, supersonic, and hypersonic flows. Flow visualization in a water tunnel. Lift and drag measurements in a subsonic wind tunnel.
Prerequisite:Allowed Declared Majors: Aerospace Engineering, Mechanical Engineering. ENGR 100W, MATH 133A, AE 160 or ME 111 (with a grade of 'C-' or better in each). Or Graduate Standing.
Misc/Lab: Lecture 2 hours/lab 3 hours.
Normal Grade Rules
3 units

AE 164. Aerothermodynamics
Thermodynamic laws. Shock and expansion waves with applications to supersonic airfoils and wings. Nozzle flow. Flow with heat addition and friction. Aerodynamic heating. Conduction, convection and radiative heat transfer.
Prerequisite: PHYS 052 and AE 160 with a grade of 'C-' or better in each, or graduate standing
Normal Grade Rules
5 units

AE 165. Aerospace Flight Mechanics

Trajectory dynamics of atmospheric flight (aircraft and missiles) and spaceflight (orbital mechanics). Influence of vehicle design on trajectory. Aircraft static performance, stability and control. Rocket launch and re-entry dynamics. Computer simulations.

Prerequisite: AE 138 or graduate standing

Normal Grade Rules
3 units

AE 166. Rocketry

Introduction to rocketry through theory, computer simulations, and development / launch of an amateur level rocket. Topics include basic principles of aerodynamics, vehicle structures, rocket propulsion, flight mechanics, avionics, as well as past and current launch vehicle technologies.

Prerequisite: PHYS 50, AE 165

Normal Grade Rules
3 units

AE 167. Aerospace Propulsion

Basic one-dimensional flows: isentropic, area change, heat addition. Overall performance characteristics of propellers, ramjets, turbojets, turbofans, rockets. Performance analysis of inlets, exhaust nozzles, compressors, burners, and turbines. Rocket flight performance, single-/multi-stage chemical rockets, liquid/solid propellants and design problems.

Prerequisite: AE 160 and AE 164 with a grade of 'C-' or better in each. Allowed Declared Majors: Engineering, Aerospace Engineering, Mechanical Engineering.

Normal Grade Rules
3 units

AE 168. Aerospace Vehicle Dynamics and Control

Aircraft/spacecraft dynamics, stability and control. Linearization and Euler transformations. Eigenvalues and eigenvectors. State space and transfer function analysis of dynamics of aerospace vehicles. Feedback control design and synthesis using advanced control techniques.

Prerequisite: AE 140, AE 157, AE 165 and Math 129A with a grade of 'C-' or better in each. Allowed Declared Majors: Aerospace Engineering. or Graduate Standing

Normal Grade Rules
3 units

AE 169. Computational Fluid Dynamics

Physical and mathematical foundations of computational fluid mechanics with emphasis on applications. Solution methods for the advection, diffusion model equations, the Euter and the Navier-Stokes equations. The finite volume formulation of the equations. Classification of partial differential equations and solution techniques. Truncation errors, stability analysis.

Prerequisite: MATH 129A, AE 160 with a grade of 'C-' or better in each. or Graduate Standing.

Normal Grade Rules
3 units

AE 171A. Aircraft Design I

First course in a two-semester sequence, in which students work in teams to complete the conceptual and preliminary design of an aircraft. Students are challenged to consider the relationship of aerospace engineering to the broader community.

Prerequisites: Must be senior in good standing with C or better in AE 20, AE 162, AE 165, ENGR 100W. Passage of the Writing Skills Test (WST) or ENGL/LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Allowed Declared Major: Aerospace Engineering or Graduate Standing.

Pre/Corequisite: AE164, AE168, ENGR 195A

Misc/Lab: Lab 9 hours

Note: Meets GE Areas S and V when course is taken in combination with: AE 171B, ENGR 195A and ENGR 195B All SJSU Studies courses require completion of the WST and upper division standing.

Normal Grade Rules
GE: S
3 units

AE 171B. Aircraft Design II

Second course in a two-semester sequence, in which students work in teams to complete the conceptual and preliminary design of an aircraft. Students are challenged to consider the relationship of aerospace engineering to the broader community. GE Area: V when taken with AE Major option sequence.

Prerequisite: AE 171 and ENGR 195A with a grade of 'C' or better in each, senior standing or graduate level standing.

Co-requisite: AE 167, AE 169, and ENGR 195B.

Note: Meets GE areas S and V when course is taken in combination with: AE 171A, ENGR 195A and ENGR 195B.

Normal Grade Rules
GE: V
3 units

AE 172A. Spacecraft Design I

First course in a two-semester sequence in which students work in teams to complete the conceptual and preliminary design of a spacecraft. Students are challenged to consider the relationship of aerospace engineering to the broader community. GE Area: S when taken with AE major option sequence.

Prerequisites: Must be senior in good standing with C or better in AE20, AE162, AE165, ENGR 100W. Or graduate level. Passage of the Writing Skills Test (WST) or ENGL/LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses.

Pre/corequisite: AE164, AE168, ENGR 195A

Misc/Lab: Lab 9 hours.

Note: Meets GE Areas S and V when course is taken in combination with: AE 172B, ENGR 195A and ENGR 195B. All SJSU Studies courses require completion of the WST and upper division standing.

Normal Grade Rules
GE: S
3 units

AE 172B. Spacecraft Design II

Second course in a two-semester sequence, in which student teams complete the conceptual, preliminary, and detail design of a spacecraft. Projects integrate general education (GE) student learning outcomes including the relationship of aerospace engineering to the broader community both in the U.S. and worldwide, ethics, safety and liability issues, as well as issues of culture, civilization and global understanding in relationship to aerospace engineering practice.GE Area: V when taken with AE major option sequence.

Prerequisites: AE 172A, ENGR 195A with a grade of 'C' or better, senior in Good Standing or Graduate standing.

Corequisite: AE 167, AE 169 and ENGR 195B.

Note: Meets GE Areas S and V when course is taken in combination with: AE 172A, ENGR 195A and ENGR 195B.

Normal Grade Rules
GE: V
3 units

AE 173. Design of Unmanned Aerial Vehicles

Conceptual and preliminary design of autonomous aerial vehicles (UAVs). Review of low Reynolds number fixed and rotary wing aerodynamics, with a focus on wing and rotor design. Vehicle dynamics and control, flight path planning and optimization, control system design.

Normal Grade Rules
3 units

AE 180. Individual Studies

Individual work on special topics. By arrangement.

Prerequisite: Upper division standing and instructor consent. Not available to Open University Students.

Repeatable for credit
Normal Grade Rules
1-3 units

AE 199. Special Topics in Aerospace Engineering

Special topics that are currently of interest to industry and academia. Content varies from semester to semester.

Prerequisite: Upper division standing or instructor consent

Repeatable for credit
Normal Grade Rules
1-4 units

GRADUATE

AE 200. Engineering Analysis and Control of Aerospace Systems

Engineering analysis and control; linear algebra; ordinary differential equations; Laplace transformation; complex analysis; singular values; matrix perturbations; state-space models; input/output and robust stability; reachability and observability; feedback stabilization; H2 and H-infinity optimization.

Prerequisite: Graduate Standing or Instructor Consent

Normal Grade Rules
3 units

AE 210. Advanced Space Systems Engineering

Overview of the engineering process used in aerospace mission and system design spanning the entire system life cycle for the near-Earth and outer space environment. Effects of gravity field, temperature and radiation on physical systems and the human organism. Mission program inception, proposal development, cost analysis and risk management.

Prerequisites: BSAE or Instructor Consent

Normal Grade Rules
3 units

AE 242. Orbital Mechanics and Mission Design

Two-body problem, conic sections, time of flight. Gibb's method of orbit determination, maneuver analysis for Earth orbiters and interplanetary flight. Euler-Hill equations. Mission design constraints on orbit geometry and launch window analysis.

Prerequisite: BSAE or Instructor Consent.

Normal Grade Rules
3 units

AE 243. Advanced Astrodynamics

Analysis of spacecraft motion using different dynamic models and perturbations. Use of the state transition matrix and differential corrections technique for trajectory computation. Orbit determination and station-keeping methods. Introduction to the three-body problem. Application of computational and analytic methods to solve astrodynamic problems.

Prerequisite: AE 242.

Normal Grade Rules
3 units

AE 245. Spacecraft Dynamics and Control

Rigid body dynamics review. Attitude kinematical representations. Development and solution of general equations of motion. Single and dual-spin, zero and biased-momentum spacecraft. Control system design strategies. Common torquer elements. Computer simulations.

Prerequisite: BSAE or Instructor Consent.

Normal Grade Rules
3 units

AE 246. Advanced Aircraft Stability and Control

Natural longitudinal and lateral/directional motion of aircraft; mode shapes, eigenvalues, eigenvectors. Analysis and synthesis of various aircraft autopilots using classical and state space formulations.

Prerequisite: BSAE or Instructor Consent.

Normal Grade Rules
3 units

AE 250. Advanced Structures and Materials

Design and analysis of modern flight structures including static and dynamic structural response; materials design including metals, alloys, composites. Introduction to modern computational methods including finite elements.

Prerequisite: BSAE or Instructor Consent.

Normal Grade Rules
3 units

AE 262. Advanced Aerodynamics

Thin airfoil theory. Prandtl's lifting-line theory. Subsonic and supersonic airfoil and wing theory. High-angle of attack aerodynamics. Boundary layer theory; Blasius and Falkner-Skan solutions, compressible boundary layers, turbulent flows, separation criteria.

Prerequisite: BSAE or Instructor Consent.

Normal Grade Rules
3 units

AE 264. Gas Dynamics

Advanced topics in compressible flow theory with emphasis on the design of high subsonic, supersonic and hypersonic vehicles. In addition to classical compressible flow theory and problem solving, the course may include supersonic wind tunnel experiments and computer simulations.

Prerequisite: Graduate standing in AE/ME or instructor consent

Normal Grade Rules
3 units

AE 267. Space Propulsion Systems

Rocket propulsion fundamentals. propulsion requirements for: multi-stage launch; orbit establishment, maneuvers and maintenance; spacecraft attitude control. Nozzle flow, thermochemical calculation of performance. Design and performance calculations for systems and components of chemical rockets (liquid, solid, hybrid), electric rockets and advanced concepts.

Prerequisite: BSAE or Instructor Consent. Allowed Declared Majors: Aerospace Engineering, Mechanical Engineering.

Normal Grade Rules
3 units

AE 269. Advanced Computational Fluid Dynamics

Advanced topics in computational fluid dynamics and numerical techniques to solve the Euler and Navier-Stockes equations. The student will use MatLAB, grid generation, CFD and visualization software for homework, and projects.

Prerequisite: BSAE or Instructor Consent.

Misc/Lab: Seminar 2 hours/lab 3 hours.

Normal Grade Rules
3 units

AE 271. Advanced Aircraft Design

Project course in which students complete the preliminary design of an airplane of their choice. The design process involves defining the mission requirements, weight sizing, performance sizing, fuselage design, wing, high-lift system and lateral controls design, landing gear design, weight and balance, stability and control, drag polars, and final drawings. Final report includes discussion of environmental, economic and safety considerations for the airplane.

Prerequisite: Graduate Standing in AE/ME or instructor consent.

Note: This course satisfies graduate-level GWAR in this master's program.

Normal Grade Rules
GE: GWAR
3 units

AE 273. Aircraft Subsystems

Aircraft subsystem analysis and design: flight controls; avionics and electrical systems; cabin systems; landing gear and other mechanical systems; systems safety analysis.

Prerequisite: Graduate Standing or instructor consent

Normal Grade Rules
3 units

AE 280. Hypersonics and Reentry Systems

Fundamental principles of hypersonic aerodynamics. Development of important theory and techniques, discussion of salient results with emphasis on physical aspects, and presentation of modern thinking on the subject.

Prerequisite: Graduate Standing or instructor consent.

Normal Grade Rules
3 units

AE 295A. Aerospace Engineering Masters Project I

This is a first-semester aerospace engineering Master's Project supervision course. Students perform original, graduate level research or design or development, involving aerospace systems under the supervision of an aerospace engineering faculty member or engineers from NASA / aerospace industry.

Prerequisite: Admission to candidacy for the master's degree and a written proposal approved by instructor and graduate advisor. Not available to Open University Students.

Normal Grade Rules
3 units

AE 295B. Aerospace Engineering Masters Project II

This is a second-semester aerospace engineering Master's Project supervision course, following AE295A. Students perform original, graduate level research and/or design and/or development, involving aerospace systems or subsystems under the supervision of an aerospace engineering faculty member and/or engineers from NASA / aerospace industry.

Prerequisite: A grade of "B" or better in AE295A

Normal Grade Rules
3 units

AE 297. Special Topics in Aerospace Engineering

Special topics that are currently of interest to industry and academia. Content varies from semester to semester. Repeatable for up to six units.

Prerequisite: Graduate Standing or instructor consent

Repeatable for credit
Normal Grade Rules
1-4 units

AE 298. Special Projects in Aerospace Engineering

Advanced individual work in Aerospace Engineering.

Prerequisite: Instructor consent. MATH 129A, AE 160 with a C- or better, or Graduate Standing.

Repeatable for credit
Mandatory CR/NC/RP
1-3 units

AE 299. Aerospace Engineering Masters Thesis

Master's thesis work in aerospace engineering. Participation in a teaching experience.

Prerequisite: Grade of "B" or better in 1st sem. to continue in 2nd sem.

Repeatable for credit
Mandatory CR/NC/RP
3 units

UPPER DIVISION

AE 1290R. Culminating Experience Supervision

Continued work on thesis or project beyond minimum required units, for cases in which final deliverables are still in progress.

Prerequisite: RP grade in a preceding thesis or project semester.

Note: No Degree Credit.

Repeatable for credit
No Degree Credit
1 unit

Aerospace Studies Department (Air Force ROTC) Courses

AEROSPACE STUDIES

LOWER DIVISION

AS 001A. The Foundation of the United States Air Force

Introduces students to the Air Force and AFROTC with an overview of basic characteristics, missions, and organization of the Air Force; additional topics include officership and professionalism, career opportunities, military customs and courtesies, and an introduction to communications skills.

Notes: Year course. Enrollment in leadership lab required.

Normal Grade Rules
1 unit

AS 001B. The Foundation of the United States Air Force

Introduces students to the Air Force and AFROTC with an overview of basic characteristics, missions, and organization of the Air Force; additional topics include officership and professionalism, career opportunities, military customs and courtesies, and an introduction to communications skills.

Notes: Year course. Enrollment in leadership lab required.

Normal Grade Rules
1 unit

AS 002A. The Evolution of USAF Air and Space Power

Examines general aspects of air and space power through historical study and analysis and provides the student with a knowledge level understanding of the capabilities, function and doctrinal employment of aerospace forces; emphasizes development of oral and written communication skills.

Notes: Year course. Enrollment in leadership lab required.

Normal Grade Rules
1 unit

AS 002B. The Evolution of USAF Air and Space Power

Examines general aspects of air and space power through historical study and analysis and provides the student with a knowledge level understanding of the capabilities, function and doctrinal employment of aerospace forces; emphasizes development of oral and written communication skills.

Notes: Year course. Enrollment in leadership lab required.

Normal Grade Rules
1 unit

UPPER DIVISION

AS 131A. Air Force Leadership Studies

Study of leadership, management fundamentals, professional knowledge, Air Force personnel system, ethics, and communication skills; develops application level knowledge of skills required of junior Air Force officer through case studies, practical exercises, and seminar discussion.

Prerequisite: AS 1A and AS 1B, AS 2A and AS 2B, or as determined by department chair.

Notes: Year course. Enrollment in Leadership lab required.

Normal Grade Rules
3 units

AS 131B. Air Force Leadership Studies

Study of leadership, management fundamentals, professional knowledge, Air Force personnel system, ethics, and communication skills; develops application level knowledge of skills required of junior Air Force officer through case studies, practical exercises, and seminar discussion.

Prerequisite: AS 1A and AS 1B, AS 2A and AS 2B, or as determined by department chair.

Notes: Year course. Enrollment in Leadership lab required.

Normal Grade Rules
3 units

AS 141A. National Security Affairs

Examines the national security process, international and regional relations, advanced leadership ethics, and Air Force doctrine with focus on the military as a profession, officership, military justice, civilian control of the military and current issues affecting military professionalism.

Pre/Corequisite: AS 131A.

Notes: Enrollment in leadership lab required.

Normal Grade Rules
3 units

AS 141B. Preparation for Active Duty

Studies the role of the Air Force officer in contemporary society with emphasis on knowledge, comprehension, and application of skills needed to facilitate a smooth transition from civilian to military life.

Pre/Corequisite: AS 131B.

Notes: Enrollment in leadership lab required.

Normal Grade Rules
3 units

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African American Studies Department Courses

AFRICAN AMERICAN STUDIES

LOWER DIVISION

AFAM 002A. African Americans and the Development of America's History and Government

Major events in America's development, emphasizing African Americans' relationship to government and other basic institutions. GE Area: D2

Note: Must complete the entire sequence (AFAM 2A and 2B) to satisfy U.S. History, U.S. Constitution and California Government (US1,2,3).

Normal Grade Rules
GE: D2
3 units

AFAM 002B. African Americans and the Development of America's History and Government

Major events in America's development, emphasizing African-Americans' relationship to government and other basic institutions. GE Area: D3, meets additional GE Areas when taken with AFAM 2A

Prerequisite: AFAM 2A

Note: Must complete the entire sequence (AFAM 2A and 2B) to satisfy U.S. History, U.S. Constitution and California Government (US1,2,3).

Normal Grade Rules
GE: M7
3 units

AFAM 022. The Humanities in African-American Culture

Analysis of several of the most important African-American creative art forms and personalities. Special attention to Black contributions in music, literature, cinema, photography and painting.

Normal Grade Rules
3 units

AFAM 025. The Changing Majority: Power and Ethnicity in America

See CCS 025.

Normal Grade Rules
GE: D2
3 units

AFAM 040. African Origins

Ancient African civilizations to the advent of the slave trade. Folklore and mythology manifested in ceremonies, rituals and rhythmic movements are examined.

Repeatable for credit
Normal Grade Rules
3 units

UPPER DIVISION

AFAM 100W. Writing Workshop

Development of advanced writing skills through study of principal techniques of communication in the Black community related to Black music, literature and politics. GE Area: Z

Prerequisite: A3 or equivalent second semester composition course (with a grade of C- or better); Completion of core GE, satisfaction of Writing Skills Test and upper division standing.

Note: Must be passed with "C or better" to satisfy the CSU Graduation Writing Assessment requirement (GWAR).

Normal Grade Rules
GE: Z
3 units

AFAM 102. African-American Music

Analysis of styles and techniques of major traditions in Black music. Development of music from slave work-a-day songs to rhythm and blues and modern jazz, 1950's to the present.

Prerequisite: Upper division standing or instructor consent.

Normal Grade Rules
3 units

AFAM 105. Health, Justice, and the Black Experience

A review of the health and health-related issues of Blacks/ African Americans within the U.S.. Major disease health trends are discussed as by-products of the interaction of biological, cultural, economic and social forces in the U.S.

Prerequisite: Upper division standing or instructor consent.

Normal Grade Rules
3 units

AFAM 106. Race and Culture in the African Diaspora

Examination of the role of race and ethnicity amongst persons of African descent i.e., the role race and ethnicity plays in primary and secondary relationships amongst Blacks and between Black and non-Black peoples.

Normal Grade Rules
3 units

AFAM 110. Education of the Black Child

Analysis of economic, sociocultural and educational issues that affect Black students. Emphasis directed at elementary and secondary school systems.

Prerequisite: Upper division standing or instructor consent.

Normal Grade Rules
3 units

AFAM 111. African Nations: History, Politics, and Culture

Examination, exploration, and analysis of societies, history, and culture of nations on the African continent over time.

Normal Grade Rules
3 units

AFAM 112. African Immigrant Communities in the U.S.

An overview of Black immigrants from the African continent in the United States from 1970 to the present.

Normal Grade Rules
3 units

AFAM 115. The Black Community Past and Present

Analysis of historical development of African-Americans including migrational trends of Blacks from the rural South to urban North. Search for alternatives in new institutions and modification of old ones.

Prerequisite: Upper division standing or instructor consent.

Normal Grade Rules
3 units

AFAM 119. Africana Philosophy and Culture

See PHIL 119.

Normal Grade Rules
3 units

AFAM 120. Sociology of African American Communities

Sociological analysis of the African American community traces development of the community from its historical inception to contemporary urban settings. Analyzes important trends, shifting values, institutional development and urban problems. Also examines how patriarchy, race, and class shape African Americans in their everyday lives in American society.

Normal Grade Rules
3 units

AFAM 125. The Black Family:Historical/ Contemporary Realities

Sociological analysis of the Black family from its African roots to twenty-first century types. Influence of the American experience and the African American relationship practices

Normal Grade Rules
3 units

AFAM 130. Psychology of the Black Community

Impact of Black society and culture on personality growth in light of current sociological and social-psychological studies. Social interaction, group membership within the Black community and its influence on the shaping of behavior.

Prerequisite: Upper division standing or instructor consent.

Normal Grade Rules
3 units

AFAM 133. Introduction to Social Issues in Planning

See URBP 133.

Normal Grade Rules
4 units

AFAM 134. The Black Civil Rights Movements
Origins and development of Civil Rights movement from 1865 to present. Analysis of role of Martin L. King.
Normal Grade Rules
3 units

AFAM 137. Religion in the Black Community
Analysis of formation and development of African-American religious ideas and institutions (i.e., Christianity, Islam, Judaism) in the Black community and their effect on the African American personality.
Normal Grade Rules
3 units

AFAM 142. Race, Ethnicity, and the Law
Analysis of the politics of law and race in the U.S. with a focus on the experience of African-Americans and other racial and ethnic minorities as offenders, victims and as citizens engaged in a continuing movement for equality and an end to injustice.
Prerequisite: Upper division standing or instructor consent.
Normal Grade Rules
3 units

AFAM 145. Urban Policy and Its Impact on Inner City Residents
Effects of public policy decisions on inner city populations. Implications of urban planning processes for differential consumption costs of public goods and services.
Prerequisite: Upper division standing.
Normal Grade Rules
4 units

AFAM 150. West African Drumming and Culture
A study of the instrumental music, song, and dance of the African Diaspora with an emphasis on its cultural context.
Prerequisite: Upper division standing.
Normal Grade Rules
3 units

AFAM 151. Race, Class and the Environment
Analysis of the relationship between the environmental crisis and people of color and poor communities in the U.S., emphasizing the interplay among race/ethnicity, class and politics in the struggle for environmental justice and survival by communities of color and poor people.
Normal Grade Rules
3 units

AFAM 152. Black Women in the U.S.
Exploration of the social, historical, and cultural factors influencing the Black women in U.S. society.
Normal Grade Rules
3 units

AFAM 155. The Triumph and Tragedy of Black Athletes in U.S. History
This course examines the significance and impact of Black athletes on popular culture, race relations and U.S. society.
Prerequisite: Upper division standing or instructor consent.
Normal Grade Rules
3 units

AFAM 156. Black Women Writers: Race, Culture and Resistance
Comparative analysis of the meaning and developmental stages of womanhood for women of African ancestry as depicted in the fiction of women of African ancestry. Emphasis on the role of race and culture in shaping contemporary conceptions of womanhood among Black women.
Prerequisite: Upper division standing or instructor consent.
Normal Grade Rules
3 units

AFAM 157. Globalization and Technology in Youth Culture
This course examines the impact of globalization and technology on youth worldwide from the perspective of youth in different cultures and countries. Topics will vary and focus on specific countries. Some sessions will be faculty-led international programs.
Prerequisite: Upper division standing.
Repeatable for credit
Normal Grade Rules
3 units

AFAM 159. Economic Issues in the Black Community
Analysis of continuing racial economic disadvantage in context of corporate and public policies. Exploration of new economic development and career opportunities emerging from changed environmental protection priorities.
Prerequisite: Upper division standing or instructor consent.
Normal Grade Rules
3 units

AFAM 160. Blacks in U.S. Politics and Society
Examines the lives and major contributions of African-Americans to politics and U.S. society.
Prerequisite: Upper division standing.
Normal Grade Rules
3 units

AFAM 161. Black Representations in Media and New Technology
Examination of the representation of Black people in film, TV, and traditional and social media as well as new/alternative technological informational sources.
Prerequisite: Upper division standing.
Normal Grade Rules
3 units

AFAM 164. Survey of Black Business Organizations
Private sector businesses from the perspective of racial ownership and consumption patterns. Historical development, future trends, consumer market, government regulations and funding support as they impact the success of Black business.
Prerequisite: Upper division standing.
Normal Grade Rules
3 units

AFAM 165. Topics in Ethnic American Literature
See ENGL 165.
Normal Grade Rules
4 units

AFAM 166. African-American Women in History
Role of African American women in shaping U.S. history through a shared afrocentric gender legacy of activism and public life guardianship. Resulting impacts on abolition, lynching deterrence, labor unions, civil rights and professional activities.
Prerequisite: Upper division standing.
Normal Grade Rules
3 units

AFAM 180. Individual Studies
Individual research project and field activity on phase or topic not covered in regular course offerings.
Prerequisite: Upper division standing.
Repeatable for credit
Credit / No Credit
1-4 units

AFAM 184. Directed Reading
Limited to qualified upper division students.
Repeatable for credit
Credit / No Credit
1-4 units

AFAM 190. Internship in Community Development
Supervised placement in practical situations where community workers are employed: community planning, correctional services, community development agencies, etc.
Prerequisite: Upper division standing or instructor consent.
Credit / No Credit
1-4 units

AFAM 198. Senior Seminar in African-American Studies
Major themes and topics in the African-American experience analyzed through readings, reports and discussions. Topics and materials vary each semester. Course is repeatable for 6 unit maximum.
Prerequisite: AFAM 2A, AFAM 2B and senior standing.
Repeatable for credit
Normal Grade Rules
3 units

GRADUATE

AFAM 200. Colloquium in African Origins

Analysis of historical writings of pre-colonial and colonial West Africa as a relevant background tool to the history of Black people in the U.S. Discussions based on assumption that assignments have been read in advance.

Prerequisite: Upper division or graduate standing.

Normal Grade Rules
3 units

AFAM 210. Seminar in African-American History

Detailed study and survey of the dispersal of African peoples from Africa to the United States and to other parts of the Americas.

Repeatable for credit
Normal Grade Rules
3 units

AFAM 220. Socio-Psychological Development of Black Community

Analysis of various aspects of socio-psychological development in the Black community. Particular emphasis on socialization and social perception, ghettoization (causes and consequences), prejudice, stress and inter-group relations.

Normal Grade Rules
3 units

AFAM 240. Seminar in Black Politics and Urban Problems

Analysis of the development of Black political power in selected urban areas, with an emphasis on its relationship to the general urban crisis. Special study of the ramifications of Black political development on the county, state and federal governmental levels with specific reference to congressional actions and judicial decisions.

Normal Grade Rules
3 units

AFAM 298. Special Studies

Advanced individual research and projects related to the Black community.

Prerequisite: Consent of graduate advisor.

Repeatable for credit
Mandatory CR/NC/RP
1-6 units

American Studies Program Courses

AMERICAN STUDIES

LOWER DIVISION

AMS 001A. American Cultures to 1877

American culture examined through political, literary, artistic, economic and social development. American values, ideas and institutions from popular culture as well as traditional sources. GE Area: C1 and D2, meets additional GE Areas when taken as sequence.

Note: Entire sequence satisfies GE Areas C1,2; D2,3; U.S. History, U.S. Constitution and California Government US1,2,3.

Misc/Lab: Lecture 3 hours/lecture 3 hours

Normal Grade Rules
GE: M4
6 units

AMS 001B. American Cultures 1877 to present

American culture examined through political, literary, artistic, economic and social development. American values, ideas and institutions from popular culture as well as traditional sources. GE Area: C2 and D3, meets additional GE when taken in sequence.

Prerequisite: AMS 1A.

Note: Entire sequence satisfies GE Areas C1,2; D2,3; U.S. History, U.S. Constitution and California Government US1,2,3.

Misc/Lab: Lecture 3 hours/lecture 3 hours

Normal Grade Rules
GE: M5
6 units

UPPER DIVISION

AMS 100W. Writing in the Humanities

See HUM 100W.

Normal Grade Rules
GE: Z
3 units

AMS 129. How the World sees the United States

Comparative analysis of the cultural meaning of "America" outside the United States from the perspectives of global interdependence and transnationalism, and including both pro- and anti-American views through history.

Prerequisite: Upper division standing

Normal Grade Rules
3 units

AMS 159. Nature and World Cultures

The influence of industrialization and globalization on earth and the environment as seen through culture. GE Area: V

Prerequisite: Passage of the Writing Skills Test (WST) or ENGL/LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

Note: All SJSU Studies courses require completion of the WST and upper division standing.

Normal Grade Rules
GE: V
3 units

AMS 160. Special Topics in Humanities

See HUM 160.

Repeatable for credit
Normal Grade Rules
3 units

AMS 169. The American Dream

The American search for identity and meaning, the struggle for equality and success, in relation to myths, illusions and realities reflected in history, literature and the arts. GE Area: S

Prerequisite: Passage of the Writing Skills Test (WST) or ENGL/LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

Note: All SJSU Studies courses require completion of the WST and upper division standing.

Normal Grade Rules
GE: S
3 units

AMS 179. American Popular Culture

Music, sports, fashion, popular literature, television and other arts and activities that are main forms of influence, entertainment and escape. Expressions of American attitudes and ideas as important influences upon evolving culture and consciousness.

Prerequisite: Upper division standing.

Normal Grade Rules
3 units

AMS 180. Individual Studies

Supervised study of a particular aspect of American culture not covered in a regular course offering.

Prerequisite: Instructor consent.

Repeatable for credit
Credit / No Credit
1-4 units

AMS 190. Senior Seminar in Humanities

See HUM 190.

Normal Grade Rules
3 units

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Anthropology Department Courses

ANTHROPOLOGY

LOWER DIVISION

ANTH 011. Cultural Anthropology
Basic concepts, theories and methods used in the comparative study of socio-cultural systems. Includes cultural ecology and change; political, economic and kinship systems; language, art and religion; cultural perspectives on contemporary issues. GE Area: D1

Normal Grade Rules
GE: D1
3 units

ANTH 012. Introduction to Human Evolution
The human organism from an evolutionary perspective. The foundations of life and evolutionary theory. Introduction to primate behavior and the fossil record. Human biocultural evolution over the last sixty million years. GE Area: B2

Normal Grade Rules
GE: B2
3 units

ANTH 013. Archaeology
How archaeologists invent their own version of the past, illustrated with compelling Old and New World discoveries from early prehistory to the present. How archaeological sites are discovered, excavated and analyzed; how facts are tested and fictions unmasked. GE Area: A3

Normal Grade Rules
GE: A3
3 units

ANTH 025. Human Lifecourse in Context
Human development and its physiological, psychological and sociocultural contexts. Cross-cultural perspectives on infancy, childhood, adolescence, adulthood and old age. The role of university education in the life span. GE Area: E

Normal Grade Rules
GE: EE
3 units

UPPER DIVISION

ANTH 100W. Writing Workshop
Practice in improvement of writing skills appropriate to the fields of anthropology and behavioral science. Includes essays, reports and scholarly communication. GE Area: Z

Prerequisite: A3 or equivalent second semester composition course (with a grade of C- or better); Completion of core GE, satisfaction of Writing Skills Test and upper division standing.

Note: Must be passed with C or better to satisfy the CSU Graduation Writing Assessment Requirement (GWAR).

Normal Grade Rules
GE: Z
3 units

ANTH 102. Silicon Valley Connections
Examines issues of cultural diversity, work and family. technology in daily life, attachment to organizations, and community building in Silicon Valley through an anthropological perspective.Connections to other global regions are explored; public policy implications are developed and analyzed.

Prerequisite: Upper Division Standing

Normal Grade Rules
3 units

ANTH 105. Applied Anthropology
Use of anthropological knowledge in problem solving and policy making. Survey of applied anthropology, models of applying anthropology and affecting policy making, and the use of anthropology by non-professionals in diverse careers.

Prerequisite: ANTH 11 or instructor consent.

Normal Grade Rules
3 units

ANTH 107. Eating Culture: The Anthropology of Food
This course will explore the many ways in which humans seek, collect, grow, transform and consume foods. We will examine elements of human evolutionary history that mold our current consumption choices. Changes in subsistence strategies, human migration, and colonial expansions remade our landscapes, kitchens, cuisines and our bodies. We will identify and analyze the material processes of food production, preparation and consumption; the cognitive models that define our food choices and the ways in which power and inequality drive global feast and famine. The course will draw on archaeological, biological and cultural anthropologies, as well as examining the potential applications by anthropologists of food.

Prerequisite: ANTH 11, Upper Division Standing.

Normal Grade Rules
3 units

ANTH 108. Medical Anthropology
A comprehensive examination of culture, sickness and healing in a cross-cultural perspective, emphasizing ecological/evolutionary bases of disease and healing and cultural dimensions of health in modern world.

Prerequisite: ANTH 11 or instructor consent.

Normal Grade Rules
3 units

ANTH 114. Legacy of Asia
See HUM 114.

Normal Grade Rules
GE: V
3 units

ANTH 115. The Emerging Global Culture
Introduction to systems concepts and approach as a way to investigate the global impacts of industrial technology on political, economic, social and moral/psychological structures of humankind. GE Area: V

Prerequisite: Passage of the Writing Skills Test (WST) or ENGL/LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

Notes: Recommended for behavioral science majors. All SJSU Studies courses require completion of the WST and upper division standing.

Normal Grade Rules
GE: V
3 units

ANTH 122. Magic, Science and Religion
See RELS 122.

Normal Grade Rules
GE: V
3 units

ANTH 125. Urban Anthropology
Anthropological theories and methods in analyzing the global effects of urban growth. Relevance of anthropological approach in understanding our local multiethnic metropolitan area.

Prerequisite: ANTH 11 or instructor consent.

Normal Grade Rules
3 units

ANTH 129. Environmental Anthropology
Anthropological examination of humans' relationship to their biological environment. Course topics include population growth, resource consumption, human induced climate change, biodiversity, solid and hazardous waste, economic and cultural patterns affecting the environment, environmental risk, water resources, hazards, disasters, sustainable initiatives.

Prerequisite: ANTH 11

Normal Grade Rules
3 units

ANTH 130. Kin, Kith, and Community: The Anthropology of Social Organization

Overview of social organization focused on local forms of human relationships: kinship, non-kin relations such as friendship and networking, and community. Explores the principles of kinship and community-building. Examples will be drawn from small-scale, complex and international societies.

Prerequisite: Upper division standing.

Normal Grade Rules
3 units

ANTH 131. Theories of Culture

Seminar on evolutionary, functional and structural theories of culture. Analysis of contemporary theory and development of the discipline of anthropology.

Prerequisite: Upper division standing; ANTH 011; ANTH 012 or ANTH 013 or declared Anthropology major or instructor consent.

Normal Grade Rules
3 units

ANTH 132. Creating Built Worlds

Cross-cultural exploration of material expressions of culture. Analysis of production and consumption of places, shelters, and goods. Implications for design and policy.

Prerequisite: Upper division standing.

Normal Grade Rules
3 units

ANTH 133. Organizational Cultures

Complex organizations as dynamic sociocultural systems. Topics include organizational culture, cross-cultural study of organizations, organizational ethnography, cultural diversity, organizational learning and relevance of a cultural approach to enhance organizational effectiveness in a rapidly-changing world.

Prerequisite: ANTH 11 or instructor consent.

Repeatable for credit
Normal Grade Rules
3 units

ANTH 134. Systemic Leadership

Examination of systemic leadership thought and practice, especially its application to helping resolve complex problematic issues more effectively and responsibly. Focus is on leading collaborative change efforts with diverse sets of stakeholders in group, organizational, community, cultural, and global settings.

Prerequisite: Upper division standing.

Normal Grade Rules
3 units

ANTH 136. Thought Control in Contemporary Society

Anthropological analysis of sociocultural controls influencing and regulating human thought and behavior in the contemporary period. Topics include propaganda, censorship, undue influence, coercive persuasion and "brainwashing," groupthink, messianic cults, totalitarianism, technologies of control, ritualized rebellion, resistance movements, and democratic alternatives.

Prerequisite: Upper division standing.

Normal Grade Rules
3 units

ANTH 140. Human Sexuality

Biological and sociocultural facets of human sexuality. Evolution and physiology of sex, reproductive biology/ethics and cross-cultural expression of sexual behavior. GE Area: S

Prerequisite: Passage of the Writing Skills Test (WST) or ENGL/LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

Note: All SJSU Studies courses require completion of the WST and upper division standing.

Normal Grade Rules
GE: S
3 units

ANTH 142. Culture in Mind

Exploration of self, identity and behavior in cultural context. Cognition, socialization, cross-cultural mental health issues and comparison of intercultural communication modes.

Prerequisite: ANTH 11, ANTH 25 or instructor consent.

Normal Grade Rules
3 units

ANTH 143. Culture and Adaptation

Explores the relationship between adaptive human behavior and the environment. Theories of interaction between biology, environment and culture are illustrated by examples of mobile foraging peoples, village sedentary farmers, complex chiefdoms and state-level societies.

Prerequisite: Upper division standing.

Normal Grade Rules
3 units

ANTH 144. Gifts, Markets, and Power

Cross-cultural analysis of economic systems. Topics include reciprocity, redistribution, and market exchange; the history of money and virtual currencies; the cultural construction of debt and credit; corporate capitalism and cyclical crises; global economic integration; and contemporary "alternative" economic systems.

Prerequisite: ANTH 11 or Instructor Consent

Normal Grade Rules
3 units

ANTH 145. Middle Eastern Traditions

See RELS 145.

Normal Grade Rules
GE: V
3 units

ANTH 146. Culture and Conflict

Problems of change, especially in multiethnic societies of both established and emerging nations. Technological development, modernization, social changes and value conflicts. GE Area: V

Prerequisite: Passage of the Writing Skills Test (WST) or ENGL/LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

Note: All SJSU Studies courses require completion of the WST and upper division standing.

Normal Grade Rules
GE: V
3 units

ANTH 148. Religion and Anthropology

Comparative anthropological study of religious systems and world views; Anthropological theories concerning origin and evolution of religion; structure and function of ritual and myth; types of religious specialists.

Prerequisite: ANTH 11, ANTH 25 or instructor consent.

Normal Grade Rules
3 units

ANTH 149. Ethnographic Methods

Qualitative methods: research design, participant observation, collection of life histories, ethical responsibilities, interviewing, analysis and ethnographic writing.

Prerequisite: ANTH 11 or instructor consent.

Normal Grade Rules
3 units

ANTH 151. Modernity and Disease

Modernity and Disease explores the effects of the modern world on human biology, with specific emphasis on adaptations to the last several decades of environmental changes. Topics include reproduction, diet, and infectious, geriatric and environmental diseases.

Prerequisite: ANTH 12 or instructor consent.

Normal Grade Rules
3 units

ANTH 152. Becoming Human

This course reviews the fossil evidence for human evolution. It emphasizes areas of scientific controversy in paleoanthropology by assessing recent fossil discoveries and molecular data. Lectures are supplemented with lab demonstration of modern skeletal materials and reproductions of fossil hominids.

Prerequisite: ANTH 12 or instructor consent.

Normal Grade Rules
3 units

ANTH 154. Monkeys, Apes and Humans

Behavior, ecology and evolution of our closest animal relatives, the nonhuman primates. Interpretive emphasis toward broader understanding of human evolution and behavior.

Prerequisite: Any lower division anthropology or psychology course or instructor consent.

Normal Grade Rules
3 units

ANTH 155. Human Osteology

The human skeletal system as an anatomical structure and biomechanical system. Lab experience in identification of osteological material and recognition of diseases associated with bone.

Prerequisite: ANTH 12 or instructor consent.

Misc/Lab: Lecture 3 hrs/lab 2 hrs.

Normal Grade Rules
3 units

ANTH 156. Bioarchaeology

Study of human skeletal remains from archaeological setting to aid in reconstructing the biological and cultural past. Current theoretical and methodological issues in bioarchaeology. Emphasis on potential of skeletal analysis for uncovering disease and trauma, subsistence patterns, biological relatedness, physical activity and diverse reactions to stressors.

Prerequisite: Upper division standing.

Normal Grade Rules
3 units

ANTH 157. Forensic Anthropology

An overview of forensic anthropological methods and applications emphasizing the recovery and interpretation of human remains within the context of multidisciplinary scientific death investigation. Topics include the history of the discipline and a concentrated hands-on overview of basic human osteological identification.

Prerequisite: ANTH 12, BIOL 10, BIOL 21, or BIOL 65.

Normal Grade Rules
3 units

ANTH 159. Mummies

Explore mummies from around the world. Examine the archaeological and biological evidence of how and why mummification was practiced in these cultures, plus what the examination of mummies can tell us about past peoples cultures, diseases, and lifestyles.

Prerequisite: Upper division standing or instructor consent.

Normal Grade Rules
3 units

ANTH 160. Reconstructing Lost Civilizations

Explores scientific archaeology and the reconstruction of civilizations. Topics include framing hypotheses, site selection, excavation, analysis of artifacts and ecofacts, and reconstructing social systems. GE Area: R

Prerequisite: Passage of the Writing Skills Test (WST) or ENGL/LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

Note: All SJSU Studies courses require completion of the WST and upper division standing.

Normal Grade Rules
GE: R
3 units

ANTH 161. Old World Civilizations

Prehistoric cultural development in Europe, Asia, and Africa from the Paleolithic to the development of civilizations. Discussions of early states include social organization, economic systems, art, architecture and intellectual achievements.

Prerequisite: Upper division standing.

Normal Grade Rules
3 units

ANTH 162. Inca, Aztec and Maya Civilization

Ancient high civilizations of Mexico, Central America and Andean South America, their predecessors and contemporaries. Explores sociocultural systems with emphasis on art, architecture and intellectual achievements.

Prerequisite: Upper division standing.

Normal Grade Rules
3 units

ANTH 164. North America before 1492

Archaeology and history of North American peoples before 1492. Precolumbian culture areas and relationships between them; development of state societies; relationships with and resistance to European colonizers.

Prerequisite: Upper division standing or instructor approval

Normal Grade Rules
3 units

ANTH 165. Historical Archaeology

Course centers on the archaeology of the recent past. Students explore how to employ archaeological material analysis and archival research to develop a fuller understanding of the development of the modern industrialized world.

Prerequisite: Upper division standing.

Normal Grade Rules
3 units

ANTH 168. Archaeological Methodology

Central methods of archaeological practice. Methods of archaeological inquiry, research design, and the cultural resource management presented through case studies in historic and prehistoric archaeology.

Prerequisite: ANTH 13.

Normal Grade Rules
3 units

ANTH 169. Archaeological Site Excavation

Artifact recovery and analysis during archaeological field project. All phases of professional archaeological practice leading to publication of findings. Sites may be local or distant.

Prerequisite: ANTH 13 or instructor consent.

Misc/Activity: 6 hours activity

Repeatable for credit
Normal Grade Rules
3 units

ANTH 173. Multimedia Anthropology

Planning, production, and presentation of ethnographic materials using various media. Theoretical and applied aspects of multimedia anthropology. Use of multiple media in data collection, analysis, evaluation, and representation of culture including photographs, documentary video, websites, social networking platforms, and infographics.

Prerequisite: ANTH 11 or instructor consent.

Normal Grade Rules
3 units

ANTH 175. Anthropology of Native America

Survey of indigenous peoples of the Pacific Rim from ethnohistorical times to the present. Cultural adaptation, social organization, world view, intercultural contact and cultural portrayal. Emphasis on Western Native North America with examples drawn from other Asian, Pacific and American indigenous cultures.

Prerequisite: Any lower division anthropology course or instructor consent.

Normal Grade Rules
3 units

ANTH 176. Indians of California

Native Californian cultures as they functioned before white contact, emphasizing ecological, sociopolitical and religious interrelationships and historic culture change. Ethnographic, archaeological and documentary sources.

Prerequisite: ANTH 11 or instructor consent.

Normal Grade Rules
3 units

ANTH 177. Anthropology of Asia

Sociocultural themes of selected Asia cultures. Covers cultural pluralism, intercultural contact, social organization, worldview and economic adaptations. Explores connections within the Pacific Rim, especially to the local region. Course is repeatable once for credit when different cultures are emphasized.

Prerequisite: Upper division standing.

Repeatable for credit
Normal Grade Rules
3 units

ANTH 180. Individual Studies

Prerequisite: Instructor consent.

Repeatable for credit
Credit / No Credit
1-4 units

ANTH 184. Directed Reading

Directed reading in cultural anthropology, physical anthropology or archaeology to gain a broader understanding of a particular topic, culture or theoretical issue.

Prerequisite: Upper division standing and instructor consent.

Repeatable for credit
Credit / No Credit
1-4 units

ANTH 187. Special Topics

Contemporary issues in anthropological theory including cultural anthropology, archaeology and physical anthropology. Course is repeatable once for credit on different issue.

Prerequisite: Upper division standing.

Repeatable for credit
Normal Grade Rules
3 units

ANTH 190. Designing Research

Describes research conception, development and implementation for academic research and applied careers alike. Emphasizes writing grant proposals, academic theses, and professional contracts. Topics include research question identification, methodological and technical approaches, broader significance and impact of research, and ethical considerations.

Prerequisites: Declared major in Anthropology or Behavioral Sciences; Completion of Area Z (100W); Two of the following courses: ANTH 011, ANTH 012, ANTH 013 or Instructor consent.

Normal Grade Rules
3 units

ANTH 191. Frontiers of Anthropology

Critical contemporary social issues that cut across archaeology and cultural and physical anthropology. Anthropology as a holistic social science. Seminar format uses reading, simulations and class discussions. Professionalism in the discipline stressed.

Prerequisite: ANTH 131 and senior standing or instructor consent.

Normal Grade Rules
3 units

ANTH 193. Behavioral Science in Practice

Capstone workshop for behavioral science majors. Students assess methods and knowledge of anthropology, psychology and sociology, and synthesize them by reflecting upon case studies of individual, organizational, community, and global issues. Emphasis is on cooperative learning, reflection and synthesis of skills and knowledge.

Prerequisite: Senior standing, declared major in Behavioral Science or Behavioral Science double major.

Normal Grade Rules
3 units

ANTH 195. Anthropology Practicum

Advanced practicum in archaeology, ethnography, physical anthropology or linguistics.

Prerequisite: Instructor consent.

Repeatable for credit
Credit / No Credit
1-6 units

ANTH 198. Special Projects

Independent research in cultural anthropology, physical anthropology or archaeology.

Prerequisite: Upper division standing and instructor consent.

Repeatable for credit
Credit / No Credit
1-4 units

GRADUATE

ANTH 230. Theory in Practice

In-depth analysis of anthropological and related theory and accompanying methodology, emphasizing the use of theory in practice.

Prerequisite: ANTH 131 or instructor consent.

Note: This course satisfies graduate-level GWAR in this master's program.

Normal Grade Rules
GE: GWAR
3 units

ANTH 231. Applications Core

Methods for the analysis of sociocultural systems, ethnographic evaluation, and program/design development. Emphasis on professionalism, project management, budgeting, ethics, and contracts.

Prerequisite: ANTH 232, ANTH 105 or instructor consent.

Normal Grade Rules
3 units

ANTH 232. Applications Core

Methods for the analysis sociocultural systems, ethnographic evaluation, and program/design development. Emphasis on professionalism, project management, budgeting, ethics, and contracts

Prerequisite: ANTH 231 or instructor consent.

Normal Grade Rules
3 units

ANTH 233. Fields of Application

Survey of domains in which anthropological skills and knowledge are applied. Topics include health, business and industry, sustainable regions, and immigration. Emphasis is on opportunities for anthropological contributions.

Corequisite: ANTH 231 or instructor consent.

Normal Grade Rules
3 units

ANTH 234. Advanced Research Methods

Advanced research methods including individual and group interviewing, structured observation, and formal analytical methods. Emphasis on data management, ethnographic writing, and presentation of data through different media.

Prerequisite: ANTH 149 or equivalent.

Normal Grade Rules
3 units

ANTH 235. Quantitative Methods

Advanced quantitative methods to gain comprehension of statistical analyses, especially in regards to predictive value for regional issues. Emphasis will be on understanding statistics, creating databases, using statistical software packages, and employing proper statistics.

Prerequisite: STAT 95 or equivalent.

Normal Grade Rules
3 units

ANTH 280. Individual Studies

Advanced individual research and projects.

Prerequisite: Instructor consent and department chair approval.

Repeatable for credit
Credit / No Credit
1-4 units

ANTH 287. Special Topics

Contemporary issues in applied and practicing anthropology not covered in other courses. Course is repeatable once for credit on different topic with advisor consent.

Prerequisite: Graduate standing or instructor consent.

Repeatable for credit when topic changes.

Repeatable for credit
Normal Grade Rules
1-3 units

ANTH 298. Anthropology Project
Course consists of supervised units applying anthropology in a project, the documentation of that project and the evaluation of the project in a written report. Course is repeatable for credit in the same semester.

Repeatable for credit
Mandatory CR/NC/RP
1-6 units

ANTH 299. Master's Thesis
Independent anthropological research conducted under supervision of faculty advisor.

Prerequisite: Graduate standing.

Repeatable for credit
Mandatory CR/NC/RP
1-6 units

UPPER DIVISION

ANTH 1290R. Culminating Experience Supervision
Continued work on project or thesis.

Prerequisite: Outstanding RP grade in a preceding semester in a project or thesis class

Note: No Degree Credit.

Repeatable for credit
No Degree Credit
1 unit

ORGANIZATIONAL STUDIES

UPPER DIVISION

ORGS 101. People & Organizations
Study of complex organizations in which people live their lives. Topics include organizational forms and functions; internal social and cultural dynamics; growth and change in material, social and symbolic environments; and ethical issues of organizational life.

Prerequisite: Upper Division Standing

Misc/Lab: Lecture 4 hours/Activity 2 hours

Normal Grade Rules
3 units

ORGS 102. Organizations, Inquiry & Analysis
Development of skills to analyze and design organizations. Topics include analysis of environments and resources; use of technology; communication and decision-making; workflow and division of labor; and symbols. Research skills for understanding organizational values, patterns, processes and environments.

Prerequisite: Upper Division Standing

Misc/Lab: Lecture 4 hours/Activity 2 hours

Normal Grade Rules
4 units

ORGS 103. Organizational Studies Capstone
Capstone course required of all ORGS majors. Emphasizes team projects working with community or institutional partners to address issues through organizational design or change.

Prerequisite: ORGS 101, ORGS 102; or instructor permission

Misc/Lab: Lecture 4 hours/Activity 2 hours

Normal Grade Rules
4 units

Applied Data Science Department Courses

DATA ANALYTICS

GRADUATE

DATA 200. Computational Programming for Data Analytics
Hands-on programming covers constructs such as data structures and algorithms, iterations, functions, and other core concepts; cover skills include casting a problem as an algorithm, translating an algorithm to executable code, and debugging and testing code; applications focus on computational techniques to understand, analyze, and visualize data. Prerequisite: Admission into MS in Data Analytics and instructor consent

Credit / No Credit
3 units

DATA 220. Mathematical Methods for Data Analysis
Mathematical and Statistical methods for Data Analytics. Selected topics from probability, statistics, linear algebra, and mathematical optimization. Programming for numerical implementation of mathematical and statistical algorithms.

Prerequisite: Instructor Consent

Normal Grade Rules
3 units

DATA 294. Data Analytics Seminar
Advanced and domain specific topics in the area of data analytics; content is updated in each offering; possible topics include though not restricted to research design and data analytics for the applications of business, engineering, natural science, social science, etc.

Prerequisite: Graduate standing and instructor consent

Note: This course satisfies graduate-level GWAR in this master's program.

Normal Grade Rules
GE: GWAR
3 units

DATA 295. Special Problems in Data Analytics
Advanced individual work in data analytics. Repeatable with graduate advisor approval.

Credit / No Credit
3 units

DATA 296. Special Topics in Data Analytics
Special topics in Data Analytics. Content varies from semester to semester. Repeatable in different topic areas.

Prerequisite: Instructor Consent

Repeatable for credit
Normal Grade Rules
3 units

DATA 297. Data Analytics Internship
Fieldwork for MS in Data Analytics students. A report is required at the end of the semester addressing the goals set at the start of the assignment.

Prerequisite: Completed 12 units degree required courses, classified status, in good standing, and graduate advisor consent

Credit / No Credit
1 unit

DATA 298A. Data Analytics Masters Project I
Comprehensive plan and preliminary design of data analytics project; integration of knowledge in technologies, processes and management to support program outcomes.

Prerequisite: Classified status, good standing, Data 294, and graduate advisor consent

Normal Grade Rules
3 units

DATA 298B. Data Analytics Masters Project II
Completion of an in-depth project to achieve the program outcomes and satisfy the cumulating experience; write a detailed project report; make a comprehensive presentation and demonstration.

Prerequisite: Advancement to candidacy, DATA 298A, and graduate advisor consent

Normal Grade Rules
3 units

DATA 299A. Data Analytics Masters Thesis I
First of a two-course sequence for the Plan A (Thesis) culminating experience. Prerequisite: Classified status, good standing, DATA 294, and graduate advisor consent

Credit / No Credit
3 units

DATA 299B. Data Analytics Masters Thesis II
Second of the two-course sequence for the Plan A (Thesis) culminating experience. Prerequisite: Admission to candidacy, DATA 299A, and graduate advisor consent.

Mandatory CR/NC/RP
3 units

SJSU SAN JOSÉ STATE UNIVERSITY

Academic Year 2019-2020

Course Descriptions

v1
July 1, 2019

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DESCRIPTION CONTENTS

Art and Art History Department Courses

ART

LOWER DIVISION

ART 001. Professional Preparation in Art
Introduction to skills and documents needed in preparation for professional careers in the arts; orientation to SJSU. Intended for BA/BFA ART majors and minors.
Credit / No Credit
1 unit

ART 002. The Artist in Contemporary Culture
Introduces art beginners to roles that artists play in contemporary culture. Critical readings and problem-solving: principles of form and theory and research applied to real-world situations confronted by contemporary artists. Orientation to SJSU.
Normal Grade Rules
3 units

ART 003. Medium and Message
This undergraduate seminar introduces intermediate-level artists to a research and project-based approach to artmaking with a focus on contemporary, idea-appropriate mediums and methods. Orientation to SJSU.
Normal Grade Rules
3 units

ART 012. Two-Dimensional Design and Color Concepts
Theories and applications of two-dimensional design and color in visual art and design. Studio practice.
Note: ART 12 is treated as a repeat for students who have taken ANI 12.
Misc/Activity: 6 hours activity
Normal Grade Rules
3 units

ART 013. Three-Dimensional Design Concepts
Theories and applications of three-dimensional form in visual art and design. Studio practice.
Misc/Activity: 6 hours activity
Normal Grade Rules
3 units

ART 014. Color
Attributes of color. Studio practice exploring theories and creative use of color in visual art and design.
Note: ART 14 is treated as a repeat for students who have taken ANI 14.
Misc/Activity: 6 hours activity
Normal Grade Rules
3 units

ART 024. Drawing I
Elements and principles of drawing. Studio practice emphasizing line, shape and light-dark used in visual art and design.
Note: ART 24 is treated as a repeat for students who have taken ANI 24.
Misc/Activity: 6 hours activity
Normal Grade Rules
3 units

ART 025. Expressive Drawing
Drawing concepts emphasizing creative expression. Studio practice with a variety of methods and materials.
Prerequisite: ART 24.
Misc/Activity: 6 hours activity
Normal Grade Rules
3 units

ART 026. Drawing II
Observation and depiction of volume and perspective.
Prerequisite: ART 24.
Misc/Activity: 6 hours activity
Normal Grade Rules
3 units

ART 039. Multicultural Arts for Children
Focus on teaching arts of many cultures, places and times to young people (preschool through high school).
Misc/Lab: Lab 6 hours.
Normal Grade Rules
3 units

ART 046. Introduction to Ceramics
Studio work in ceramics; a survey of methods used by contemporary artists. Includes use of the potter's wheel, handbuilding techniques, clay preparation, glazing and firing for utilitarian and sculptural work.
Misc/Activity: 6 hours activity
Normal Grade Rules
3 units

ART 047. Introduction to Metalsmithing
Introduction to tools, materials and techniques for small scale metal work. Primer course for metalsmithing and jewelry.
Misc/Activity: 6 hours activity
Normal Grade Rules
3 units

ART 061. Beginning Painting
Studio practice in selected media. Specific content, materials and subject matter may vary with instructors.
Prerequisite: ART 12 and ART 24
Misc/Activity: 6 hours activity
Normal Grade Rules
3 units

ART 068. Beginning Sculpture: Object & Concept
Introduction to core sculptural media: woodworking, welding, mold-making, metal-casting and working with found objects. Emphasis on concept development and critical thinking.
Prerequisite: Art 13 or instructor consent.
Misc/Activity: 6 hours activity
Repeatable for credit
Normal Grade Rules
CAN ART 12
3 units

ART 074. Introduction to Digital Media
Fundamental concepts and methods of Digital Media production. Introduction to visualization software applications and web presentation techniques.
Misc/Lab: Activity 6 hours.
Normal Grade Rules
3 units

ART 075. Introduction to Digital Video Art
Introduction of the fundamental skills, software and techniques involved in the production of Digital Video. Critical discourse and contemporary art theories will be explored.
Misc/Activity: 6 hours activity
Normal Grade Rules
3 units

UPPER DIVISION

ART 100W. Writing Workshop: Fine Arts
Advanced writing course for fine art majors, based upon philosophical issues and current professional practice in art. Clear analytical and critical writing in examination of these topics. GE Area: Z
Prerequisite: A3 or equivalent second semester composition course (with a grade of C- or better); Completion of core GE, satisfaction of Writing Skills Test and upper division standing. Art and Design Majors only.
Note: Note: Must be passed with C or better to satisfy the CSU Graduation Writing Assessment requirement (GWAR).
Normal Grade Rules
GE: Z
3 units

ART 101. Digital Media Art
Experimental applications in creative coding as an art practice. Focus includes programming interactivity, generative graphics, intro to data visualization and user interface and user experience strategies.
Prerequisite: ART 074, ART 075 or instructor consent
Misc/Activity: 6 hours activity
Normal Grade Rules
3 units

ART 102. 3D Modeling and Printing

Introduces experimental 3D methods with a focus on conceptual and creative processes using 3D modeling software and 3D printing technology while addressing contemporary uses for artistic production. Prerequisite: Art 75 or instructor consent. Misc/Activity: 6 hours activity

Normal Grade Rules
3 units

ART 103. Art as System

Experimental applications in the use of systems-based approach for art making. Focus on various CNC 3D printing/cutting methods, parametric art, CAD/CAM techniques, physical computing integration and collaborative art models. Prerequisites: ART 75 and ART 101 Misc/Lab: Activity 6 hours.

Normal Grade Rules
3 units

ART 104. Interdisciplinary Seminar in Digital Media Art

Investigation of theoretical topics in digital media art and analysis of contemporary technology research issues.

Prerequisite: Upper division standing or instructor consent.

Repeatable for credit
Normal Grade Rules
3 units

ART 105. Advanced Digital Video

Advanced exploration of digital video within the context of conceptual art practice. Focus on issues and applications of digital technology and critical thinking in art with specific focus on video, the Internet and alternative media applications.

Prerequisite: ART 75 or permission of instructor.

Misc/Lab: Lab 9 hours.

Repeatable for credit
Normal Grade Rules
3 units

ART 106. Topics in Human Machine Interface

Experimental applications in physical computing in art. Topics include computer-controlled sensors and actuators, the nature of the cyborg and interactive electronic interfaces for sculpture, environments and performance. Course is repeatable up to 6 units, when course topic changes. Prerequisites: ART 75 and ART 101 or permission of instructor. Misc/Lab: Activity 6 hours.

Repeatable for credit
Normal Grade Rules
3 units

ART 107. Advanced Projects in Digital Media Art

Advanced issues and applications of digital technology in art. Application of interactive technology in installation and performance. Emphasis on collaborative projects, user interaction, and experience. Course is repeatable up to 6 units. Prerequisite: ART 75 or permission of instructor. Misc/Lab: Activity 6 hours.

Repeatable for credit
Normal Grade Rules
3 units

ART 108. Introduction to Game Studies

Introduction to the systems, design, history, and cultural analysis of games with emphasis on critical studies, development, technological literacy, markets and impact on society.

Prerequisite: Upper division standing or instructor consent.

Normal Grade Rules
3 units

ART 110. History and Theory of New Media

See ARTH 110.

Normal Grade Rules
3 units

ART 124. Drawing 3

Form and expression in Drawing. Emphasis may vary with instructor

Prerequisite: ART 024, ART 026

Misc/Activity: 6 hours activity

Normal Grade Rules
3 units

ART 132. Topics in Intermediate Ceramics

Investigation of ceramic form and surface design with emphasis on the vessel. Development of skills on the potter's wheel and in glazing, kiln loading and firing. Included are raku, salt, earthenware, stoneware and porcelain.

Repeatable for up to 9 units of credit when course topic changes.

Prerequisite: ART 46 or instructor consent

Misc/Activity: 6 hours activity

Repeatable for credit
Normal Grade Rules
3 units

ART 133. Topics in Ceramic Sculpture

Focus on handbuilding and nontraditional techniques in clay and related media. Includes gallery and studio visits. Repeatable for Credit when topic changes, up to 3 times.

Prerequisite: ART 13, ART 46 or instructor consent.

Misc/Activity: 6 hours activity

Repeatable for credit
Normal Grade Rules
3 units

ART 134. Topics in Advanced Ceramics

Focus on personal stylistic development, individual critiques and portfolio preparation. Includes gallery and studio visits. Repeatable for Credit when topic changes, up to 3 times.

Prerequisite: ART 132 or ART 133.

Misc/Activity: 6 hours activity

Repeatable for credit
Normal Grade Rules
3 units

ART 135. Topics in Moldmaking for Artists

Introduction to moldmaking for upper division/graduate students. Course will include techniques for rubber molds for wax or plastic, molds for pressed clay, slip casting and waste molds. Course is repeatable for a total of 6 units.

Prerequisite: ART 13 or instructor consent.

Notes: Offered only occasionally.

Misc/Activity: 6 hours activity

Repeatable for credit
Normal Grade Rules
3 units

ART 137. Figure Modeling

Representation of the human figure in three dimensions. Sculpting in clay from a live model. Course is repeatable for a total of 6 units.

Prerequisite: ART 13 and ART 55 or instructor consent.

Misc/Lab: Activity 6 hours.

Repeatable for credit
Normal Grade Rules
3 units

ART 138. Elementary Art Methods

Equips prospective pre-K through high school educators with the basic knowledge, skills, and strategies to effectively organize and provide sequential art education. Emphasis on art teaching methods, art curriculum development, and art experiences.

Prerequisite: Upper division standing.

Misc/Activity: 6 hours activity

Normal Grade Rules
3 units

ART 139. Teaching Diversity through Art

Strategies for teaching ideas of diversity through art in the preschool through high school classroom. Students deepen their understanding of culture and context and of why the arts matter.

Prerequisite: upper-division standing or instructor consent

Misc/Activity: 6 hours activity

Normal Grade Rules
3 units

ART 140. Topics in Glass

Introduction to glass working techniques, chemistry, history and concept. Basic glass blowing, sand casting, slumping, fusing, cold working, stained glass and gluing techniques. Taught through a series of hands-on projects. Repeatable for up to 9 units when topic changes.

Misc/Activity: 6 hours activity

Repeatable for credit
Normal Grade Rules
3 units

ART 141. Topics in Advanced Glass

Technical and esthetic aspects of glass for sculpture and design. Advanced blowing, kiln casting, mold making, lamp working, lathe techniques and surface treatments. Repeatable for up to 9 units of credit, when topic changes.

Prerequisite: ART 140, ART 13 or instructor consent.

Misc/Lab: Activity 6 hours.

Repeatable for credit
Normal Grade Rules
3 units

ART 147. Topics in Metalsmithing and Jewelry

Technical and esthetic aspects of metalsmithing and jewelry design. Fabricating, surfacing, soldering, raising, forming and forging. Repeatable for 12 units of credit when topic changes.

Prerequisite: ART 47.

Misc/Activity: 6 hours activity

Repeatable for credit
Normal Grade Rules
3 units

ART 149. Topics in Jewelry and Small Sculpture

Technical and esthetic aspects of metalcasting for small-scale sculpture and jewelry. Pattern materials, gating techniques, burnout procedure, vacuum casting, centrifugal casting and finishing. Repeatable for 12 units of credit when topic changes.

Prerequisite: Upper division standing or permission of instructor.

Misc/Activity: 6 hours activity

Repeatable for credit
Normal Grade Rules
3 units

ART 150. Topics in Printmaking and Letterpress

Introduction to relief printing, letterpress and related processes. Studio practice. Prerequisites: Art 12 and Art 24 Misc/Activity: 6 hours activity

Repeatable for credit
Normal Grade Rules
3 units

ART 151. Topics in Screen-Printing

Screen printing and related photographic processes. Studio practice. Repeatable for Credit when topic changes.

Misc/Activity: 6 hours activity

Repeatable for credit
Normal Grade Rules
3 units

ART 152. Topics in Lithography

Studio practice. A comprehensive study of the practice of stone and metal plate lithography. Course is repeatable for a total of 9 units when topic changes.

Prerequisite: ART 61 (or equivalent).

Misc/Activity: 6 hours activity

Repeatable for credit
Normal Grade Rules
3 units

ART 153. Topics in Intaglio Processes

Studio practice towards an understanding of the methods, techniques and procedures necessary to make intaglio prints. Course is repeatable for a total of 9 units when course topic changes.

Prerequisite: ART 61 (or equivalent)

Misc/Activity: 6 hours activity

Repeatable for credit
Normal Grade Rules
3 units

ART 155. Topics in Monotype

Studio practice. An investigation of the methods, techniques and syntax of the monotype and monoprint. Course is repeatable for total of 9 units when course topic changes.

Prerequisite: ART 61 (or equivalent).

Misc/Activity: 6 hours activity

Repeatable for credit
Normal Grade Rules
3 units

ART 158. Topics in Drawing III

Form and expression in drawing. Selected media. Course Repeatable for up to 9 units of credit when topic changes.

Prerequisite: Art 025 or Art 026

Misc/Activity: 6 hours activity

Repeatable for credit
Normal Grade Rules
3 units

ART 159. Advanced Life Drawing

Course is repeatable for a total of 9 units.

Prerequisite: 3 units of ART 55 and 3 additional units of ART 55 or ART 112B.

Misc/Activity: 6 hours activity

Repeatable for credit
Normal Grade Rules
3 units

ART 162. Watercolor

Painting with various water base media.

Prerequisite: ART 12 and ART 24.

Misc/Activity: 6 hours activity

Normal Grade Rules
3 units

ART 164A. Intermediate Painting

Emphasis may vary with instructor. Course is repeatable for a total of 6 units.

Prerequisite: ART 61 (or equivalent).

Misc/Activity: 6 hours activity

Normal Grade Rules
3 units

ART 164B. Intermediate Painting II

Intermediate Painting II expands and builds on the concepts and skills introduced in ART 164A-Intermediate Painting I; with the goal of developing more complex content and process in preparation for Advanced Painting.

Prerequisites: ART 61 and ART 164A or instructor consent

Misc/Activity: 6 hours activity

Normal Grade Rules
3 units

ART 165. Topics in Figure Painting

Figure and portrait painting from the model. Repeatable for up to 9 units of credit when course topic changes.

Prerequisite: ART 26 and ART 61.

Misc/Activity: 6 hours activity

Repeatable for credit
Normal Grade Rules
3 units

ART 166. Topics in Advanced Painting

Emphasis may vary with instructor. Repeatable for 9 units of credit when topic changes.

Prerequisite: ART 61 ART 164A, ART 164B and ART 165 or equivalent, or instructor consent

Misc/Activity: 9 hours lab

Repeatable for credit
Normal Grade Rules
3 units

ART 168. Topics in Woodworking

Introduction to the physical structure of wood and to the design and construction of furniture and sculptural objects in wood. Also, an introduction to the historical use of wood joinery in man-made objects. Course is repeatable for 6 units of credit.

Prerequisite: ART 13 or instructor consent.

Misc/Activity: 9 hours lab

Repeatable for credit
Normal Grade Rules
3 units

ART 169. Topics in Metal Sculpture

Conception and creation of three-dimensional aesthetic form using metal techniques including casting, welding, fabrication and other forming processes. Repeatable for up to 9 units when topic changes.

Prerequisite: ART 13.

Misc/Activity: 6 hours activity

Repeatable for credit
Normal Grade Rules
3 units

ART 170. Topics in Fabricated Sculpture

Fabricated Sculpture includes welding training, a concise history of fabricated metal sculpture since 1945, and studio time wherein the student practices skills and executes three steel sculptures. Repeatable for up to 9 units of credit when course topic changes.

Prerequisite: ART 13.

Misc/Lab: Lab 6 hours.

Repeatable for credit
Normal Grade Rules
3 units

ART 171. Advanced Sculpture

Self expression and advanced techniques in sculpture. Emphasis will be placed on individual development, current directions and goals.

Prerequisite: 6 units of sculpture.

Misc/Activity: 6 hours activity

Repeatable for credit
Normal Grade Rules
3 units

ART 172. Intermediate Sculpture: System/ Structure

This is an intermediate-level sculpture class with a focus on contemporary materials and processes. Students will make sculptural responses to timely issues raised in course readings and lectures.

Prerequisite: ART 68 or instructor consent.

Misc/Activity: 6 hours activity

Repeatable for credit
Normal Grade Rules
3 units

ART 173. Topics in Installation Art

Exploration of cross-disciplinary artmaking, with an emphasis on conceptual development and critical dialogue. Students make installation art and site-specific artworks using a variety of techniques and processes, including time-based media. Course can be repeated for up to 6 units when course topic changes.

Prerequisite: ART 13 or instructor consent.

Misc/Activity: 6 hours activity

Repeatable for credit
Normal Grade Rules
3 units

ART 174A. Museum and Gallery Operations

Theoretical and technical problems of gallery and museum work including administration, security and curatorship.

Prerequisite: Upper division standing.

Normal Grade Rules
3 units

ART 174B. Internship: Museum and Gallery Operations

Supervised internship in museum or gallery. Experience including installation, curating and administration. Course is repeatable for a total of 6 units.

Prerequisite: ART 174A.

Repeatable for credit
Credit / No Credit
3 units

ART 175. Special Topics in Studio Art

Varying concepts, media or techniques. Emphasizing individual expression, professional ability and recent movements and directions in art.

Prerequisite: Upper division standing in art.

Misc/Activity: 6 hours activity

Repeatable for credit
Normal Grade Rules
3 units

ART 176. Workshops in Studio Art

Workshop introduction to specific studio art skills or techniques taught through a series of hands-on projects. Repeatable for up to 6 units when topic changes. Prerequisite: Upper division standing or instructor consent.

Prerequisite: Upper division standing or instructor consent.

Misc/Activity: 6 hours activity

Repeatable for credit
Normal Grade Rules
1 unit

ART 177. Professional & Business Practices

An introduction to the ways and means necessary to build a career in the arts while successfully negotiating its challenges, this course will provide information on portfolio development and professional and business practices essential for the practicing artist.

Prerequisite: Upper division or graduate standing.

Normal Grade Rules
3 units

ART 178. Art Field Work

Professional practice in a selected field.

Prerequisite: Application for assignment made preceding semester. Supervisor and department approval.

Repeatable for credit
Credit / No Credit
1-3 units

ART 179. Special Problems in Art

Individual study on a tutorial basis.

Prerequisite: Qualified seniors or graduates.

Repeatable for credit
Credit / No Credit
3 units

ART 180. Individual Studies

Special topics or projects by arrangement with instructor. Course is repeatable up to 4 units of credit toward graduation.

Prerequisite: Majors or minors with Department of Art & Art History consent.

Repeatable for credit
Credit / No Credit
1-3 units

ART 193. Digital Materials

Technical skills to facilitate the realization of projects conceptually rooted in an analysis of computational media and its relationship to the physical world. Introduction to video and computational outputs integrated with tangible presentation methods. Material survey, exhibition strategies, and introductory fabrication techniques that facilitate projects bridging computation, architecture, objects, and the body.

Prerequisite: ART 74 and ART 75

Misc/Activity: 6 hours activity

Normal Grade Rules
3 units

ART 195. BFA Group Exhibition

Student develop individual approaches, methodologies, and practices in the creation of art and participate in a final group show demonstrating professional competence in the students area of concentration. Participation in the final exhibition with the approval of the student's advisory committee is required.

Prerequisite: 30 units of upper division art, admission to the BFA program and ART 198, or ART 210 with advisor's approval.

Credit / No Credit
3 units

ART 197. BA Senior Project

Creation of a studio art or design capstone project consisting of new work in media selected by student to be documented and presented to studio or design faculty.

Prerequisite: 15 units of upper division work in the major.

Credit / No Credit
3 units

ART 198. BFA Seminar

Preparation for BFA project and postgraduate career planning, this course includes field trips, class discussions and studio visits with art professionals.

Prerequisite: Prior acceptance in the B.F.A. program.

Normal Grade Rules
3 units

ART 199. BFA Project

A project demonstrating professional competence in area of concentration. A gallery exhibition with the approval of the student's advisory committee is required.

Prerequisite: 30 units of upper division art, admission to the BFA program and ART 198, or ART 178 with advisor's approval.

Credit / No Credit
3 units

GRADUATE

ART 200W. Professional Writing in Contemporary Art

Graduate seminar focusing on issues and practices of writing about contemporary art, including artist statements, exhibition catalogs and art criticism.

Prerequisites: Graduate Standing in Department of Art & Art History.

Note: This course satisfies graduate-level GWAR in this master's program.

Normal Grade Rules
GE: GWAR
3 units

ART 208. Graduate Photography Critique

Professional practice in the discipline of fine art photography is multi faceted and complex. To embrace this diversity, Art 208 Graduate Photography Critique offers rotating topics that influence portfolio development, emphasize an ongoing critique of work, and build a healthy professional practice. Repeatably for up to 18 units of credit when course topic changes.

Prerequisite: Classified status in art or instructor consent.

Misc/Activity: 9 hours lab

Repeatable for credit
Normal Grade Rules
3 units

ART 210. Seminar in Digital Media Art

Theoretical discourse involving art and information culture. Review and analysis of contemporary theory and critical literature. Emphasis on collaborative activities and art practice.

Prerequisite: Classified status in art or instructor consent.

Repeatable for credit
Normal Grade Rules
3 units

ART 217. Tutorials in Pictorial Arts

Individual projects in painting, drawing and printmaking supervised by an instructor.

Prerequisite: Classified or conditionally classified status in art and instructor consent.

Repeatable for credit
Normal Grade Rules
3 units

ART 219. Tutorials in Spatial Art

Individual projects in sculpture, installation, performance and other 3-D media supervised by an instructor.

Prerequisite: Classified or conditionally classified status in art and instructor consent.

Repeatable for credit
Normal Grade Rules
3 units

ART 220. Tutorials in Digital Media Art

Individual problems in selected area of research or practice.

Prerequisite: Classified status in art and instructor consent.

Repeatable for credit
Normal Grade Rules
3 units

ART 221. Tutorials in Design

Individual projects in specialized design areas supervised by an instructor.

Prerequisite: Classified or conditionally classified status in art and instructor consent.

Repeatable for credit
Normal Grade Rules
3 units

ART 222. Tutorials in Photography

Individual projects employing photographic media supervised by an instructor.

Prerequisite: Classified or conditionally classified status in art and instructor consent.

Repeatable for credit
Normal Grade Rules
3 units

ART 260. Special Tutorials in Art

Individual problems in a selected art area supervised by an instructor.

Prerequisite: Classified or conditionally classified status in art and instructor consent.

Repeatable for credit
Credit / No Credit
3 units

ART 276. Artists Teaching Art

Seminar will examine theoretical and practical issues of art education which relate to traditional institutions of higher learning as well as to other teaching opportunities in the community.

Prerequisite: Classified graduate status or instructor consent.

Repeatable for credit
Normal Grade Rules
3 units

ART 281. Interdisciplinary Critique Seminar

Interdisciplinary peer group critiques and discussion of individual student work. Repeatable for up to 9 units when topic changes.

Prerequisite: Admission to the MFA in Art program.

Repeatable for credit
Normal Grade Rules
3 units

ART 282A. Seminar in the Theory and Criticism of Contemporary Art

A historical approach to the thought of major critics and theoreticians of contemporary art.

Prerequisite: ARTH 191A and admission to classified MFA status in art or instructor consent.

Normal Grade Rules
3 units

ART 282B. Seminar in Contemporary Art

An examination of a particular theme in contemporary art theory. Repeatable for credit.

Prerequisite: ARTH 191A and admission to classified MFA status in art or instructor consent.

Note: This course satisfies graduate-level GWAR in this master's program.

Repeatable for credit
Normal Grade Rules
GE: GWAR
3 units

ART 297A. Master's Special Study

Advanced individual research in an area closely related to the master's thesis, research or project. Course may be repeated for a total of 6 units.

Prerequisite: Acceptance of qualifications for candidacy by Art Graduate Committee and permission of Thesis, Research or Project Committee chair.

Repeatable for credit
Credit / No Credit
3 units

ART 297B. Master's Project

Advanced projects in Creative Expression.

Prerequisite: Admission to candidacy for the master's degree in art.

Repeatable for credit
Credit / No Credit
3 units

ART 298A. MFA Special Study

Advanced individual research in an area closely related to the MFA in Art project.

Prerequisite: Admission to candidacy for the MFA in Art degree.

Repeatable for credit
Mandatory CR/NC/RP
3 units

ART 298B. MFA Project

A creative project of professional caliber.

Prerequisite: Admission to candidacy for the MFA in Art degree.

Repeatable for credit
Mandatory CR/NC/RP
3 units

ART 299. Master's Thesis or Project
Advanced problems in research. Course may be repeated for a total of 6 units.

Prerequisite: Admission to candidacy for the master's degree in art.

Repeatable for credit
Mandatory CR/NC/RP
3 units

UPPER DIVISION

ART 1290R. Culminating Experience Supervision
This course satisfies the requirement that all graduate students must remain enrolled during semesters in which they are working solely on their theses or projects, for which they have previously received but not cleared an RP grade.

Prerequisite: Existing RP grade in a graduate-level thesis or project course

Note: No Degree Credit.

Repeatable for credit
No Degree Credit
1 unit

ART EDUCATION

UPPER DIVISION

ARED 150. Field Experience in the Arts
Provides opportunities for those considering teaching, K-12 levels, to interact with outstanding teachers of the arts in the region through structured field experiences in classrooms,reflective writing, community service, and weekly discussion in a seminar setting.

Prerequisite: ART 138 or ART 139, upper division standing, or instructor consent.

Normal Grade Rules
3 units

ARED 184Y. Student Teaching II - Classroom Teaching
Minimum 80-120 class periods of classroom, teaching laboratory or field teaching in appropriate single subjects, grades K-12 and related teaching activities and seminar.

Prerequisite: Major and Education Department joint approval.

Repeatable for credit
Credit / No Credit
4-6 units

ARED 184Z. Student Teaching III - Classroom Teaching
Notes: May be in different subject/school and will be at a different grade level.

See ARED 184Y.

Repeatable for credit
Credit / No Credit
4-6 units

GRADUATE

ARED 238. Principles of Art Education
This course is designed to equip prospective art educators with the knowledge, skills, and strategies to effectively organize and implement sequential art instruction at the secondary level with an emphasis on Art Teaching Methods and Art Curriculum Development.

Prerequisite: Graduate standing or instructor consent.

Normal Grade Rules
3 units

ARED 365. Field Experience Seminar in Art Education
This companion to the Phase II/III student teaching experience in the Single Subject Credential Program provides a forum for discussing field experiences and prepared candidates for the program's capstone assessment: The performance Assessment for California Teachers (PACT).

Prerequisite: EDCS 184X

Corequisite: ARED 184Z (except for candidates in the Single Subject Internship Program).

Credit / No Credit
1 unit

ART HISTORY AND VISUAL CULTURE

LOWER DIVISION

ARTH 011. Modern Art History
Introductory survey of 20th and 21st century art, its history, and its contexts. Related developments in illustration, design, other forms of art production, and cultural institutions such as museums, galleries, publications also considered.

Pre/Corequisite: ART 12 or ART 13 or PHOT 40 or instructor consent.

Normal Grade Rules
3 units

ARTH 015. Intro to Visual Culture
Key ideas and debates pertaining to visual culture considered through interdisciplinary study of art and media as significant social forces. GE Area: C1

Normal Grade Rules
GE: C1
3 units

ARTH 070A. Art History, Prehistoric to Medieval
Western painting, sculpture and architecture from Prehistoric times through the Middle Ages. Important art works of Egypt, Greece, Rome and Medieval Europe. GE Area C1

Normal Grade Rules
GE: C1
3 units

ARTH 070B. Art History, Renaissance to Modern
Western painting, sculpture and architecture from the Renaissance to the present. Masters of the Renaissance, Baroque, Rococo, Neo-Classic, Romantic and Modern periods, including Da Vinci, Michelangelo, Durer, Rembrandt, Vermeer, David, Delacroix and Monet. GE Area: C1

Normal Grade Rules
GE: C1
3 units

ARTH 070C. Arts of Asia
Major trends in the art of China, India and Japan, as well as Southeast and Central Asia and Korea, from the Neolithic period to the twentieth century. GE Area: C1

Normal Grade Rules
GE: C1
3 units

ARTH 072. Design in Society
Considers the cultural role of design in addressing human needs in shaping the environment, in providing shelter, clothing, utilitarian objects, and transportation, in visual communication for political and entertainment purposes. GE Area: C1

Normal Grade Rules
GE: C1
3 units

UPPER DIVISION

ARTH 101. Introduction to Practice of Art History
Introduction to practice of art history including visual analysis, research tools, and examination of professional options.

Prerequisite: Art History and Visual Culture major or instructor consent.

Normal Grade Rules
3 units

ARTH 110. History and Theory of New Media
The history of art and technology introducing contemporary critical theory and practice. Course will address digital visualization, simulation, interactive network technologies in the arts and speculate on the artistic implications of advances in engineering and science.

Prerequisite: ARTH 070B or ARTH 072 or instructor consent.

Normal Grade Rules
3 units

ARTH 126. History of Photography
Technical developments and aesthetic trends in photography traced from its invention in the nineteenth century to the present day. Slide presentations, discussions, field trips.

Prerequisite: ARTH 70B or instructor consent.

Normal Grade Rules
3 units

ARTH 127. Photography, Film, and Architecture

This course presents a closely contextualized examination of major photographers, architects and film-makers through their work and their interpretations of modern culture and its spaces. Lectures will cover developments in photography, film and architecture, as well as the changing relationship among these media and other domains visual culture.

Prerequisite: ARTH 70B or Instructor Consent

Normal Grade Rules
3 units

ARTH 160. Modern Architecture

Development of modern architecture from the late 19th century to the present, including Richardson, Sullivan, Wright, Le Corbusier, the Bauhaus, Mies van der Rohe, Meier and Gehry.

Prerequisite: ARTH 070B, ARTH 072 or instructor consent.

Normal Grade Rules
3 units

ARTH 161. Contemporary Architecture

History of contemporary architecture since 1945, covering major trends and issues in a global context; includes Louis Kahn, Frank Gehry and Zaha Hadid.

Prerequsite: ARTH 70B or instructor consent.

Normal Grade Rules
3 units

ARTH 162. California Architecture

History of architecture in California since 1700, covering major architectural developments in a national and transnational context; includes Bernard Maybeck, Richard Neutra and Morphosis.

Prerequisite: ARTH 70B or instructor consent.

Normal Grade Rules
3 units

ARTH 163. Twentieth Century Urban Design

History of urban design since 1900, covering theories and practices of urban design in the industrialized world; includes Camillo Sitte, Le Corbusier and Frank Lloyd Wright.

Prerequisite: ARTH 70B or URBP 151 or instructor consent.

Normal Grade Rules
3 units

ARTH 174A. Museum and Gallery Operations

See ART 174A.

Normal Grade Rules
3 units

ARTH 174B. Internship: Museum and Gallery Operations

See ART 174B.

Repeatable for credit
Credit / No Credit
3 units

ARTH 175. Theories of Art History and Art Criticism

The study of approaches used by professional art historians and critics. The focus will be on 20th century writers who helped shape the development of contemporary art history and criticism.

Prerequisite: Upper division standing, 6 units of ARTH 70A, ARTH 70B, and/or ARTH 70C or instructor consent.

Repeatable for credit
Normal Grade Rules
3 units

ARTH 176A. Graphic Design History and Theory

The history of graphic design and typography with an emphasis on the 20th century. Define technological, historical and theoretical concerns and influences on individuals and movements in graphic design.

Prerequisite: ARTH 072, completion of Area Z, or instructor consent.

Normal Grade Rules
3 units

ARTH 176B. Industrial Design in Society

History of industrial design since 1900. Course covers practice and theories of major industrial designers and design movements in the context of social attitudes toward consumption, production, and aesthetics.

Prerequisite: ARTH 72 or instructor consent.

Normal Grade Rules
3 units

ARTH 178. Art History Field Work

Professional practice in a selected field of Art History.

Prerequisite: Application for assignment made preceding semester. Supervisor and department approval.

Repeatable for credit
Credit / No Credit
1-3 units

ARTH 180. Individual Studies in Art History

Special topics or projects by arrangement with instructor. Course is repeatable up to 4 units of credit toward graduation.

Prerequisite: Majors or minors with Department of Art & Art History consent.

Repeatable for credit
Normal Grade Rules
1-4 units

ARTH 181. Special Topics in Art History

In-depth analysis of a selected art historical topic.

Prerequisite: ARTH 70A and ARTH 70B or instructor consent.

Repeatable for credit
Normal Grade Rules
3 units

ARTH 182A. Art of the Americas

A survey of architecture, ceramics, metalwork, sculpture, painting and textiles of North, South, and Meso American cultures.

Prerequisite: ARTH 70A or instructor consent.

Normal Grade Rules
3 units

ARTH 182B. American Art

From the Colonial Period to 1940. Social context of America.

Prerequisite: Upper division standing.

Normal Grade Rules
3 units

ARTH 183A. Art of Egypt and Mesopotamia

The Arts of Egypt, Sumer, Akkad, Babylonia, Assyria, Anatolia, Hittites, and Persia (Elamite to Sassanian).

Prerequisite: ARTH 70A or instructor consent.

Normal Grade Rules
3 units

ARTH 183B. Art of Islam-Early Islam to the Seljuks

Focus on the varied Islamic art and architecture from the 7th century to the 13th century, early Islamic period through the Seljuks.

Prerequisite: Upper division standing or instructor consent.

Normal Grade Rules
3 units

ARTH 183C. Art of Islam 13th-19th Century

This course will focus on the varied Islamic art and architecture from the 13th century to the 19th century; from Mongols through the Ottomans.

Prerequisite: Upper division standing or instructor consent.

Normal Grade Rules
3 units

ARTH 185. Art of the Classical World

Focus on the ancient arts of Greece, Roman and Etruria from the 8th century BC through the 4th century AD. Major monuments: Parthenon, Altar of Zeus at Pergamon, Ara Pacis and Forum of Trajan.

Prerequisite: ARTH 70A or instructor consent.

Normal Grade Rules
3 units

ARTH 186. Medieval Art

Introductory survey of art and architecture from from the end of the Western Roman Empire, circa 500 AD to the beginning of the Italian Renaissance, circa 1400 AD. Focuses on the meanings and uses of art and architecture within their specific historical and cultural contexts.

Normal Grade Rules
3 units

ARTH 187A. Art of the Italian Renaissance, Fifteenth Century

Early Renaissance art and architecture. Masaccio, Botticelli, Brunelleschi and Donatello.

Prerequisite: ARTH 70B or instructor consent.

Normal Grade Rules
3 units

ARTH 187B. Art of the Italian Renaissance, Sixteenth Century

High Renaissance and Mannerism in Italy. Leonardo, Michelangelo, Raphael and Titian.

Prerequisite: ARTH 70B or instructor consent.

Normal Grade Rules
3 units

ARTH 187C. The Art of Renaissance Venice

A study of Venetian art and its urban ideology, 11th through 18th century, emphasizing the great painters and architects of the Renaissance (Carpaccio, Bellini, Titian, Tintoretto and Veronese, Mauro Codussi, Sansovino and Palladio).

Prerequisite: ARTH 70B or instructor consent.

Normal Grade Rules
3 units

ARTH 188A. Northern Renaissance Fourteenth and Fifteenth Centuries

Survey of art of Netherlands, France and Bohemia from mid-fourteenth through fifteenth century. Principal artists covered include the Limbourg Brothers, Van Eyck, Van der Weyden, Memling and Fouquet. Emphasis on northern painting, manuscripts, tapestry traditions, iconography and social history of northern European art.

Prerequisite: ARTH 70B or instructor consent.

Normal Grade Rules
3 units

ARTH 188B. Northern Renaissance, Sixteenth Century

Survey of fifteenth and sixteenth century art of Netherlands, France and Germany. Principal artists covered include Bosch, Durer, Grunewald, Holbein and Bruegel. Emphasis on northern painting, printmaking traditions, iconography, social history of northern European art.

Prerequisite: ARTH 70B or instructor consent.

Normal Grade Rules
3 units

ARTH 189A. Baroque Art and Architecture in Italy and France

The art and architecture of Italy and France in the late 16th and 17th centuries. Broad trends and issues, artists such as Bernini, Caravaggio, the Carracci, Borromini, Poussin, Mansart.

Prerequisite: ARTH 70B or instructor consent.

Normal Grade Rules
3 units

ARTH 189B. Northern Baroque Art and Architecture

Art and architecture of Spain, the Low Countries, Germany, Austria in the 17th and 18th centuries. Artists such as Velazquez, Rubens, Rembrandt, Vermeer and Goya.

Prerequisite: ARTH 70B or instructor consent.

Normal Grade Rules
3 units

ARTH 190A. Art of the Nineteenth Century

Western Europe from Neoclassicism through Post-Impressionism including David, Delacroix, Goya, Manet, Monet, Cassatt, Cezanne, Van Gogh and Gauguin.

Prerequisite: ARTH 70B or instructor consent.

Normal Grade Rules
3 units

ARTH 190B. Early Modernist Art

Critical investigation of modern art from the 1880's (Post Impressionism) to World War I with an emphasis on painting and sculpture with some attention paid to architecture, photography, printmaking and design.

Prerequisite: ARTH 70B or instructor consent.

Normal Grade Rules
3 units

ARTH 190C. 20th Century Art: from Dada to Pop

Critical investigation of modernist art from World War I to the 1960s (from Dada to Pop art) with an emphasis on painting and sculpture but some attention paid to architecture, photography, printmaking and design.

Prerequisite: ARTH 70B or instructor consent.

Normal Grade Rules
3 units

ARTH 191A. Issues in Contemporary Art

A critical investigation of a theme which bears on the arts from mid-century to the present, looking closely at major artists and trends in order to understand their philosophies, objectives, styles, and contexts. Course is repeatable for a total of 6 units.

Prerequisite: ARTH 70B.

Repeatable for credit
Normal Grade Rules
3 units

ARTH 191B. Women in Art

Contributions made to Western culture by women involved in the arts from the Middle Ages to the present and the influence on art of attitudes held about women.

Prerequisite: ARTH 70B or instructor consent.

Normal Grade Rules
3 units

ARTH 191C. Contemporary Art in Mexico, the U.S., and Latin America

Contemporary Art in Mexico, the U.S., and Latin America. Includes Mexican modernism, social movements of post-revolutionary Mexico (1910-1940), and works influenced by the Chicano Civil Rights Movement (El Movimiento) in the United States (1960s-1990s) up to the present day.

Prerequisite: ARTH 70B or completion of Area Z or instructor consent

Normal Grade Rules
3 units

ARTH 192A. Modern Design

History of design philosophy and practice from the Industrial Revolution to the present including Art Nouveau and Art Deco, the Bauhaus, International Style, Functionalism vs. Formalism, Post-Modern and Deconstructivism.

Prerequisite: ARTH 072, completion of Area Z, or instructor consent.

Normal Grade Rules
3 units

ARTH 192C. History of Interior Design

Survey of interior design through historical, political, social, economic, technological, and aesthetic factors that shape the built environment. Design will be analyzed formally and through parallel developments in the arts.

Prerequisite: ARTH 070B or ARTH 072, completion of Area Z, or instructor consent.

Normal Grade Rules
3 units

ARTH 193A. Worlds of Art and Culture

Focuses on the use of art images as primary sources for the study of cultural development in a globalized context and ways in which past cultures and their interactions influence the modern world. GE Area: V

Prerequisite: Passage of the Writing Skills Test (WST) or ENGL/LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

Note: All SJSU Studies courses require completion of the WST and upper division standing.

Normal Grade Rules
GE: V
3 units

ARTH 193B. East Meets West in Art

Comparative study of Eastern and Western art. Emphasis on cross-fertilization. Historical and cultural backgrounds. Includes lectures, discussions and presentations. Research or art project and paper required. GE Area: V

Prerequisite: Passage of the Writing Skills Test (WST) or ENGL/LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

Note: All SJSU Studies courses require completion of the WST and upper division standing.

Normal Grade Rules
GE: V
3 units

ARTH 194A. Art of China

Architecture, sculpture and painting in China from prehistoric times to the Republic.

Prerequisite: Upper division standing or instructor consent.

Normal Grade Rules
3 units

ARTH 195. Art of Japan

Architecture, sculpture and painting in Japan from prehistoric times to Edo era.

Prerequisite: Upper division standing or instructor consent.

Normal Grade Rules
3 units

ARTH 196. German Art, 1800-2000

This course is an upper-division survey of historical figures, movements and developments in German art, architecture, aesthetics and design from the late Enlightenment to the present era.

Prerequisite: ARTH 70B or completion of Area Z or instructor consent

Normal Grade Rules
3 units

ARTH 199. Art History Capstone Seminar

This seminar explores art history as an academic discipline. Topics include: discovering subfields within art history; constructing art historical arguments; and the methods and practices of art history.

Prerequisites: ARTH 70A or 70C; ARTH 70B; ARTH 100W

Normal Grade Rules
3 units

GRADUATE

ARTH 270. Seminar in Ancient Art

Directed group research in area of Egyptian, Mesopotamian, Minoan-Mycenaean, Greek, Etruscan or Roman Art History on topic designated by instructor. Research projects required. Course is repeatable for up to 9 units of credit when course topic changes.

Prerequisite: At least two upper division art history courses or instructor consent.

Repeatable for credit
Normal Grade Rules
3 units

ARTH 271. Seminar in Medieval Art

Directed group research in area of European Medieval art history on topic designated by instructor. Research projects required. Course is repeatable for up to 9 units of credit when course topic changes.

Prerequisite: At least two upper division art history courses or instructor consent.

Repeatable for credit
Normal Grade Rules
3 units

ARTH 272. Seminar in Renaissance Art

Directed group research in area of European art history of Renaissance period on topic designated by instructor. Research project required. Course is repeatable for up to 9 units of credit when course topic changes.

Prerequisite: At least two upper division art history courses or instructor consent.

Note: This course satisfies graduate-level GWAR in this master's program.

Repeatable for credit
Normal Grade Rules
GE: GWAR
3 units

ARTH 273. Seminar in Baroque Art

Directed group research in area of European or Latin American art history of Baroque period on topic designated by instructor. Research projects required. Course is repeatable for up to 9 units of credit when course topic changes.

Prerequisite: At least two upper division art history courses or instructor consent.

Repeatable for credit
Normal Grade Rules
3 units

ARTH 274. Seminar in Nineteenth Century Art

Directed group research in area of European or American art of nineteenth century on topic designated by instructor. Research projects required. Course is repeatable for up to 9 units of credit when course topic changes.

Prerequisite: At least two upper division art history courses or instructor consent.

Repeatable for credit
Normal Grade Rules
3 units

ARTH 275. Seminar in Twentieth Century Art

Directed group research in area of European or American art of twentieth century on topic designated by instructor. Research projects required. Course is repeatable for up to 9 units of credit when course topic changes.

Prerequisite: At least two upper division art history courses or instructor consent.

Note: This course satisfies graduate-level GWAR in this master's program.

Repeatable for credit
Normal Grade Rules
GE: GWAR
3 units

ARTH 276. Seminar in Oriental Art

Directed group research in area of Asian art on topic designated by instructor. Research projects required. Course is repeatable for up to 9 units of credit when course topic changes.

Prerequisite: At least two upper division art history courses or instructor consent.

Repeatable for credit
Normal Grade Rules
3 units

ARTH 277. Seminar in Historiography

Directed group research in theories and methodologies of art history. Research projects required. Course is repeatable for up to 9 units of credit when course topic changes.

Prerequisite: At least two upper division art history courses or instructor consent.

Repeatable for credit
Normal Grade Rules
3 units

ARTH 278. Seminar in Myth and Symbol

Directed group research in sources and meanings of myths and symbols. Research projects required. Repeatable for up to 9 units of credit when course topic changes.

Prerequisite: At least two upper division art history courses or instructor consent.

Repeatable for credit
Normal Grade Rules
3 units

ARTH 279. Seminar in Interdisciplinary Studies

Directed group research in examination of relationship of art history to other academic disciplines on topic designated by instructor. Research projects required. Course is repeatable for up to 9 units of credit when course topic changes.

Prerequisite: At least two upper division art history courses or instructor consent.

Repeatable for credit
Normal Grade Rules
3 units

ARTH 291. Graduate Problems in Art History
Independent studies on a focused research project.

Repeatable for credit
Normal Grade Rules
3 units

UPPER DIVISION

ARTH 1290R. Culminating Experience Supervision
This course satisfies the requirement that all graduate students must remain enrolled during semesters in which they are working solely on their theses or projects, for which they have previously received but not cleared an RP grade.

Prerequisite: Existing RP grade in a graduate-level thesis or project course

Note: No Degree Credit.

Repeatable for credit
No Degree Credit
1 unit

PHOTOGRAPHY

LOWER DIVISION

PHOT 040. Beginning Photography
A Beginning photography course which introduces basic aesthetic issues in (primarily black and white) image making. Introduces photographic technique utilizing digital cameras, electronic image processing and digital printing. Requires a DSLR (digital single lens reflex) type camera. Requires Adobe Lightroom.

Normal Grade Rules
3 units

UPPER DIVISION

PHOT 110. Black and White Photography
A traditional darkroom photography class which introduces black and white film developing, fiber based printing, and image manipulation and presentation techniques. Taught with traditional film and photo paper; requires a film camera, limited number of which department can loan students.

Prerequisite: PHOT 40.

Normal Grade Rules
3 units

PHOT 112. Color Photography
An intermediate course introducing principles of color photography, color theory, a refined use of the camera and digital printing techniques. Requires a DSLR (digital single lens reflex) type camera. Requires Adobe Lightroom and Adobe Photoshop.

Prerequisite: PHOT 40.

Normal Grade Rules
3 units

PHOT 113. Alternative Photo Media
Explores historical, handmade photographic printing processes which open avenues of expression unavailable through contemporary photographic processes. Cyanotype, Van Dyke, and gum bichromate techniques are covered, as well as creating traditional and digital negatives for contact printing.

Prerequisite: PHOT 040

Normal Grade Rules
3 units

PHOT 114. Advanced Black and White Photography
An advanced exploration of traditional silver based film and darkroom printing, the use of view cameras, and the Zone System. Provides students with the opportunity to explore qualities of expression unique to the gelatin silver process.

Prerequisite: PHOT 040 and PHOT 110 or instructor consent.

Normal Grade Rules
3 units

PHOT 115. Intermediate Digital Imaging
An intermediate level course investigating the unique possibilities afforded by contemporary digital imaging. Includes preparation of images for presentation via print, video and/or web. Emphasis upon incorporating digital tools with ongoing development of student work.

Prerequisite: PHOT 040.

Normal Grade Rules
3 units

PHOT 116. Contemporary Issues in Photography
Examination and discussion of aesthetic trends and philosophies in photography and related media, their impact on the medium and society.

Prerequisite: PHOT 040

Normal Grade Rules
3 units

PHOT 120. Image and Idea
An intermediate course in which students pursue individual projects. Emphasis on diverse strategies of approach and presentation which culminate in a group exhibition.

Prerequisite: PHOT 040 and PHOT 110 or PHOT 112 or PHOT 115.

Normal Grade Rules
3 units

PHOT 121. Introduction to Studio Lighting
Concepts and principles of lighting using both daylight and incandescent light sources and the use of standard studio lighting equipment.

Prerequisite: PHOT 40.

Normal Grade Rules
3 units

PHOT 122. Advanced Studio Lighting
An advanced studio lighting course incorporating practices of professional photographic techniques that can be applied to commercial advertising photography or applied as fine art imagery. Training on professional level equipment is emphasized.

Prerequisite: PHOT 121

Normal Grade Rules
3 units

PHOT 123. Photography as Illustration
Technical and conceptual aspects of producing effective photographic illustrations for fine art and commercial purposes (fine art exhibitions, advertisements, posters, magazines, story illustrations, etc.). Can include studio work, location photography, darkroom work and digital manipulation.

Prerequisite: PHOT 40.

Repeatable for credit
Normal Grade Rules
3 units

PHOT 125. Special Topics in Photography
Photography is a rapidly evolving field of study. In order to keep our curriculum current and add diversity to our staple of course offerings, our Photo 125, "Special Topics in Photography" offers a rotating variety of contemporary topics. Can be repeated for up to 15 units of credit when course topic changes.

Prerequisite: PHOT 112, PHOT 113, PHOT 115, or instructor consent.

Repeatable for credit
Normal Grade Rules
3 units

PHOT 126. History of Photography
See ARTH 126.

Normal Grade Rules
3 units

PHOT 129. Professional Practices in Photography
Designed to prepare graduating photo majors for practicing their profession. Emphasis will be placed on building a comprehensive portfolio and business identity. Course is repeatable once for credit.

Prerequisite: PHOT 120, PHOT 121, plus two additional upper division photography courses.

Repeatable for credit
Normal Grade Rules
3 units

PHOT 180. Individual Studies
Individual work under guidance in field of special interest.

Prerequisite: PHOT 110.

Repeatable for credit
Credit / No Credit
1-3 units

PHOT 197. Senior Project Photography

Advanced course focused on creation or further development of photo-based project to be determined by the student and consisting of new work. Course emphasizes developing professional exit skills, a final body of finished work, and a professional portfolio.

Prerequisite: 15 units of upper division courses in PHOT

Normal Grade Rules
3 units

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DESCRIPTION CONTENTS

Athletics (Intercollegiate) Courses

INTERCOLLEGIATE ATHLETICS

LOWER DIVISION

ATH 002I. Men's Baseball
Activities include mental and physical skill development for successful participation in NCAA intercollegiate men's baseball including drills, assignments, film study, scrimmages and competitions not to exceed 20 hours per week.
Repeatable for credit
Normal Grade Rules
1 unit

ATH 002S. Men's Skills Development, Baseball
Activities include sport specific fitness training and conditioning for successful participation in NCAA intercollegiate men's baseball. Approximately 8 hours per week.
Repeatable for credit
Credit / No Credit
1 unit

ATH 004I. Men's Basketball
Activities include mental and physical skill development for successful participation in NCAA intercollegiate men's basketball including drills, assignments, film study, scrimmages and competitions not to exceed 20 hours per week.
Repeatable for credit
Normal Grade Rules
1 unit

ATH 004S. Men's Skills Development, Basketball
Activities include sport specific fitness training and conditioning for successful participation in NCAA intercollegiate men's basketball. Approximately 8 hours per week.
Repeatable for credit
Credit / No Credit
1 unit

ATH 006I. Women's Basketball
Activities include mental and physical skill development for successful participation in NCAA intercollegiate women's basketball including drills, assignments, film study, scrimmages and competitions not to exceed 20 hours per week.
Repeatable for credit
Normal Grade Rules
1 unit

ATH 006S. Women's Skills Development, Basketball
Activities include sport specific fitness training and conditioning for successful participation in NCAA intercollegiate women's basketball. Approximately 8 hours per week.
Repeatable for credit
Credit / No Credit
1 unit

ATH 012I. Football
Activities include mental and physical skill development for successful participation in NCAA intercollegiate football including drills, assignments, film study, scrimmages and competitions not to exceed 20 hours per week.
Repeatable for credit
Normal Grade Rules
1 unit

ATH 012S. Skills Development, Football
Activities include sport specific fitness training and conditioning for successful participation in NCAA intercollegiate football. Approximately 8 hours per week.
Repeatable for credit
Credit / No Credit
1 unit

ATH 014I. Men's Golf
Activities include mental and physical skill development for successful participation in NCAA intercollegiate men's golf including drills, assignments, film study, scrimmages and competitions not to exceed 20 hours per week.
Repeatable for credit
Normal Grade Rules
1 unit

ATH 014S. Men's Skills Development, Golf
Activities include sport specific fitness training and conditioning for successful participation in NCAA intercollegiate men's golf. Approximately 8 hours per week.
Repeatable for credit
Credit / No Credit
1 unit

ATH 016I. Women's Golf
Activities include mental and physical skill development for successful participation in NCAA intercollegiate women's golf including drills, assignments, film study, scrimmages and competitions not to exceed 20 hours per week.
Repeatable for credit
Normal Grade Rules
1 unit

ATH 016S. Women's Skills Development, Golf
Activities include sport specific fitness training and conditioning for successful participation in NCAA intercollegiate women's golf. Approximately 8 hours per week.
Repeatable for credit
Credit / No Credit
1 unit

ATH 020I. Women's Gymnastics
Activities include mental and physical skill development for successful participation in NCAA intercollegiate women's gymnastics including drills, assignments, film study, scrimmages and competitions not to exceed 20 hours per week.
Repeatable for credit
Normal Grade Rules
1 unit

ATH 020S. Women's Skills Development, Gymnastics
Activities include sport specific fitness training and conditioning for successful participation in NCAA intercollegiate women's gymnastics. Approximately 8 hours per week.
Repeatable for credit
Credit / No Credit
1 unit

ATH 026I. Women's Tennis
Activities include mental and physical skill development for successful participation in NCAA intercollegiate women's tennis including drills, assignments, film study, scrimmages and competitions not to exceed 20 hours per week.
Repeatable for credit
Normal Grade Rules
1 unit

ATH 026S. Women's Skills Development, Tennis
Activities include sport specific fitness training and conditioning for successful participation in NCAA intercollegiate women's tennis. Approximately 8 hours per week.
Repeatable for credit
Credit / No Credit
1 unit

ATH 030I. Men's Soccer
Activities include mental and physical skill development for successful participation in NCAA intercollegiate men's soccer including drills, assignments, film study, scrimmages and competitions not to exceed 20 hours per week.
Repeatable for credit
Normal Grade Rules
1 unit

ATH 030S. Men's Skills Development, Soccer
Activities include sport specific fitness training and conditioning for successful participation in NCAA intercollegiate men's soccer. Approximately 8 hours per week.
Repeatable for credit
Credit / No Credit
1 unit

ATH 032I. Softball
Activities include mental and physical skill development for successful participation in NCAA intercollegiate softball including drills, assignments, film study, scrimmages and competitions not to exceed 20 hours per week.
Repeatable for credit
Normal Grade Rules
1 unit

ATH 032S. Skills Development, Softball
Activities include sport specific fitness training and conditioning for successful participation in NCAA intercollegiate softball. Approximately 8 hours per week.
Repeatable for credit
Credit / No Credit
1 unit

ATH 034I. Women's Swimming
Activities include mental and physical skill development for successful participation in NCAA intercollegiate women's swimming including drills, assignments, film study, scrimmages and competitions not to exceed 20 hours per week.
Repeatable for credit
Normal Grade Rules
1 unit

ATH 034S. Women's Skills Development, Swimming
Activities include sport specific fitness training and conditioning for successful participation in NCAA intercollegiate women's swimming. Approximately 8 hours per week.
Repeatable for credit
Credit / No Credit
1 unit

ATH 036I. Women's Volleyball
Activities include mental and physical skill development for successful participation in NCAA intercollegiate women's volleyball including drills, assignments, film study, scrimmages and competitions not to exceed 20 hours per week.
Repeatable for credit
Normal Grade Rules
1 unit

ATH 036S. Women's Skills Development, Volleyball
Activities include sport specific fitness training and conditioning for successful participation in NCAA intercollegiate women's volleyball. Approximately 8 hours per week.
Repeatable for credit
Credit / No Credit
1 unit

ATH 042I. Women's Cross Country
Activities include mental and physical skill development for successful participation in NCAA intercollegiate women's cross country including drills, assignments, film study, scrimmages and competitions not to exceed 20 hours per week.
Repeatable for credit
Normal Grade Rules
1 unit

ATH 042S. Womens Skill's Development, Cross Country
Activities include sport specific fitness training and conditioning for successful participation in NCAA intercollegiate women's cross country. Approximately 8 hours per week.
Repeatable for credit
Credit / No Credit
1 unit

ATH 044I. Women's Soccer
Activities include mental and physical skill development for successful participation in NCAA intercollegiate women's soccer including drills, assignments, film study, scrimmages and competitions not to exceed 20 hours per week.
Repeatable for credit
Normal Grade Rules
1 unit

ATH 044S. Women's Skills Development, Soccer
Activities include sport specific fitness training and conditioning for successful participation in NCAA intercollegiate women's soccer. Approximately 8 hours per week.
Repeatable for credit
Credit / No Credit
1 unit

ATH 046I. Women's Water Polo
Activities include mental and physical skill development for successful participation in NCAA intercollegiate women's water polo including drills, assignments, film study, scrimmages and competitions not to exceed 20 hours per week.
Repeatable for credit
Normal Grade Rules
1 unit

ATH 046S. Women's Skills Development, Water Polo
Activities include sport specific fitness training and conditioning for successful participation in NCAA intercollegiate women's water polo. Approximately 8 hours per week.
Repeatable for credit
Credit / No Credit
1 unit

ATH 048I. Men's Cross Country
Activities include mental and physical skill development for successful participation in NCAA intercollegiate men's cross country including drills, assignments, film study, scrimmages and competitions not to exceed 20 hours per week.
Repeatable for credit
Normal Grade Rules
1 unit

ATH 048S. Men's Skills Development, Cross Country
Activities include sport specific fitness training and conditioning for successful participation in NCAA intercollegiate men's cross country. Approximately 8 hours per week.
Repeatable for credit
Credit / No Credit
1 unit

ATH 050I. Women's Track & Field
Activities include mental and physical skill development for successful participation in NCAA intercollegiate women's track & field including drills, assignments, film study, scrimmages and competitions not to exceed 20 hours per week.
Repeatable for credit
Normal Grade Rules
1 unit

ATH 050S. Women' Skills Development, Track & Field
Activities include sport specific fitness training and conditioning for successful participation in NCAA intercollegiate women's track & field. Approximately 8 hours per week.
Repeatable for credit
Normal Grade Rules
1 unit

ATH 052I. Men's Water Polo
Activities include mental and physical skill development for successful participation in NCAA intercollegiate men's water polo including drills, assignments, film study, scrimmages and competitions not to exceed 20 hours per week.
Repeatable for credit
Normal Grade Rules
1 unit

ATH 052S. Men's Skills Development, Water Polo

Activities include sport specific fitness training and conditioning for successful participation in NCAA intercollegiate men's water polo. Approximately 8 hours per week.

Repeatable for credit
Normal Grade Rules
1 unit

Aviation Courses

AVIATION

LOWER DIVISION

AVIA 001. Introduction to the Aviation Industry
Career planning, paths, and opportunities within the aviation industry. Concepts and knowledge building blocks for any aviation professional, including: history of aviation; qualifications and privileges of aviation professionals; basics of aeronautics.
Normal Grade Rules
3 units

AVIA 002. Private Pilot Ground
Foundational concepts of aviation studies for professional pilots. Ground course for private pilot FAA certification. Aeronautics basics, weather, visual navigation, regulations, and operational environment for conducting flights under visual flight rules.
Pre/Co-requisite: AVIA 001
Normal Grade Rules
3 units

AVIA 003. Introduction to Private Pilot Part 141 Flight
This course covers the FAA requirements leading up to the award of the FAA Private Pilot Certificate. The course consists of flight training segments in an FAA-approved FAR part 141 flight training program.
Prerequisite: AVIA 002
Credit / No Credit
2 units

AVIA 031. Aircraft Theory and Design
Aerodynamics and aeroelastics force. Load analysis of flight vehicles. Aircraft design optimization, material selection along with, safe-life, fail-safe and damage tolerance in design.
Prerequisite: AVIA 2, PHYS 2A, MATH 71.
Pre/Co-requisite: PHYS 2B
Misc/Lab: Lecture 2 hours/Lab 3 hours.
Normal Grade Rules
3 units

AVIA 042. Aircraft Systems
Operational and analytical aspects of key aircraft systems such as propulsion, flight control, electrical, and hydraulic. Reliability and maintainability concepts related to the design of aircraft systems. Emphasis is placed on general aviation aircraft.
Prerequisite: AVIA 2, PHYS 2A
Pre/Co-requisite: PHYS 2B
Misc/Lab: Lecture 2 hours/lab 3 hours.
Normal Grade Rules
3 units

AVIA 043. Propulsion Theory
Propulsion theory of piston engines. Aircraft fuel systems and components. Fundamental systems, maintainability, and reliability methods. Aviation regulations related to engines. Maintenance cycles for engines and components.
Prerequisite: AVIA 2, PHYS 2A.
Pre/Co-requisite: PHYS 2B
Misc/Lab: Lecture 2 hours/lab 3 hours.
Normal Grade Rules
3 units

AVIA 062. Instrument Pilot Ground
Flight procedures, radio navigation, air traffic control, use of instrument charts. Flight simulator exercises on instrument flight maneuvers, departure and approach procedures.
Prerequisite: AVIA 2.
Normal Grade Rules
3 units

AVIA 063. Instrument Rating Part 141 Flight
This course covers the FAA requirements leading up to the award of the FAA Instrument Rating Certificate. The course consists of 29 instrument flight training segments in an FAA approved FAR part 141 instrument flight training program.
Prerequisite: Avia 003 or FAA Private Pilot Certificate, Avia 73
Credit / No Credit
2 units

AVIA 068. Avionics and Airborne Communication
Communications and navigation systems installed on a typical general aviation aircraft. History of avionics. Laboratory exercises will include field-testing and airworthiness evaluation.
Pre/corequisite: AVIA 42.
Misc/Lab: Lecture 2 hours/lab 3 hours.
Normal Grade Rules
3 units

AVIA 073. Air Traffic Control
Air Traffic Control System Structure and Communications. Current configuration and future design of the National Airspace System. Oceanic and International Air Traffic Control. Automation issues and Emerging Technologies.
Prerequisite: AVIA 2.
Normal Grade Rules
3 units

AVIA 078. Introduction to Aviation Management
History of aviation management. Safety, security, community relations, aviation unions, and private and governmental relationships. National Airspace System. Future Airspace System. International airspace systems.
Normal Grade Rules
3 units

AVIA 091. Aircraft Turbine Engines
A study of gas turbine fundamentals, including various gas turbine cycles, components and component efficiency, thrust, specific fuel consumption, duct flow and inlet diffuser, centrifugal and axial compressors, combustion chambers and jet nozzles for aircraft propulsion.
Prerequisite: AVIA 43.
Normal Grade Rules
3 units

UPPER DIVISION

AVIA 110. Aviation Meteorology
Introduction to meteorology with emphasis on aviation applications. Causes of weather, characteristics of common weather phenomena and climatology. Aviation weather resources and reporting, and weather briefings in relation to visual and instrument meteorological conditions for flying
Normal Grade Rules
3 units

AVIA 112. Commercial Pilot Ground
Material necessary for the FAA requirements leading up to the award of the FAA Commercial Pilot Certificate. Formatted as a ground school and covers the aeronautical knowledge requirements for the Commercial Pilot Knowledge Test.
Prerequisite: Avia 31, Avia 42, Avia 91
Normal Grade Rules
3 units

AVIA 113. Commercial Professional Pilot Part 141 Flight
This course covers the FAA requirements leading up to the award of the FAA Commercial Pilot Certificate. The course consists of 58 flight training segments in an FAA approved FAR part 141 flight training program.
Prerequisite: FAA Private Pilot Certificate
Co-requisite: AVIA 112
Credit / No Credit
2 units

AVIA 128. Aviation Safety and Security
Safety in aviation design, operation, and maintenance; hazardous materials; airport environment issues; security regulations for aviation.
Prerequisite: AVIA 2.
Normal Grade Rules
3 units

AVIA 141. Human Factors in the Aviation Environment
Effects of time zone changes, sleep disruption, drugs on pilot performance. Role of FAA inspectors, physicians, cabin attendants, unions. Cockpit crew coordination; pilot psychology; aviation safety and accident investigation. Experimental avionics.
Prerequisite: Sophomore or Upper division standing.
Notes: Not an elective in most department majors.
Normal Grade Rules
3 units

AVIA 150. Unmanned Aerial Systems

Introduction to Unmanned Aerial Systems (UAS). Overview of UAS classes and typical UAS missions. Application of sensors/payload analysis, basic design concepts, current regulations in the U.S., and mishaps examination.

Prerequisite: AVIA 31 or Instructor Consent

Normal Grade Rules
3 units

AVIA 173. Aviation Law

Law and legal issues in aviation from both a national and international perspective. Rights and responsibilities of individuals, organizations, and the aviation community. Regulations and liability pertaining to the design, manufacture, operation and maintenance of aircraft.

Prerequisite: AVIA 78.

Normal Grade Rules
3 units

AVIA 176. Airline Operations and Management

Aspects of managing air transportation companies. Integration of technical, environmental, market and regulatory considerations in the decision-making process in airline management. Future planning techniques.

Prerequisite: AVIA 78

Normal Grade Rules
3 units

AVIA 177. General Aviation Operations and Management

Aspects of managing general aviation companies, such as the structure of the general aviation industry, supply and demand of products, and technical and regulatory constraints.

Prerequisite: AVIA 2, AVIA 78

Normal Grade Rules
3 units

AVIA 178. Airport Planning and Management

Design, planning, and management of airports in the US including airport development and airport design. Legal responsibilities as an airport manager. Issues and regulations applicable to airport planning and management.

Prerequisite: AVIA 78.

Normal Grade Rules
3 units

AVIA 179. Advanced Airport Planning and Management

Noise generation and abatement. Leasing and property management including the impact of federal regulations. Concession planning. Use of technology to increase efficiency and security in airports.

Prerequisite: AVIA 178.

Normal Grade Rules
3 units

AVIA 180. Individual Studies

Special topics by arrangement. Course is repeatable for a maximum of 3 units.

Prerequisite: Aviation majors or minors after advisor consultation and department chair approval.

Repeatable for credit
Credit / No Credit
1-3 units

AVIA 180H. Individual Studies

Individual honors studies by arrangement. Course is repeatable for maximum of 2 units.

Prerequisite: Acceptance into Aviation Honors Program.

Repeatable for credit
Credit / No Credit
1-2 units

AVIA 190. Senior Capstone Seminar

Current industry analysis and career development; leadership skills for an aviation professional. Aviation standard procedures. Ethical principles for Aviation. Student projects related to Aviation major.

Prerequisite: Graduating senior, major form completed.

Normal Grade Rules
3 units

AVIA 193. Aerodynamics

Aerodynamic forces involved in an airplane in flight. Fundamental flowing gas, incompressible and compressible flow, Bernoulli's Principles, circulation forces, boundary layer, airfoils, measurement methods, laminar and turbulent flow, force and vortex interactions.

Prerequisite: PHYS 2A, MATH 71, AVIA 31.

Misc/Lab: Lecture 2 hours/Lab 3 hours.

Normal Grade Rules
3 units

AVIA 194. Pilot Avionics and General Aviation Systems

Operations of avionics as found on modern general aviation aircraft and turboprop/turbofan aircraft. Major systems used on general aviation aircraft including GPS, FMS, navigation systems, fuel systems, hydraulic systems, environmental systems, landing gear.

Prerequisite: AVIA 42, AVIA 43.

Normal Grade Rules
3 units

AVIA 195. Internship with the Aviation Industry

Practical experience with aviation industry under direct supervision of aviation professionals. Experience will relate to air carrier or general aviation aircraft operation/management/maintenance, fixed-based operation management and/or airport operation/management. Course is repeatable for a maximum of 12 units.

Prerequisite: Junior standing and instructor consent.

Repeatable for credit
Credit / No Credit
1-6 units

AVIA 197. Cooperative Education Project

See ENGR 197.

Normal Grade Rules
3 units

AVIA 198. Aviation and Human Civilization

Critical analysis of the role of aviation in human civilization focusing on cultures outside the US and how their development impacted US practices. Topics include: aviation early history; impact of aviation on global economy; gender disparity in the field. Meets SJSU Studies Area: V

Prerequisite: Completion of Core General Education and upper division standing are prerequisites to all SJSU Studies courses.

Normal Grade Rules
GE: V
3 units

AVIA 199A. Special Topics in Aviation Management

Special topics in Aviation Management. Content varies from semester to semester.

Course is repeatable for a total of 6 units.

Prerequisite: Instructor consent.

Repeatable for credit
Normal Grade Rules
3 units

AVIA 199B. Special Topics in Aviation Operations

Special topics in Aviation Operations. Content varies from semester to semester. Course is repeatable for a total of 6 units.

Prerequisite: Instructor consent.

Repeatable for credit
Normal Grade Rules
3 units

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Biological Sciences Department Courses

BIOLOGY

LOWER DIVISION

BIOL 010. The Living World

Provides students with an understanding of the most fundamental concepts of modern biology including ecology (the interaction between organisms and their environment), human inheritance, the structure and function of living organisms, evolution, strategies for survival and reproduction, and biotechnology. GE Area: B2

Notes: Not an elective in the department majors.

Normal Grade Rules
GE: B2
3 units

BIOL 020. Ecological Biology

Introduction to diversity, ecology, evolution and behavior. In conjunction with BIOL 21 a more complete survey of biology. GE Area: B2 and B3

Misc/Lab: Lecture 2 hours/lab 3 hours/field trips.

Notes: Not an elective in the department majors.

Normal Grade Rules
GE: B2B3
3 units

BIOL 021. Human Biology

Introduction to physiology, reproduction, development, heredity and aging. With BIOL 20 a more complete survey of biology. GE Area: B2 and B3

Misc/Lab: Lecture 2 hours/Lab 3 hours.

Notes: Not an elective in the department majors.

Normal Grade Rules
GE: B2B3
3 units

BIOL 030. Principles of Biology I

Cellular and physiological aspects of biological diversity. Concepts include: biomolecules, cellular structures/function, cell-cell communication, cellular energetics, molecular evolution, gene expression, enzymes, and animal physiological systems.

Prerequisite: Writing Enrollment Group W-I or W-II, or ENGL 1AF with a grade of CR, or ENGL 1A with a grade of C- or better; Math Enrollment Group M-I or M-II, or completion of a GE Area B4 course.

Misc/Lab: Lecture 3 hours/Lab 3 hours.

Normal Grade Rules
GE: B2B3
4 units

BIOL 031. Principles of Biology II

The diversity of life and the mechanisms by which that diversity has arisen. Concepts include: scientific method, origins of life, adaptation of organisms to different environments, ecology, and evolution.

Prerequisite: Biol 30 with a grade of "C" or better for Biology and Forensic Science majors. Instructor consent for all other majors. Must be majoring in Biology (all), Biomedical Eng, Biochemistry, ENVS (all), Forensic Science (all), Nutritional Science, Meterology-CS, Kinesiology, Computer Science, and Communicative Disorders.

Misc/Lab: Lecture 3 hours/Lab 3 hours

Normal Grade Rules
GE: B2B3
4 units

BIOL 054. Human Understanding

Major issues in health and disease, learning and memory, maturation and aging (such as diet, exercise, mind-body medicine, and addictions). Emphasis on learning how to understand and apply physiologic information for personal growth and lifelong learning. GE Area: E

Normal Grade Rules
GE: EE
3 units

BIOL 055. Biostatistics

Introductory experimental design and statistical analysis of biological data from manipulated experiments. This course provides experience in designing and analyzing experiments utilizing both univariate and multivariate tests.

Prerequisite: Biol 30 and 31 with a grade of C or better, or instructor consent.

Misc/Lab: Lecture 3 hours/Lab 3 hours

Normal Grade Rules
3 units

BIOL 065. Human Anatomy

Introductory study of gross and microscopic human anatomy including corresponding pathology. For majors in nursing and kinesiology.

Misc/Lab: Lecture 3 hours/lab 3 hours.

Note: Not an elective in the department majors.

Normal Grade Rules
GE: B2B3
4 units

BIOL 065O. Human Anatomy

Introductory study of gross and microscopic human anatomy including corresponding pathology. For majors in nursing and kinesiology.

This online anatomy course is not intended for students pursuing degrees in kinesiology, recreation (therapeutic recreation) or to meet the anatomy prerequisite for occupational therapy at SJSU. Students who intend to transfer the human anatomy course to another institution which requires an "in class" lab should enroll in BIOL 65.

Misc/Lab: Lecture 3 hours/lab 3 hours.

Notes: Not an elective in the department majors.

Normal Grade Rules
GE: B2B3
4 units

BIOL 066. Human Physiology

Explanation of physiological principles from the molecular and cellular-levels to organ systems. Neural and endocrine controls and integration among systems. Health care orientation.

Prerequisite: High school algebra. Recommended: Human Anatomy, Chemistry 30A.

Misc/Lab: Lecture 3 hours/lab 3 hours/seminar 1 hour.

Note: Not an elective in the major departments.

Note: A grade of "C" or better is required to receive B2 and B3 GE credit.

Normal Grade Rules
GE: B2B3
5 units

UPPER DIVISION

BIOL 100W. Scientific Communication Workshop

Analysis and communication of scientific research to both scientific and general audiences. Satisfies upper division writing requirement. GE Area: Z

Prerequisite: BIOL 30 and 31 (with grades of "C" or better); A3 or equivalent second semester composition course (with a grade of C- or better); Completion of core GE, satisfaction of Writing Skills Test and upper division standing. Allowed declared majors: Biology, Natural Science.

Note: All SJSU Studies courses require completion of the WST and upper division standing.

Must be passed with "C or better" to satisfy the CSU Graduation Writing Assessment requirement (GWAR).

Normal Grade Rules
GE: Z
3 units

BIOL 101. Origins of Life

Process of evolution, fossil evidence for life origins, and the place of humans in nature. GE Area: R

Prerequisite: Passage of the Writing Skills Test (WST) or ENGL/LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

Notes: Not an elective in the department majors. All SJSU Studies courses require completion of the WST and upper division standing.

Normal Grade Rules
GE: R
3 units

BIOL 105. Principles of Developmental Biology

Emphasis on human development. Other animal systems (fly, frog, chick, mouse) will also be studied to aid in understanding anatomical, physiological, genetic and molecular mechanisms operating during gametogenesis, fertilization, cleavage, gastrulation and organogenesis.

Prerequisite: BIOL 030 and BIOL 031 (with grade of "C" or better in each), or instructor consent; BIOL 115 with "C" or better.

Normal Grade Rules
3 units

BIOL 106. Physiological Ecology

Physiological ecology is the study of the interaction of an organism with its environment. Looking at both plants and animals, we will examine how both structure and function interact to enable an organism to survive under particular environmental conditions.

Prerequisites: BIOL 113 or 114 with a grade of "C" or better or instructor consent, CHEM 008 and/or CHEM 112A and CHEM 112B with a grade of "C-" or better, BIOL 100W, upper division standing.

Normal Grade Rules
3 units

BIOL 106L. Physiological Ecology Lab

This course is the lab section that accompanies the lecture section, Bio 106 Physiological Ecology.

Prerequisite: BIOL 113 or 114 with a grade of "C" or better or instructor consent, CHEM 008 and/or CHEM 112A and CHEM 112B with a grade of "C-" or better, BIOL 100W.

Co-requisite: BIOL 106

Normal Grade Rules
1 unit

BIOL 107. Immunology

Provides information about all areas of immunology with emphasis on the basic concepts of immune mechanisms of the acquired and innate immune systems. Uses the basic information to study immune disorders and the immune response to infectious agents.

Prerequisite: Micro 101 with a grade of "C" or better, or instructor consent

Normal Grade Rules
3 units

BIOL 107L. Immunology Laboratory

The experiments in this beginning immunology laboratory are designed to study both the innate and acquired immune systems. Experimentation into the formation, function and detection of antibodies provides students with skills in basic immunologic techniques. Flow cytometry is used in identification of immune cells as well as functional assays of complement mediated phagocytosis.

Corequisite: Biol 107, or instructor consent

Misc/Lab: 3 hour Lab.

Normal Grade Rules
2 units

BIOL 109. Human Neuroanatomy and Physiology

Gross and microscopic structure and function of the human nervous system. Introduction to experimental and clinical techniques.

Prerequisite: BIOL 65 or instructor consent

Misc/Lab: Lecture 3 hours/lab 3 hours.

Notes: Not an elective in the department majors.

Normal Grade Rules
4 units

BIOL 110. Biodiversity and Biopolitics

Application of ecological principles to the conservation of biodiversity and the management of ecosystems. Analysis of biological, economic, social and political interrelationships involved in conservation. GE Area R

Prerequisite: Passage of the Writing Skills Test (WST) or ENGL/LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

Notes: Not an elective in the department majors. All SJSU Studies courses require completion of the WST and upper division standing.

Normal Grade Rules
GE: R
3 units

BIOL 113. Comparative Taxonomy

Students gain the understanding and skills needed to taxonomically study biodiversity, including the use of morphological and DNA sequence characters to examine phylogeny, and use of a range of biodiversity research techniques and tools.

Prerequisite: BIOL 115 or BIOL 118 with a grade of "C" or better or instructor consent.

Misc/Lab: Lecture 2 hours/Lab 3 hours.

Normal Grade Rules
3 units

BIOL 114. Functional Morphology

Develops understanding and skills needed to taxonomically study biodiversity, including the use of morphological and DNA sequence characters to examine phylogeny, and use of a range of biodiversity research techniques and tools.

Prerequisites: BIOL 115 or BIOL 118 with a grade of "C" or better or instructor consent.

Misc/Lab: Lecture 2 hours/Lab 3 hours.

Normal Grade Rules
3 units

BIOL 115. General Genetics

Principles and methods of microbial, plant and animal genetics. Mendelism, cytogenetics, molecular genetics, mutation, quantitative genetics and genetic aspects of evolution.

Prerequisite: BIOL 30 and BIOL 31 (with a grade of "C" or better in each), or instructor consent; CHEM 001A and CHEM 001B (with a grade of "C" or better in each).

Misc/Lab: Lecture 3 hours/discussion 1 hour.

Normal Grade Rules
4 units

BIOL 116. Molecular Genetics

Molecular genetics of eukaryotes. Replication, repair, mutation, regulation of gene expression, gene organization and methods of recombinant DNA research.

Prerequisite: BIOL 115 or MICR 166, and CHEM 135 all with "C" or better

Normal Grade Rules
4 units

BIOL 116L. Genetics Laboratory

Selected experiments to demonstrate genetic concepts using Drosophila, bacteria and other organisms. Techniques include those of classical, bacterial and molecular genetics.

Prerequisite: BIOL115 or MICR127 with a grade of "C" or better

Misc/Lab: Lecture 1 hours/Lab 6 hours.

Normal Grade Rules
3 units

BIOL 117. Human Genetics

Mendelian traits, classical and molecular cytogenetics, DNA variation, sex determination, gene mapping, mutation, population genetics, multifactorial inheritance, genetic counseling and prenatal diagnosis.

Prerequisite: BIOL 115 (with a grade of "C" or better).

Normal Grade Rules
3 units

BIOL 118. Evolutionary Genetics

Principles of molecular and population genetics from an evolutionary perspective. Application of DNA analyses and other techniques to conservation biology, evolution, ecology and systematics.

Prerequisite: BIOL 30 and BIOL 31 with a grade of C or better

Misc/Lab: Lecture 3 hours/seminar 1 hour.

Normal Grade Rules
4 units

BIOL 119. Neurogenetics

Cellular and molecular neuroscience at the neuron, synapse and circuit level, including electrical and chemical signaling. Neurophysiology of development, maintenance and modification of neural circuits. Molecular genetics of neurological disorders such as autism, schizophrenia, Alzheimer's disease, and mood disorders.

Prerequisite: BIOL 115 (with a grade of "C" or better).

Normal Grade Rules
3 units

BIOL 122. Bacterial Diversity

See MICR 122.

Normal Grade Rules
2 units

BIOL 122L. Bacterial Diversity Laboratory

See MICR 122L.

Normal Grade Rules
2 units

BIOL 123A. Bioinformatics I

See CS 123A.

Normal Grade Rules
3 units

BIOL 123B. Bioinformatics II

See CS 123B.

Normal Grade Rules
3 units

BIOL 124. Systems Physiology

Physiology of organ systems of mammals, with emphasis on the human. Neuromuscular, respiratory, digestive, cardiovascular, renal, endocrine, reproductive and thermo-regulatory physiology.

Prerequisite: Biol 30, BIOL 31, BIOL 115; Phys 2A, 2B; Chem 112A, 112B; All courses with a "C or better"

Corequisite: BIOL 125 highly recommended.

Normal Grade Rules
3 units

BIOL 125. Systems Physiology Laboratory

Selected lab units to demonstrate complex physiological mechanisms and the physiology of organ systems. Methods include animal experiments and physiological recording and stimulation.

Pre/co-requisite: BIOL 124 (with grade of C or better) or Instructor Consent

Misc/Lab: Lab 6 hours.

Normal Grade Rules
2 units

BIOL 129. Neuroscience

See PSYC 129.

Normal Grade Rules
3 units

BIOL 131. Endocrine Physiology

Emphasis on mammalian systems. Mechanisms of hormone action, secretion and physiological effects; hormone assay techniques.

Prerequisite: Upper division organ systems physiology (e.g., BIOL 124) with C- or better, or Instructor Consent.

Normal Grade Rules
3 units

BIOL 134. Vertebrate Histology

Light and electron microscopic structure of vertebrate tissues with consideration of related functions. Emphasis on the examination of human tissues including corresponding pathology.

Prerequisite: BIOL 30, BIOL 31 and BIOL 124 or instructor consent..

Misc/Lab: Lecture 2 hours/lab 6 hours.

Normal Grade Rules
4 units

BIOL 135A. Eukaryotic Cell and Molecular Biology I

First semester of a year-long cell and molecular biology course. Topics include membrane structure, signal transduction, cytoskeletal structure, cell migration, and gene expression.

Prerequisites: BIOL 30, BIOL 31, BIOL 115, CHEM 112A, CHEM 112B, CHEM 135, all with a C or better

Normal Grade Rules
3 units

BIOL 135B. Eukaryotic Cell and Molecular Biology II

BIOL 135B is the second semester of a year-long cell and molecular biology course. Topics covered include chromosome structure and maintenance, stem cell biology, cell death, and cancer biology. GE Area: R for majors only

Prerequisite: BIOL 115, BIOL 135A, Biol 100W, both with a grade of C or better. Majors only.

Normal Grade Rules
GE: R
3 units

BIOL 135L. Molecular Cell Biology Lab

Lab experience in nucleic acid and protein purification, enzyme assay, bacterial and mammalian cell culture, immunofluorescence, radioisotopic labeling, column chromatography, agarose and polyacrylamide gel electrophoresis, spectrophotometry, liquid scintillation counting, etc.

Corequisite: BIOL 135A.

Misc/Lab: Lab 6 hours.

Normal Grade Rules
3 units

BIOL 136. Vertebrate Neurophysiology

Review of topics from the molecular to the organismal level. Chemical and electrotonic phenomena of membranes, neurochemistry, sensory transduction, information coding, neural control, and additional rotating topics.

Prerequisite: BIOL 124 with a C- or better or instructor consent

Normal Grade Rules
3 units

BIOL 136L. Vertebrate Neurophysiology Laboratory

Course-based undergraduate research experience using electrophysiological techniques to study nervous system function. Topics include chemical and electrotonic phenomena of membranes, information coding, and additional rotating topics.

Prerequisite: BIOL 124 with a C- or better.

Corequisite: BIOL 136.

Misc/Lab: Lab 3 hours.

Normal Grade Rules
1 unit

BIOL 137. Introduction to Principles of Toxicology

Emphasis on basic principles of toxicology. Toxicity of several classes of compounds covered in depth. Focus on basic chemical principles and appropriate applications.

Prerequisite: BIOL 030, BIOL 031, BIOL 124, and CHEM 112B with a grade of C- or better, or instructor consent

Normal Grade Rules
3 units

BIOL 140. Human Sexuality

See ANTH 140.

Normal Grade Rules
GE: S
3 units

BIOL 142. Paleontology

See GEOL 142.

Normal Grade Rules
4 units

BIOL 145. Advanced Undergraduate Biology Seminar

Undergraduate Seminar in Biology. May be taken concurrently with BIOL 145L. Course is repeatable for credit when content changes.

Prerequisites: Completion of nine (9) units of upper division majors' coursework. Instructor consent.

Note: Course is repeatable when content changes.

Repeatable for credit
Normal Grade Rules
1-3 units

BIOL 145L. Advanced Undergraduate Biology Lab

Advanced undergraduate laboratory or field experience. May be taken concurrently with BIOL 145. Course is repeatable for credit when content changes.

Prerequisites: Completion of nine (9) units of upper division majors' coursework. Instructor consent.

Repeatable for credit
Normal Grade Rules
1-2 units

BIOL 150. Field Studies in Natural History

Field courses given on site, typically covering general ecology, botany, geology, zoology and specialized natural areas such as Baja California, Death Valley, seacoasts and mountains. Repeatable for up to a total of 3 units of credit when location or content changes. GE Area: B3

Notes: Not an elective in the department majors.

Repeatable for credit
Normal Grade Rules
GE: B3
1-2 units

BIOL 155. Hypothesis Testing

Experimental design and statistical analysis of biological data from manipulative experiments. This course provides experience in designing and analyzing experiments using t-tests, 1- and 2-way ANOVA, Randomized Block ANOVA, Nested ANOVA, Linear Regression and Tests of Independence.

Prerequisite: BIOL 30 and BIOL 31 with a grade of "C" or better, or instructor consent. Allowed Declared Majors: Biology, Environmental Studies.

Misc/Lab: Lecture 2 hours/lab 3 hours

Normal Grade Rules
3 units

BIOL 156. Ecological Sampling Design and Analyses

Sampling design and statistical analysis of biological patterns. In this course, students design and execute a field experiment (one required weekend field trip) that incorporates multivariate measurements. Students analyze the data with Log Linear analysis, Logistic Regression, Principal Components Analysis, Canonical Correlation and various Regression techniques.

Prerequisite: BIOL 113 or 114 with a grade of "C" or better, or instructor consent. Allowed Declared Majors: Biology, Business, Environmental Studies.

Misc/Lab: Lecture 2 hours/lab 3 hours.

Normal Grade Rules
3 units

BIOL 159. Integrative Biology

Capstone course in the BA Biological Science degree. Critical reading of scientific literature, experimental design and scientific communication skills will be emphasized. Topics covered may vary for a given semester. SJSU Studies Area: R

Prerequisites: Senior standing, BIOL 55 and 115, at least 6 units of upper division biology electives. Completion of Core General Education and upper division standing are prerequisites to all SJSU Studies courses.

Normal Grade Rules
GE: R
3 units

BIOL 160. Ecology

Factors that influence the distribution and abundance of organisms; some aspects of applied ecology.

GE Area: R for Biology Majors only.

Prerequisite: Allowed Declared Majors (Biology, Natural Science); BIOL 113 or BIOL 114 (with a grade of "C or better"); Completion of core GE, satisfaction of Writing Skills Test and upper division standing. 100W strongly recommended.

Pre/Corequisite: BIOL 55 or BIOL 155 or BIOL 156 or equivalent Biostatistics course or Instructor Consent

Misc/Lab: Lecture 3 hours/lab 3 hours.

Normal Grade Rules
GE: R
4 units

BIOL 163. Conservation Biology

Principles of conservation biology, including management for the preservation of biodiversity and maintenance of viable populations. Examples from plants and animals

Prerequisite: BIOL 113 or BIOL 114 (with grade of "C" or better) or instructor consent

Normal Grade Rules
3 units

BIOL 164. Ecological Field Methods

Techniques for evaluating and managing the abundance and diversity of plants and animals.

Prerequisite: BIOL 113 or 114 with a grade of "C" or better, or instructor consent.

Misc/Lab: Lecture 1 hour/lab-field 6 hours.

Normal Grade Rules
3 units

BIOL 165. Advanced Human Anatomy

Study of human anatomy, including clinical correlations, for pre-professional students. Not open to student who have completed BIOL 065.

Prerequisite: BIOL 30, BIOL 31 and BIOL 115 all with a C or better or instructor consent.

Misc/Lab: Lecture 2 hours/lab 6 hours.

Normal Grade Rules
4 units

BIOL 167. Cardiorespiratory Physiology

Covers the normal anatomy and physiology of the cardiovascular and respiratory systems, as well as how they function following perturbations in homeostasis. Focuses on the mammalian system with some discussion of comparative physiology.

Pre-requisite: Biol 124 with a C- or better or instructor consent

Normal Grade Rules
3 units

BIOL 168. Reproductive Physiology

Reproductive Physiology covers the anatomy and physiology of the reproductive system, as well as how deviations from the norm affect reproduction. Course focuses on the mammalian system with discussion of comparative physiology.

Prerequisites: BIOL 124 with C- or better or Instructor Consent

Normal Grade Rules
3 units

BIOL 170. Cellular and Molecular Physiology

Introduction to the structure and physiological function of cells. Topics include synthesis of cellular macromolecules such as DNA, RNA and proteins; internal cellular organization; biochemical reactions necessary for cell growth, death and cellular communication. Relevant pathophysiology examples of cellular dysfunction are presented.

Prerequisite: BIOL 124 with C- or better, or Instructor Consent.

Normal Grade Rules
3 units

BIOL 177. Physiology for Engineers

See BME 177.

Normal Grade Rules
3 units

BIOL 178. Integrative Physiology

Integrative Physiology is the capstone course in the Systems Physiology concentration. The specific physiology topics covered may vary depending on the semester. Critical reading of scientific literature, experimental design and scientific communication skills will be emphasized. GE Area: R for majors

Prerequisite: Biol 100W, BIOL 115, Biol 124, both with a "C" or better, at least one upper division systems physiology elective, or instructor consent. Majors only.

Normal Grade Rules
GE: R
3 units

BIOL 180. Individual Studies

Advanced lab work in special fields.

Prerequisite: Majors only. Not available to Open University Students

Repeatable for credit
Credit / No Credit
1-4 units

BIOL 181. Introduction to Health Care

Participation and observation with a medical doctor, dentist, optometrist, pharmacist, or veterinarian in private practice, hospital or retail setting.

Notes: Hepatitis B or other vaccinations may be required in some settings.

Prerequisite: Instructor consent. Not available to Open University Students

Credit / No Credit
1-3 units

BIOL 182. Tutor Assistant in Biology

Supervised classroom or field experience as a tutor-assistant in experiments, demonstrations and discussion.

Prerequisite: Sophomore or Upper division standing, instructor consent and appropriate academic background. Not available to Open University Students.

Repeatable for credit
Credit / No Credit
1-2 units

BIOL 184. Directed Reading

Assigned readings of selected books, journals and papers chosen to fill gaps in training or for contact with new fields. Evaluation through weekly reports and conferences.

Prerequisite: Instructor consent. Not available to Open University Students.

Repeatable for credit
Credit / No Credit
1-4 units

BIOL 186. Senior Thesis

Advanced library, laboratory or field research under the supervision of a faculty member, culminating in a senior thesis.

Prerequisite: Instructor consent. Not available to Open University Students.

Credit / No Credit
2-4 units

BIOL 190. Field Studies in Biology

Field program involving planning and execution of a project. Course is repeatable for a maximum of 12 units.

Prerequisite: Instructor consent. Not available to Open University Students.

Repeatable for credit
Credit / No Credit
1-4 units

BIOL 193. Microbiological Techniques

Microbiological techniques for non-biologists.

Prerequisite: Upper division standing; lower division biology or instructor consent.

Normal Grade Rules
1 unit

BIOL 198. Undergraduate Research

Field or laboratory biological research under the direction of a faculty member.

Repeatable for credit
Normal Grade Rules
0.5-4 units

GRADUATE

BIOL 201. Graduate Seminar in Biological Sciences

Seminar designed to introduce principles and topics in biological research. Mandatory during first semester of enrollment. Must be taken twice for credit.

Repeatable for credit
Normal Grade Rules
1 unit

BIOL 202. Graduate Studies in Biology

A seminar on current research and theory in the life sciences, emphasizing scientific writing and formal oral presentations.

Prerequisite: Instructor consent.

Misc/Lab: Lecture/seminar/discussion 5 hours.

Note: This course satisfies graduate-level GWAR in this master's program.

Normal Grade Rules
GE: GWAR
3 units

BIOL 202TA. Biotech Seminar: Biotech Products

BIOL 202TA is a seminar course in which students develop professional skills in writing, speaking, literature review, and critical thinking. Assignments are targeted at developing expertise and knowledge useful in the biotechnology industry. BIOL 202TA focuses on biotechnology products.

Prerequisite: Enrollment in the Master of Biotechnology Program.

Note: This course satisfies graduate-level GWAR in this master's program.

Normal Grade Rules
GE: GWAR
3 units

BIOL 202TB. Biotech Seminar: Drug Development Process

Biol 202 TB is a seminar course in which students develop their professional skills. Assignments are targeted at developing expertise and knowledge useful in the biotechnology industry. Biol 202TB focuses on the development of drugs and other biotechnology products.

Prerequisite: Enrollment in the Master of Biotechnology Program.

Note: This course satisfies graduate-level GWAR in this master's program.

Normal Grade Rules
GE: GWAR
3 units

BIOL 202TC. Biotech Seminar: Biotech Business I

BIOL 202TC is a seminar course in which students develop their professional skills. Assignments are targeted at developing expertise and knowledge useful in the biotechnology and pharmaceutical industries. BIOL 202TC focuses on the financial aspects of business development in biotechnology.

Prerequisite: Enrollment in the Master of Biotechnology Program.

Normal Grade Rules
2 units

BIOL 202TD. Biotech Seminar: Biotech Business II

Seminar course in which students develop their professional skills. Assignments target developing expertise and knowledge useful in the biotechnology and pharmaceutical industries. Focuses on business development in biotechnology and a team project in which students develop a business plan.

Prerequisite: BIOL 202TC or instructor consent

Normal Grade Rules
2 units

BIOL 203. Biology Teaching Forum

Introduction to effective methods for teaching undergraduate biology laboratories, activities, seminars and/or lectures. Emphasis on pedagogy and application of best practices and strategies for teaching biology to a diverse audience. Course administration, student conduct and expectations, and assessment will also be covered.

Prerequisite: graduate standing or instructor consent

Normal Grade Rules
3 units

BIOL 205. Advanced Molecular Techniques

Emphasizes the laboratory techniques of modern molecular biology. Depending on instructor, focus will be on animal, plant, yeast, bacterial or viral systems. Course is repeatable for credit if content changes.

Prerequisite: BIOL 135L or instructor consent.

Misc/Lab: Lecture 2 hours/lab 6 hours.

Repeatable for credit
Normal Grade Rules
4 units

BIOL 205T. Advanced Molecular Techniques for Biotechnology

Emphasizes the laboratory techniques of modern molecular biology especally: report writing and communication of research results. Depending on instructor, focus will be on animal, plant, yeast, bacterial, or viral systems.

Prerequisite: Biol 135L and admission into the Master of Biotechnology program.

Misc/Lab: Lecture 2 hours/lab 6 hours.

Normal Grade Rules
4 units

BIOL 215. Seminar in Advanced Genetics

Selected topics of current interest in advanced genetics. Each semester will emphasize a particular field of genetics; e.g., molecular genetics, human genetics, developmental genetics, population genetics, etc.

Normal Grade Rules
3 units

BIOL 218. Evolution

Integrated use of modern molecular techniques and classical evolutionary theory to address a broad array of questions in evolutionary biology.

Prerequisite: BIOL 115 and instructor consent.

Normal Grade Rules
3 units

BIOL 220. Science Communication

This course will focus on learning to effectively present ongoing scientific research to a wide audience, with an emphasis on developing science communication skills, learning to place data within the context of a field, and developing critical thinking skills.

Pre/Co-requisite: BIOL 202

Normal Grade Rules
3 units

BIOL 221T. Advanced Bioinformatics for Biotechnology

Bioinformatics/computer applications to solve advanced problems in molecular and cell biology by manipulation and analysis of DNA, RNA, and protein sequences.

Prerequisites: Biol 116 or either Chem 130A, Chem 135, or Chem 136 and admission into the Master of Biotechnology program.

Normal Grade Rules
4 units

BIOL 227. Advanced Physiology and Pharmacology

Foundation for understanding physiological, biochemical and anatomical interaction of drugs within the body. Physiological regulation and principles of pharmacology including pharmacokinetics and physiological responses to drugs and hormones. Drug classes and their mechanism of action at a molecular level. Regulatory (FDA) and industrial aspects of pharmacological science. Prerequisite: BIOL 124 and BIOL 125 or equivalent course, graduate standing or advisor consent.

Normal Grade Rules
3 units

BIOL 227T. Principles of Pharmacology

Principles of pharmacology, especially as related to the pharmaceutical industry and clinical applications.

Prerequisites: BIOL 030 or equivalent; Physiology recommended

Normal Grade Rules
3 units

BIOL 229T. Biotechnology Instrumentation

Introduction to the principles of operation of common instruments used in the biotechnology and pharmaceutical industries. Includes understanding and experience with calibration, detection mechanisms, data output, trouble shooting and decision making process.

Prerequisite: Enrollment in the Master of Biotechnology program.

Misc/Lab: Lecture 2 hours / Lab 3 hours.

Normal Grade Rules
3 units

BIOL 230. Comparative Animal Physiology

A seminar in the functional relationships of invertebrates and vertebrates. Evolutionary patterns and environmental adaptations are considered.

Prerequisite: An upper division course in physiology or instructor consent.

Normal Grade Rules
3 units

BIOL 233. Immunological Techniques

Principles, concepts and mechanisms relative to serological and other immunological procedures and reactions with emphasis on practical applications.

Prerequisite: Upper division microbiology or cell biology, or organic chemistry and instructor consent.

Misc/Lab: Lab 9 hours.

Normal Grade Rules
3 units

BIOL 233T. Immunological Techniques for Biotechnology

Principles, concepts, and mechanisms relative to serological and other immunological procedures and reactions with emphasis on applications in the biotechnology industry.

Prerequisite: Immunology laboratory (grade "B"or better) or equivalent experience and admission to the Master of Biotechnology program.

Normal Grade Rules
3 units

BIOL 242. Advanced Paleontology

See GEOL 242.

Normal Grade Rules
4 units

BIOL 255E. Advanced Topics: Ecology and Evolution

Advanced Topics: Ecology and Evolution is a rotating topics course; each offering will have different content. The purpose of the seminar is to help students develop a deeper understanding of specific aspects of ecology and evolution through thorough examination of primary scientific literature, discussion and presentations. Enrollment in at least 3 units of BIOL 255E is mandatory for the MS Biological Sciences: concentration in Ecology and Evolution program.

Prerequisite: Graduate standing or Instructor consent

Repeatable for credit
Normal Grade Rules
1-4 units

BIOL 255L. Advanced Biology Laboratory

Laboratory or field experience in advanced biology. Course is repeatable for credit when content changes.

Prerequisite: Instructor consent.

Notes: May be taken concurrent with any 255 seminar.

Repeatable for credit
Normal Grade Rules
1-4 units

BIOL 255M. Advanced Topics:Molecular & Microbiology

Advanced study in molecular and microbiology. Course is repeatable for credit when content changes.

Prerequisite: Instructor consent.

Repeatable for credit
Normal Grade Rules
1-4 units

BIOL 255P. Seminar in Advanced Biology: Physiology

Advanced study in plant or animal physiology. Course is repeatable for credit when content changes.

Prerequisite: graduate standing or instructor consent

Repeatable for credit
Normal Grade Rules
1-4 units

BIOL 255T. Introduction to Stem Cell Techniques

This laboratory/lecture course exposes students to the theoretical and practical aspects of contemporary stem cell techniques. Students will culture mouse embryonic stem cells on feeders and characterize them using immunofluorescence and flow cytometry, differentiate various lineages and observe genetic modifications. Students will prepare inducible pluripotent stem cells (iPS) from primary cells. This includes both the theoretical and practical aspects of applied stem cell in regenerative approaches as well as models of disease for research purposes. Students are expected to keep a laboratory notebook and document their experiments and results. Additionally, students will present scientific papers on recent topics in stem cell basic research, as published in scientific journals of recent year. The goal of this course will be to provide students with basic experience in methods used in stem cell laboratories, so that they can transition to an internship in a stem cell laboratory (although many of these techniques are applicable in a number of diverse fields), and to provide students with the most current stem cell topics while practicing effective presentation and evaluation skills.

Normal Grade Rules
4 units

BIOL 256. Advanced Experimental Design and Analysis

Provides training in advanced statistical procedures and experimental designs for graduate-level research. The content is tailored to research needs of enrolled students. Includes sampling schemes, randomization analyses, complex ANOVA and multivariate analyses.

Prerequisite: Upper division statistics course; graduate standing.

Normal Grade Rules
3 units

BIOL 280. Individual Studies

Allow a graduate student to pursue an avenue of academic interest that is not a specific part of a thesis research project. The program of study must be approved by an academic advisor in the graduate program. Projects may include, but are not limited to: manuscript development, presentations of findings, development and leadership in developing seminars for other graduate students.

Prerequisite: Graduate standing and instructor consent. Not available to Open University Students.

Repeatable for credit
Credit / No Credit
1-3 units

BIOL 280T. Internship in the Biotechnology Industry

A 8-10 week internship at a Bay Area biotechnology company in R&D, quality control, manufacturing, human resources, marketing, or sales.

Prerequisite: Admission to the Master of Biotechnology program.

Repeatable for credit
Credit / No Credit
2 units

BIOL 281T. Individual Studies in Biotechnology

Supervised, advanced work in specialized fields relevant to biotechnology.

Prerequisite: Admission to the Master of Biotechnology program; instructor consent and Program Director.

Repeatable for credit
Normal Grade Rules
1-4 units

BIOL 282C. Biotechnology Company Management

Provides general management perspectives of biotechnological innovation; focuses on challenges of managing the development of new technologies, products, and processes in biotech sectors; examines management concepts, industry practices, and cases relevant to the biotechnology sector.

Normal Grade Rules
3 units

BIOL 283T. Topics in Biotech Regulatory Affairs

Introduction to laws regulating the pharmaceutical, biotechnology, medical device industries. Discussions of company organization; product development and commercialization; Good Manufacturing Practice.

Prerequisite: Admission to the Master of Biotechnology program and consent of the Program director.

Misc/Lab: Lecture 3 hour/Activity 6 hours.

Repeatable for credit
Normal Grade Rules
3 units

BIOL 284. Master's Directed Reading

Directed reading and discussion of biological literature and/or individualized preparation for culminating graduate experience. Pre/Corequisite: Graduate standing in MA program and instructor consent. Not available to Open University Students.

Prerequisite: Graduate Standing in MA program; instructor consent

Repeatable for credit
Mandatory CR/NC/RP
1-3 units

BIOL 285. Colloquium in Biological Sciences

Meetings for the presentation and discussion of advanced studies in special fields including original work by the faculty, guest investigators and graduate students. Topics will vary from year to year.

Repeatable for credit
Credit / No Credit
1 unit

BIOL 285T. Colloquium in Biotechnology

Meetings for reporting, by written and oral presentations, progress through the MBT program.

Prerequisite: Admission to the Master of Biotechnology program.

Credit / No Credit
1 unit

BIOL 291A. Introduction to Molecular Diagnostics I

Graduate level course which will include topics relevant to all tests and methods used to identify a disease or the predisposition for a disease through DNA, RNA, or protein analysis. Methods for isolation from human clinical samples.

Prerequisite: Instructor consent.

Normal Grade Rules
3 units

BIOL 291B. Introduction to Molecular Diagnostics II: Human Genetic Diseases and Detection

Graduate level course which will include topics relevant to all tests and methods used to identify a disease or the predisposition for a disease through DNA or RNA analysis of human samples.

Prerequisite: BIOL 291A or Instructor Consent.

Normal Grade Rules
3 units

BIOL 297. Graduate Research

Advanced graduate research projects, to be conducted under the direct supervision of a staff member. Repeatable for credit, up to 10 units can be applied towards the degree.

Prerequisite: Graduate Standing and Instructor Consent. Advanced graduate research projects, to be conducted under the direct supervision of a staff member.

Repeatable for credit
Mandatory CR/NC/RP
1-4 units

BIOL 298. MS Project Culminating Experience

Culminating experience for MS Project Option, consisting of the development of a manuscript describing student's research and following journal guidelines for manuscript preparation, followed by a public seminar defending the research project.

Prerequisite: Admission to candidacy for the Master of Science degree

Repeatable for credit
Mandatory CR/NC/RP
1 unit

BIOL 298M. MA Culminating Experience

Advanced individual work toward program Plan B (Comprehensive Exam or Master s Project). Prerequisite: Advancement to candidacy for the MA in Biological Sciences and graduate advisor approval.

Repeatable for credit
Mandatory CR/NC/RP
1 unit

BIOL 299. Master's Thesis

Prerequisite: Admission to candidacy for the Master of Science degree.

Pre/Corequisite: Not available to Open University Students

Repeatable for credit
Mandatory CR/NC/RP
1-4 units

UPPER DIVISION

BIOL 1290R. Culminating Experience Supervision

This course covers the same topics and has the same objectives as BIOL 298/BIOL 299.

Prerequisite: BIOL 298 or BIOL 299

Note: No Degree Credit

Repeatable for credit
No Degree Credit
1 unit

BOTANY

UPPER DIVISION

BOT 104. Plant Taxonomy

Taxonomic relations and classification of ferns, conifers and flowering plants, with practice in their collection and identification. Selected techniques of cytotaxonomy, chemotoxonomy, palynology and numerical taxonomy.

Prerequisite: BIOL 113 or 114 with a grade of "C" or better, or instructor consent.

Misc/Lab: Lecture 2 hours/lab 6 hours.

Normal Grade Rules
4 units

BOT 113. Comparative Taxonomy

See BIOL 113.

Normal Grade Rules
3 units

BOT 114. Functional Morphology

See BIOL 114.

Normal Grade Rules
3 units

BOT 160. Ecology

See BIOL 160.

Normal Grade Rules
GE: R
4 units

BOT 165. Plant Communities of California

Ecology, species composition and vegetation structure of California plant communities. Origins, history and changes brought about by natural succession and human impact.

Prerequisite: BIOL 113 or 114 with a grade of "C" or better, or instructor consent.

Misc/Lab: Lecture 2 hours/lab-field 6 hours (some weekend field trips).

Normal Grade Rules
4 units

BOT 180. Individual Studies

Advanced work in special fields.

Prerequisite: Majors only or instructor consent.

Repeatable for credit
Credit / No Credit
1-4 units

BOT 186. Senior Thesis

Advanced laboratory or field research under supervision of faculty member, culminating in a senior thesis.

Prerequisite: Instructor consent.

Credit / No Credit
2-4 units

BOT 192. Int'l Program Studies

Repeatable for credit
Mixed Grading
1-12 units

GRADUATE

BOT 255. Advanced Botany

Advanced aspects of morphology, mycology and other fields of botany. Course may be repeated for credit with advisor consent.

Prerequisite: Specialization in botany and instructor consent.

Repeatable for credit
Normal Grade Rules
1-3 units

BOT 298. Research

Independent investigations.

Prerequisite: Instructor consent.

Repeatable for credit
Mandatory CR/NC/RP
1-4 units

BOT 299. Master's Thesis or Project

Prerequisite: Admission to candidacy for the master's degree.

Repeatable for credit
Mandatory CR/NC/RP
1-4 units

ENTOMOLOGY

UPPER DIVISION

ENT 101. Insect Diversity

Introduction to biology, ecology and behavior of insects. Ways in which insects affect humans and the environment. Students collect, curate and identify common families of insects.

Prerequisite: BIOL 113 or 114 with a grade of "C" or better, or instructor consent; CHEM 001A, CHEM 001B.

Misc/Lab: Lecture 3 hours/lab-field 3 hours.

Normal Grade Rules
4 units

ENT 106. Forensic Entomology

Forensic entomology examines the science and methodology used to collect,

analyze, and present information regarding insects and other arthropods

that are important in legal investigations.

Prerequisite: BIOL 30 and 31 with grades of "C" or better, or instructor consent.

Misc/Lab: Lecture 2 hours/lab 3 hours.

Normal Grade Rules
3 units

ENT 113. Comparative Taxonomy

See BIOL 113.

Normal Grade Rules
3 units

ENT 114. Functional Morphology

See BIOL 114.

Normal Grade Rules
3 units

ENT 180. Individual Studies

Advanced lab work in entomology.

Prerequisite: Instructor consent.

Repeatable for credit
Credit / No Credit
1-4 units

ENT 185. Seminar in Entomology

Current entomological literature and research and historical development of various entomological concepts.

Normal Grade Rules
1 unit

ENT 186. Senior Thesis

Advanced laboratory or field research under supervision of faculty member, culminating in a senior thesis.

Prerequisite: Instructor consent.

Credit / No Credit
2-4 units

GRADUATE

ENT 281. Advanced Laboratory Skills in Entomology

Advanced lab work in entomology.

Prerequisite: MA graduate standing.

Credit / No Credit
3 units

ENT 282. Entomology Internship

Professional career development and/or individualized preparation for culminating graduate experience.

Prerequisite: Graduate standing.

Credit / No Credit
3 units

ENT 283. Directed Readings in Entomology

Directed reading assignments in entomological literature including but not limited to: research, governmental guidelines/protocols/procedures and risk assessment/ management.

Prerequisite: MA graduate standing.

Normal Grade Rules
2 units

ENT 298. Research

Independent investigations.

Prerequisite: Instructor consent.

Repeatable for credit
Mandatory CR/NC/RP
1-4 units

ENT 299. Master's Thesis or Project
Prerequisite: Admission to candidacy for the master's degree.
Repeatable for credit
Mandatory CR/NC/RP
1-4 units

MEDICAL PRODUCT DEVELOPMENT MANAGEMENT

GRADUATE

SMPD 202T. MPDM Seminars: Biomedical Business
Special Topics seminar in the management principles and practices of medical product development. Repeatable for credit when topic changes.
Prerequisite: Graduate Standing
Repeatable for credit
Normal Grade Rules
3 units

SMPD 281A. Clinical Development Seminar I
Provides a comprehensive overview of the regulated medical product development process. Topics include initial drug development/device invention to drug/device approval and post-market surveillance. Discussions include non-clinical and clinical studies, regulations, clinical indication determination, research methodology and ethical conduct. Fulfills GWAR requirement
Prerequisite: Admission to MPDM program or certificate
Note: This course satisfies graduate-level GWAR in this master's program.
Normal Grade Rules
GE: GWAR
3 units

SMPD 281B. Clinical Development Seminar II
Current practices for medical product development and the clinical and regulatory pathways required for approval in the USA; including non-clinical study design and GMP process. Emphasis on oral and written communication. Presentations from experts in the field.
Prerequisite: Admission to the Medical Product Development Management program and completion of SMPD 281A.
Misc/Lab: Lecture 2 hour/Activity 4 hours.
Normal Grade Rules
2 units

SMPD 283A. Regulatory Affairs I, Biopharmaceutical
Provide foundational knowledge of the pharmaceutical, biotechnology and biomedical industries with focus on company organization, product development and commercialization-associated activities such as chemical synthesis, device prototyping, quality assurance, regulatory affairs, manufacturing, control, marketing, and post-marketing surveillance.
Normal Grade Rules
3 units

SMPD 283B. Regulatory Affairs II Device-Diagnostics
Overview of laws and regulations enforced by the US Food and Drug Administration (FDA) and other Regulatory Agencies as they relate to biotechnology, medical device and diagnostic industries
Prerequisite: Admission to the MPDM program.
Normal Grade Rules
3 units

SMPD 285. MPDM Research / Practicum
Independent research project / practicum to explore deeper understanding or breadth of experience in medical product development management.
Prerequisite: Admission to MPDM program.
Repeatable for credit
Credit / No Credit
1 unit

SMPD 286. Statistical Methods in Clinical Trials
Overview of statistical methods used in the design and interpretation of clinical trials of drugs and medical devices.
Prerequisite: Admission to the MPDM program.
Normal Grade Rules
3 units

SMPD 287. Informatics in Drug and Device Development
Provides business and regulatory perspectives on electronic information technologies, processes and standards in the conduct of clinical trials. Special emphasis: data collection, clinical trial & data management randomization and drug supply, statistical processes, safety databases and electronic regulatory submission, electronic records and signatures, sys validation processes, and data standards.
Prerequisite: Admission to the MPDM program and completion of SMPD 286.
Normal Grade Rules
3 units

SMPD 289A. Special Topics in Clinical Trials Management I
Seminar focusing on critical issues in clinical development. This programmatic capstone series of seminars challenges the students to demonstrate a mature, professional manner and technical proficiency in the field. Emphasis on oral and written communications. Course includes numerous presentations by industry experts.
Prerequisite: Admission to MPDM program and completion of SMPD 285.
Misc/Lab: Lecture 2 hour/Activity 4 hours
Normal Grade Rules
2 units

SMPD 289B. Clinical Trials Seminar II
Capstone course of the MPDM program
Prerequisite: Admission to MPDM program.
Normal Grade Rules
3 units

MICROBIOLOGY

LOWER DIVISION

MICR 020. General Bacteriology
Morphology, physiology, genetics and diversity of bacteria; their control by chemical and physical means; and their role in disease. For majors in allied health professions.
Prerequisites: CHEM 1B, or CHEM 30A with a C or better or instructor consent.
Misc/Lab: Lecture 4 hours/lab 3 hours.
Notes: Not an elective in the department majors.
Normal Grade Rules
GE: B2B3
5 units

UPPER DIVISION

MICR 101. General Microbiology
Fundamentals of basic microbiology emphasizing cell structure, cell metabolism, molecular genetics, microbial diversity and ecological relationships.
Prerequisite: BIOL 30 and 31, CHEM 8 or CHEM 112A, all with a grade of "C" or better or instructor consent.
Normal Grade Rules
5 units

MICR 122. Bacterial Diversity
The focus of this course is the study of the characteristics and microecology of unusual prokaryotes. Molecular and traditional approaches will be discussed.
Prerequisite: MICR 101 (with a grade of C or better or instructor consent)
Misc Lecture 1 hour
Normal Grade Rules
2 units

MICR 122L. Bacterial Diversity Laboratory
Laboratory techniques in bacterial diversity.
Prerequisite: MICR 101 (with grade of "C" or better) or Instructor Consent
Misc/Lab: 6 hour Lab.
Normal Grade Rules
2 units

MICR 123. Food Microbiology
Detection and enumeration of both normal microbiological flora and spoilage organisms of specific foods. Control of sanitation problems in food production and processing.
Prerequisite: MICR 101 (or equivalent with grade of "C" or better).
Pre/Corequisite: BIOL 6.
Normal Grade Rules
1 unit

MICR 123L. Food Microbiology Laboratory

Practical microbiological techniques for the detection and enumeration of both normal microbiological flora and spoilage organisms of specific foods; and for the control of sanitation problems in food production and processing. Field trips to local food industries and/or a water treatment plant may be required within lab hours.

Prerequisite: MICR 101 or equivalent (with grade of "C" or better).

Misc/Lab: 6 hour Lab.

Normal Grade Rules
2 units

MICR 127. Microbial Physiology

Studies of the physiology of microbes specifically focusing on bacteria (growth, metabolism and regulation of gene expression); growth experiments and mutagenesis techniques. SJSU Studies Area: R for Biology Majors only Prerequisite: CHEM 135, MICR 166, both with a C or better, or instructor consent. Passage of the Writing Skills Test (WST) or ENG/LLD 100A with a C or better (C- not accepted), Completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, co-registration in 100W is strongly recommended. Majors only.

Normal Grade Rules
GE: R
3 units

MICR 127L. Microbial Physiology Laboratory

Laboratory experiments involve small and large-scale growth experiments (fermentation, continuous culture and batch culture), techniques used in mutagenesis and mutant characterization as well as construction and studies of reporter fusions.

Prerequisites: MICR 101 (with grade of "C" or better) or Instructor Consent

Misc/Lab: Lab 6 hours.

Normal Grade Rules
2 units

MICR 140. Hematology

Blood and blood forming organs. Theoretical and clinical aspects of normal and pathologic conditions of the erythrocytic, leukocytic, coagulation and blood group systems.

Prerequisite: Micro 101 with C or better.

Repeatable for credit
Normal Grade Rules
3 units

MICR 140L. Hematology Laboratory

Laboratory methodologies used to diagnose hematologic pathology.

Prerequisite: MICR 101 (with a grade of "C" or better) or Instructor Consent

Pre/corequisite: MICR 140.

Misc/Lab: Lab 2 hours.

Repeatable for credit
Normal Grade Rules
2 units

MICR 141. Pathogenic Microbiology I

Concepts and principles of medical microbiology, emphasizing the biology of host-parasite interactions and mechanisms of infectious disease pathogenesis.

Prerequisite: MICR 101, BIOL 107 with C or better, CHEM 008 OR CHEM 112A or Instructor Consent

Normal Grade Rules
3 units

MICR 141L. Pathogenic Microbiology I - Laboratory

Application of principles of medical microbiology to pathogen isolation, characterization and identification.

Prerequisite: MICR 101, BIOL 107, BIOL 107L with grades of "C" or better , Organic Chemistry or instructor consent.

Corequisite: MICR 141.

Misc/Lab: Lab 9 hours

Normal Grade Rules
3 units

MICR 142. Pathogenic Microbiology II

Concepts and principles of medical microbiology, emphasizing the biology of host-parasite interactions and mechanisms of infectious disease pathogenesis. Continuation of MICR 141.

Prerequisite: MICR 141 (with grade of "C" or better).

Misc/Lab: Lecture 3 hours.

Normal Grade Rules
3 units

MICR 142L. Pathogenic Microbiology II - Laboratory

Application of principles of medical microbiology to pathogen isolation, characterization and identification.

Prerequisite: MICR 141 and MICR 141L (with grades of "C" or better); BIOL 107L.

Corequisite: MICR 142.

Misc/Lab: Lab 9 hours.

Normal Grade Rules
3 units

MICR 166. Bacterial Genetics

Fundamental prokaryotic genetic concepts and their incorporation into problem solving and experimental design. Emphasis on how and why someone might use genetic approaches to their benefit when addressing biological questions in bacteria.

Prerequisites: MICR 101 with a "C or better" or Instructor Consent

Normal Grade Rules
4 units

MICR 170. General Virology

Molecular and biological aspects of animal, plant and microbial viruses and their relationships with their hosts.

Prerequisite: BIOL 30, BIOL 31, and Organic Chemistry with a "C" or better

Normal Grade Rules
3 units

MICR 180. Individual Studies

Advanced lab work in special fields.

Prerequisite: Majors only or instructor consent.

Repeatable for credit
Credit / No Credit
1-4 units

MICR 184. Directed Reading

Assigned readings of selected books, journals and papers to fill gaps in training or for contact with new fields. Evaluation through weekly reports and conferences.

Prerequisite: Instructor consent.

Repeatable for credit
Credit / No Credit
1-4 units

GRADUATE

MICR 291A. Advanced Hematology

Students will engage in advanced study of normal and abnormal hematologic conditions, including molecular diagnosis of disorders.

Credit / No Credit
4 units

MICR 291B. Advanced Pathophysiology

Students will engage in advanced study of normal and abnormal physiologic conditions, including but not limited to diseases of glucose metabolism, organ dysfunction, endocrine disorders and electrolyte balance.

Note: Not an elective for Biology majors and not available to Open University students.

Credit / No Credit
4 units

MICR 291C. Advanced Human Immunology

Students will engage in advanced study of normal and abnormal immunologic conditions in humans, including molecular diagnosis of those disorders.

Note: Not an elective for Biology majors and not available to Open University students.

Repeatable for credit
Credit / No Credit
4 units

MICR 291D. Advanced Medical Microbiology

Students will engage in advanced study of bacteria, fungi, viruses and other organisms of significance in medical microbiology. Emphasis will be on experience through clinical practice.

Note: Not an elective for Biology majors and not available to Open University students.

Credit / No Credit
4 units

MICR 291E. Advanced Immunohematology
Students will engage in advanced study of immunohematology and the use of transfused products in medical treatment. Emphasis will be on experience through clinical practice.

Note: Not an elective for Biology majors and not available to Open University students.

Credit / No Credit
4 units

MICR 291F. Molecular Based Diagnostic Techniques
Students will engage in advanced study of application of molecular techniques for diagnostic purposes. Emphasis will be on advanced practical training.

Note: Not an elective for Biology majors and not available to Open University students.

Credit / No Credit
4 units

MICR 291G. Clinical Laboratory Management
Students will engage in advanced study of laboratory management skills, including finance, time management, team building, quality control, basic human resources management and other topics. Emphasis will be on practical training.

Note: Not an elective for Biology majors and not available to Open University students.

Repeatable for credit
Credit / No Credit
4 units

MICR 292. Topics and Demonstrations in Clinical Laboratory Science
Presentations and demonstrations of topics and selected clinical lab procedures.

Prerequisite: Baccalaureate degree in a biological science, valid license as a CLS Trainee, admission into the CLS Traineeship, and instructor consent. Concurrent enrollment in MICR 291.

Repeatable for credit
Normal Grade Rules
3 units

MICR 298. Research
Advanced individual work in a specialized field of microbiology.

Prerequisite: Instructor consent.

Repeatable for credit
Mandatory CR/NC/RP
1-4 units

MICR 299. Master's Thesis or Project
Prerequisite: Admission to candidacy for the Master of Science degree and instructor consent.

Repeatable for credit
Mandatory CR/NC/RP
1-4 units

UPPER DIVISION

MICR 1291. Field Work in Clinical Laboratory Science
Fieldwork in affiliated hospital laboratories prerequisite to the California Licensing examination for Clinical Laboratory Science (CLS).

Prerequisite: Baccalaureate degree in a biological science, valid license as a CLS Trainee, admission into the CLS Traineeship, and instructor consent. Concurrent enrollment in MICR 292.

Notes: No Degree Credit.

Repeatable for credit
No Degree Credit
12 units

ZOOLOGY

UPPER DIVISION

ZOOL 113. Comparative Taxonomy
See BIOL 113.

Normal Grade Rules
3 units

ZOOL 114. Functional Morphology
See BIOL 114.

Normal Grade Rules
3 units

ZOOL 115. Invertebrate Zoology and Natural History
The evolution, distribution, structure, natural history and systematics of invertebrates other than insects.

Prerequisite: Biol 113 or 114, or instructor consent.

Misc/Lab: Lecture 2 hours/lab-field trips 6 hours.

Normal Grade Rules
4 units

ZOOL 116. Vertebrate Evolution and Natural History
Origin, evolution, distribution and natural history of the vertebrates. Development, reproductive patterns, anatomy, morphology, behavior, ecology and systematics.

Prerequisite: BIOL 113 or 114 with a grade of "C" or better, or instructor consent.

Misc/Lab: Lecture 2 hours/lab 6 hours with several field trips.

Normal Grade Rules
4 units

ZOOL 160. Zoogeography
Animal distribution throughout the world and factors and basic principles affecting it.

Prerequisite: BIOL 31 or equivalent or instructor consent.

Normal Grade Rules
3 units

ZOOL 180. Individual Studies
Advanced lab work in special fields.

Prerequisite: Majors only or instructor consent.

Repeatable for credit
Credit / No Credit
1-4 units

ZOOL 186. Senior Thesis
Advanced laboratory or field research under supervision of faculty member, culminating in a senior thesis.

Prerequisite: Instructor consent.

Credit / No Credit
2-4 units

GRADUATE

ZOOL 298. Research
Independent investigations.

Prerequisite: Instructor consent.

Repeatable for credit
Mandatory CR/NC/RP
1-4 units

ZOOL 299. Master's Thesis or Project
Prerequisite: Admission to candidacy for the master's degree.

Repeatable for credit
Mandatory CR/NC/RP
1-4 units

Biomedical Engineering Department Courses

BIOMEDICAL ENGINEERING

LOWER DIVISION

BME 025. Introduction to Biomedical Engineering Design

Introduction to the broader field of biomedical engineering, with emphasis on design of biomedical devices. Development of familiarity with standards and software tools relevant to the biomedical engineering industry, packages for design and analysis, FDA and EU guidelines.

Prerequisite: CHEM 1A, ENGR 10, with C- or better

Co-requisite: MATH 31, PHYS 50

Misc/Lab: 2 hours lecture/ 2 hours lab

Normal Grade Rules
3 units

BME 065. Biomedical Applications of Statics

Detailed study of bodies in equilibrium as they apply to biomedical systems. Two-dimensional analysis of human joints and load-bearing implants are explored. Topics include free body diagrams, anthropometric measurements, internal forces, loading types, and stress shielding.

Prerequisite: MATH 031, PHYS 050

Normal Grade Rules
2 units

BME 068. Biomedical Applications of Metals and Ceramics

Fundamentals of the structure, processing, and properties of metals and ceramics used in medical technology. Emphasis is placed on using metals and ceramics for implantable and non-implantable biomedical devices. Recent trends in biomaterials are explored.

Prerequisite: CHEM 001A, MATH 031, PHYS 050

Normal Grade Rules
3 units

UPPER DIVISION

BME 115. Foundations of Biomedical Engineering

Introduction to the fundamental principles of biomedical engineering. Core conservation equations are applied to mass, energy, charge, and momentum transfer in biomedical systems. Additional topics provide a breadth of exposure in cell and molecular biology, diagnostics and analytical techniques, statistical analysis of biomedical data, bioinformatics, bioinstrumentation, FDA regulations, and biomedical ethics.

Prerequisite: BIOL 30, CHEM 001B, ENGR 010, MATH 032 and PHYS 050 .

Misc/Lab: Lecture 3 hours / Lab 3 hours

Normal Grade Rules
4 units

BME 117. Biotransport Phenomena

Applications of fundamentals of thermodynamic and kinetic aspects of energy and mass transport phenomena to biological systems. Development of quantitative description of transport processes beginning from the molecular level to entire organ systems.

Prerequisite: BME 115, Math 123 or Math 133A, BME 130 all with C- or better.

Normal Grade Rules
3 units

BME 130. Numerical Methods in Biomedical Engineering

Course applies computational and numerical analysis techniques to myriad Engineering problems. The course focus is on application of numerical analysis to BME topics ranging from image analysis to nonlinear systems. We will employ various computational tools, including MATLAB/Simulink and ImageJ.

Prerequisite: MATH 32, BIOL 30, CHEM 1B all with C- or better

Corequisite: BME 115, MATH 133A or MATH 123

Misc/Lab: Lecture 2 hours/Lab 3 hours

Normal Grade Rules
3 units

BME 147. Quantitative Methods for BME

Descriptive statistics; hypothesis testing; linear and nonlinear model regression; statistical approach to medical device verification and validation; statistical sampling plans; analysis of survival data; bioinformatics; quantitative methods for design and testing of biomedical devices; programming for statistical analysis (R, Matlab).

Prerequisite: MATH 32 or MATH 32H, BME 115, BME 177 all with C- or better.

Normal Grade Rules
3 units

BME 165. Applied Engineering Biomechanics

Exploration of structural biomechanics applied to the human body. Students compare linear and nonlinear elastic, and viscoelastic models for describing the behavior of musculoskeletal tissues and implants. Concepts include bone remodeling, osteoarthritis, implant failure, muscle contraction, and cardiac mechanics.

Prerequisite: CE 095, CE 099, BME 065 or equivalent; And MATE 025 or BME 068 or equivalent.

Normal Grade Rules
3 units

BME 168. Medical and Biological Polymers

Polymers applications in medical devices and equipment, biological and biodegradable polymers, structure-processing-properties relationships, chemistry, thermal transitions, mechanical, electrical and optical properties, clinical outcomes and complications arising from use of polymers, regulatory framework for polymer use in humans.

Prerequisite: BME 68 or MATE 25 with "C-" or better

Normal Grade Rules
3 units

BME 174. Biomedical Regulatory Requirements

Study of Food and Drug Administration regulations for design of biomedical engineering products and processes, including design review and documentation processes; Good Laboratory Practices; Good Manufacturing Practices; quality and reliability requirements.

Prerequisites: Engr 100W, BME 115

Corequisite: BME 177

Normal Grade Rules
3 units

BME 175. Biomaterials

See MATE 175.

Normal Grade Rules
3 units

BME 177. Physiology for Engineers

Structure and function of physiological systems and discussion of topics of particular importance

to the design, development, construction and clinical application of biomedical devices. Practical laboratory application of technologies to monitor, repair, replace or augment physiological systems.

Prerequisite: BIOL 30, CHEM 1B, PHYS 50

Misc/Lab: Lecture 2 hour/Lab 3 hours.

Normal Grade Rules
3 units

BME 178. Biomedical Product Realization

Basics of product realization from concept to clinical trials to prepare students for career(s) in multiple bioengineering sectors. Specific topics include: Product Concept, Research & Development, Design Controls in Application, Design Verification and Design Validation, Process Control in Application, Software Validation, Effective Risk Management, Engineering and Quality Management System Practices.

Prerequisites: ENGR 100W, BME 147, BME 174 all with a grade of C- or better.

Normal Grade Rules
3 units

BME 180. Individual Studies

Individual work on special topics. Students work with faculty and/or industry mentors on design, research, lab development or other types of projects.

Course credit: 1-3 units.

Prerequisite: Upper division standing

Repeatable for credit
Credit / No Credit
1-3 units

BME 182. Orthotics and Prosthetics

Diagrammatic breakdown of prosthetic design covering patient interfaces, socket designs, materials, modular components, prosthetic feet, prosthetic knees, upper extremity designs. Treatment options within current standard of care, device design trends, future device, material, and design needs.

Prerequisite: CE 95 or CE 99, MatE 25, BME 115, BME 177

Normal Grade Rules
3 units

BME 188. Biomedical Device Manufacturing

Overview of manufacturing processes for producing biomedical devices, implants, instruments, prosthetics, and capital equipment. Introduction to design processes and tools that facilitate start-up and expansion of manufacturing activities.

Prerequisite: BME 25, MatE 25, BME 115, BME 177, all with C- or better

Normal Grade Rules
3 units

BME 198A. Senior Design Project I

Apply bioengineering principles to the design and implementation of an approved project, from problem definition to analysis, design and validation, and experimentation, including possible construction and testing. Integrate global and social issues in engineering. GE Area: S when taken with BME Major sequence.

Prerequisite: ENGR 100W, BME 117, BME 177 all with a C or better. Passage of the Writing Skills Test (WST) or ENGL/LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Allowed Declared Major: Biomedical Engineering or Graduate Standing.

Corequisite: ENGR 195A, and BME 147 or CHE 162 or ISE 130.

Note: Meets GE Areas S and V when course is taken in combination with: BME 198B, ENGR 195A and ENGR 195B

Misc/Lab: Lecture 1 hour/Lab 3 hours.

Normal Grade Rules
GE: S
2 units

BME 198B. Senior Design Project II

Continuation of BME 198A. Culmination of project requiring formal oral presentation and report consisting of documentation of project methodology and results. GE Area: V when taken with BME major sequence.

Prerequisite: BME 198A with C or better; BME 147 with C- or better. Passage of the Writing Skills Test (WST) or ENGL/LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Allowed Declared Major: Biomedical Engineering or Graduate Standing.

Pre/Corequisite: ENGR 195B

Note: Meets GE Areas S and V when course is taken in combination with: BME 198A, ENGR 195A and ENGR 195B

Misc/Lab: Lecture 1 hour/Lab 3 hours.

Normal Grade Rules
GE: V
2 units

GRADUATE

BME 207. Experimental Methods in BME

Introduction to experimental methods and techniques used in Biomedical Engineering. Principles of data representation, analysis, and experimental designs in bioreactors, biomaterials, and medical devices. Topics include error analyses, modeling, normality testing, hypothesis testing. This is a hands-on course, and students will operate equipment in the departments laboratories.

Prerequisite: BME 115, graduate standing

Misc/Lab: 2 hours lecture/3 hours lab

Normal Grade Rules
3 units

BME 210. Mathematical Methods in Biomedical Engineering

Mathematical and computational methods applied to biomedical engineering. Topics include: i) statistical analysis of biomedical datasets, ii) design of experiments to meet FDA requirements, iii) solution techniques for partial differential equations, and iv) modeling of stochasticity in biological systems including error analysis.

Prerequisite: CompE 30, Math 133A, Graduate standing (or by instructor consent)

Normal Grade Rules
3 units

BME 254. Microscale Biomedical Systems: Physics and Applications

Introduction to microscale physics and phenomena used in biomedical systems; analytical techniques and diagnostic applications. Course will discuss: microscale fluid mechanics (Navier-Stokes), electrical phenomena (Maxwell), and particle/molecule/device interactions. Case studies focus on applications of microscale physics to biomedical engineering analyses.

Prerequisite: BME 117, Math 123 or Math 133A, and graduate standing; or instructor consent

Normal Grade Rules
3 units

BME 256. Biomedical Applications of Nanoplatforms

Biomedical applications of nanoplatforms explores the development of three cutting edge sub fields: nanoplatforms in therapeutics; nanoplatforms in prosthesis and implants; and nanoplatforms in diagnosis and screening. The socioeconomic risks and solutions of nanoplatforms in biomedical applications are also explored.

Prerequisite: BME 177, Graduate Standing or instructor consent

Normal Grade Rules
3 units

BME 258. Medical Imaging for Engineers

Introduction to the principles and clinical applications of medical imaging. Interaction of radiation with matter. Image acquisition and manipulation. Clinical imaging techniques: X-ray radiography and computed tomography, ultrasound imaging, magnetic resonance imaging. Safety considerations. Computer laboratory: image enhancement, segmentation, contouring.

Prerequisite: Phys 51, Math 123 or Math 133A, BME 177, and BME 210, or Instructor consent.

Misc/Lab: Lecture 3 hours/Lab 3 hours

Normal Grade Rules
3 units

BME 272. Biomedical Device Design and Principles

Principles involved in designing medical devices to function reliably in human body; interaction between synthetic and biological materials; use of design principles during conception and development of medical devices; effect of design on manufacture clinical performance, reliability and quality/regulatory assurance.

Prerequisite: BME 115, Graduate standing or instructor consent.

Normal Grade Rules
3 units

BME 274. Regulatory, Clinical and Manufacturing Aspects of Medical Devices

FDA regulations related to medical devices; planning and implementation of clinical trials; sterilization techniques; failure mode analysis; quality control for medical device manufacture; intellectual property; field trips to device manufacturers.

Prerequisite: BME 115, Graduate standing; or instructor consent.

Normal Grade Rules
3 units

BME 288. Tissue Engineering

This course strikes a balance among the diversity of subjects that are related to tissue engineering, including biology, chemistry, material science, and engineering, among others. Emphasis on research areas of clinical value for engineering new organ systems.

Prerequisite: Graduate Standing or Instructor Consent

Normal Grade Rules
3 units

BME 291. MS Thesis/Project Preparation Seminar

Development of project or thesis proposal.

Prerequisites: Good standing (GPA 3.0), classified status in the BME program, candidacy form submitted, satisfactory completion of graduation writing assessment requirement (GWAR).

Credit / No Credit
1 unit

BME 298. MS Project

Masters project work in Biomedical Engineering.

Prerequisite: Admission to candidacy. BME 291

Mandatory CR/NC/RP
2 units

BME 299. MS Thesis

Masters thesis work in Biomedical Engineering.

Prerequisite: Admission to candidacy, BME 291, BME 298.

Mandatory CR/NC/RP
3 units

UPPER DIVISION

BME 1290R. Culminating Experience Supervision

Continued work on dissertation, thesis, or project or in preparation for comprehensive exams beyond the minimum required units for cases in which final deliverables are still in progress and all other degree requirements except the culminating experience have been fulfilled.

Prerequisite: Outstanding RP grade in a previous semester in BME 298 or 299

Note: No Degree Credit.

No Degree Credit
1 unit

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Business Courses

ACCOUNTING AND FINANCE

LOWER DIVISION

BUS1 020. Financial Accounting
Accounting postulates and principles; application of accounting theory to accumulate and summarize financial data; critical analysis and interpretation of financial statements.

Prerequisite: MATH 071.

Normal Grade Rules
3 units

BUS1 020N. Survey of Accounting
Introduction to accounting theory and techniques for business minors and non-business majors. Principles are applied to accumulating and summarizing financial data; critical analysis and interpretation of financial statements.

Prerequisite: Sophomore status recommended, non-business majors only.

Normal Grade Rules
3 units

BUS1 021. Managerial Accounting
Uses of accounting data for managerial decision-making. Topics include: cost accumulation for product costing; cost structure for control and motivation; cost-volume-profit relationships; profit planning; standard costing; flexible budgets; and relevant costs for non-routine decisions.

Prerequisite: BUS 20 or BUS 20N.

Normal Grade Rules
3 units

UPPER DIVISION

BUS1 120A. Accounting Information Systems
Documentation, flow and processing of accounting information in business organizations; related principles of internal control; system design principles. Computerized and non-computerized procedures are used for processing.

Prerequisite: BUS 20 with a "C" or better. Declared Major in Accounting, Accounting Information Systems or Corporate Accounting and Finance. Upper division standing.

Normal Grade Rules
3 units

BUS1 120B. Advanced AIS and IS Risk Assessment
Hands-on project-oriented computer lab to develop working knowledge and skills in using Microsoft Excel and Access as application development tools. Students design a prototype accounting system and generalized audit module prototype assessing integrity of previously designed databases.

Prerequisite: BUS 120A and COMM 100W or ENGL 100WB or LLD 100WB with a minimum grade of "C" or better in both. Upper division standing.

Normal Grade Rules
3 units

BUS1 120C. Network Environment and Accounting Controls
Introduction to current network arrangements in small, medium and large corporations, including hardware/software components used to control the integrity, and access of networks. Internet interfaces including TCP/IP basics and network configurations. A practical NT domain and its administration will be included.

Prerequisite: BUS 120B with a minimum grade of 'C'. Upper division standing.

Normal Grade Rules
3 units

BUS1 120D. Accounting Topics in IT Audit
Students will be exposed to real life audit environment cases. Students will apply the EDP auditing techniques of integrated audit risk management, auditing of platforms, applications, and network as appropriate. Discussion of network security, including telecommunications, firewall, encryption and other current IT Audit issues will be included as part of IT discussion.

Prerequisite: BUS1 120B and BUS1 120C with a grade of 'C' in each. Upper division standing.

Normal Grade Rules
3 units

BUS1 120E. Platforms Security & E-Commerce Controls
Students will be exposed to overall functional capabilities of the security of UNIX, NET, and Novell platforms, and how to audit the security of these platforms. Students will also be exposed to the E-Commerce IT environments, and setting up of an E-Commerce website with security considerations.

Prerequisite: BUS1 120B and BUS1 120C with a grade of 'C' in each.

Normal Grade Rules
3 units

BUS1 120G. Programming and Systems Development in AIS
This course covers the process, technical elements and current techniques used in accounting systems development. Programming topics include business reporting languages. Systems development topics include requirements analysis, functional specification, system design, implementation, testing, and maintenance.

Prerequisite: BUS1 020 with a minimum grade of "C".

Normal Grade Rules
3 units

BUS1 121A. Intermediate Accounting I
Principles, control and theory of accounting for assets; correction of prior year's earnings; measurement and determination of income. Projects involving spreadsheet software required.

Prerequisite: BUS 20 with a minimum grade of 'C' and Upper division standing. Student must be a declared Accounting, Accounting Information Systems, Finance, or Corporate Financial Management major to enroll.

Normal Grade Rules
3 units

BUS1 121B. Intermediate Accounting II
Principles, controls, and theory of accounting for liabilities and equities; preparation, utilization, and analysis of cash flow and fund statements; financial ratios and statistical analysis of financial statements accounting data. Projects involving spreadsheet software required.

Prerequisite: BUS 121A (with minimum grade of "C"). Upper division standing.

Normal Grade Rules
3 units

BUS1 122A. Management Accounting and Control Systems
Examination of the nature, objectives and procedures of cost management as applied to product and service costing, decision-making and cost planning and control systems.

Prerequisite: BUS 20 with a minimum grade of "C" and upper division standing. Declared Major in Accounting, Accounting information systems or Corporate Accounting and finance.

Normal Grade Rules
3 units

BUS1 123A. Tax Factors of Business and Investment Decision
Introductory course in taxation with emphasis on certain themes that pervade the federal income tax system and its impact on business. Property transactions, deferral techniques, accounting periods, accounting methods and research techniques with emphasis on corporations.

Prerequisite: BUS 20 with a minimum grade of "C", Upper division standing and declared Accounting, Accounting Information Systems or Corporate Accounting Finance Major.

Normal Grade Rules
3 units

BUS1 123C. Taxation of Individuals and Pass Through Entities

Emphasis on the unique factors involved in taxation of individuals and pass-through entities (partnerships, S corporations, estates and trusts). Taxation of the transfer of wealth through gifts and inheritance.

Prerequisite: BUS 123A with a grade of "C" or better. Upper division standing. Business Minor or Accounting or Corporate Accounting Finance major

Normal Grade Rules
3 units

BUS1 124. Forensic Accounting

This course will examine the various frauds that are perpetrated on companies and discuss ways the accountant can uncover the frauds. The criminal justice system will be reviewed and the various litigation-support functions provided to attorneys by accountants will be discussed.

Prerequisite: BUS 20; COMM 100W or ENGL 100WB or LLD 100WB; BUS 121A and BUS 121B with a minimum grade of "C" in each. Accounting and Corporate Accounting Finance Majors only.

Normal Grade Rules
3 units

BUS1 125. Special Financial Reporting Topics

Analysis of specialized and emerging accounting topics (such as interim reporting, deferred taxes, post-employment benefits and new FAS pronouncements) with emphasis on research, application and analytical skills.

Prerequisite: COMM 100W or ENGL 100WB or LLD 100WB, BUS 121A and BUS 121B (with minimum grade of "C" in each). Accounting and Corporate Accounting Finance Majors or Business Minor only.

Normal Grade Rules
3 units

BUS1 125A. Advanced Writing for Accounting

Students learn to communicate accounting and other specialized financial information to a variety of audiences including employers, clients and the investing public in a manner that promotes clarity, accuracy and professionalism.

Prerequisite: BUS1 121A

Normal Grade Rules
3 units

BUS1 125B. Accounting Ethics

Students study accounting ethics, professional codes of conduct and the application of accounting ethics in various fields of accounting including auditing, managerial accounting and taxation.

Pre-requisite: BUS1 121A, BUS1 122A

Normal Grade Rules
3 units

BUS1 125C. Professional Development and Communications

Interview and verbal presentation skills, including computer applications, in professional, business and social situations are developed. Professional Skills and personal awareness are emphasized.

Prerequisites: BUS1 20

Normal Grade Rules
3 units

BUS1 125D. Internship in Accounting

Course integrates accounting education with work experience and exposes students to career opportunities and accounting in the business environment. It provides individualized educational experience through structured employment and on-the-job learning.

Prerequisite: BUS1 121A and BUS1 125A

Normal Grade Rules
3 units

BUS1 126. Advanced Accounting

Accounting for multi-unit operations: consolidated reporting issues, transfer pricing issues, globalization issues (foreign tax structures, organizational forms, and international accounting) translating foreign currency transactions and operations, hedging foreign currency exposures, goodwill, and business combinations. Extensive use of spreadsheets (Excel)

Prerequisite: COMM 100W or ENGL 100WB or LLD 100WB, BUS 121A and BUS 121B (with minimum grade of "C" in each). Accounting or Corporate Accounting Finance Majors or Business Minor only.

Normal Grade Rules
3 units

BUS1 127A. Honors Practicum in Corporate Financial Management

Corporate sponsored projects in accounting and finance. Students are assigned to a host company and are required to work with the host company and faculty advisor on a topic in financial management. A report will be presented. Students are admitted based on an average 3.0 GPA in four prerequisite courses.

Prerequisite: COMM 100W (or ENGL 100W or LLD 100W), BUS 121A, BUS 121B, BUS 122A, and BUS 170 with a minimum grade of "C" in each and instructor approval. Upper division standing.

Repeatable for credit
Normal Grade Rules
3 units

BUS1 127B. Advanced Honors Practicum

Course involves advanced corporate sponsored projects in accounting and finance. Students are assigned to supervisory personnel at the host company under the advisement of the instructor. Course is repeatable for credit for a total of 6 units.

Prerequisite: Declared major in Accounting, Finance, AIS or Corporate Financial Management and instructor consent.

Repeatable for credit
Normal Grade Rules
3 units

BUS1 128. Accounting for Nonprofit Organizations

Principles, objectives and methods of accounting for governmental and other nonprofit organizations.

Prerequisite: COMM 100W or ENGL 100WB or LLD 100WB and BUS 121A (with minimum grade of "C" in both).Accounting or Corporate Accounting Finance Majors or Business Minor only .

Normal Grade Rules
3 units

BUS1 129A. Financial Auditing

Emphasis on process by which an accountant forms an opinion on financial statement fairness of presentation. Examines public accounting profession, application of relevant professional standards, auditing procedures, and professional ethics.

Prerequisites: BUS1 120A, BUS1 121A with grade of C or better.

Normal Grade Rules
3 units

BUS1 129B. Operational Auditing

Study of professional and technical aspects of internal and operational auditing with emphasis on concepts, ethical conduct and significance in preparation/implementation of the audit and its findings. Effectiveness and efficiency of audits in industry and not-for-profits will be covered.

Prerequisite: COMM 100W or ENGL 100WB or LLD 100WB; BUS1 120A; BUS1 121A; BUS1 121B and BUS1 122A (with minimum grade of "C" in each).

Normal Grade Rules
3 units

BUS1 170. Fundamentals of Finance

The finance function and its relationship to other decision-making areas in the firm; the study of theory and techniques in acquisition and allocation of financial resources from an internal management perspective.

Prerequisite: BUS 21 or BUS 122A, ECON 1A, ECON 1B and BUS 90. Upper division standing.

Normal Grade Rules
3 units

BUS1 171A. Financial Institutions and Markets

Study of financial markets and institutions that operate in them. Examinations of money and capital markets, interest rates and financial institutions, both depository and non-depository. Emphasis on past, current and future industry and regulatory authorities.

Prerequisite: BUS 170 (with minimum grade of "C"). Upper division standing. Business Administration Finance or Corporate Accounting and Finance majors only.

Normal Grade Rules
3 units

BUS1 171B. Commercial Banking
Analytical tools for the evaluation of the performance and risk of commercial banks. The measurement and management of interest rate, liquidity, credit and solvency risks. Historical and current banking regulations. Commercial credit analysis and loan policies.

Prerequisites: BUS1 171A with a minimum grade of "C".

Normal Grade Rules
3 units

BUS1 172A. Investment Analysis
Procedures and tools necessary to evaluate investment variables, determine value and analyze risk/return characteristics of equity, fixed income securities, and alternative individual investments. Emphasizes responsible decisions and provides background for portfolio analysis.

Prerequisite: BUS 170 (with minimum grade of "C"). Upper division standing. Business Administration Finance or Corporate Accounting and Finance Majors only.

Normal Grade Rules
3 units

BUS1 172B. Portfolio Management
Basic procedures and analytical tools necessary to construct, analyze, evaluate and revise investment portfolios or groups of assets, including computerized portfolio models. Approach and content consistent with objectives of Chartered Financial Analyst (CFA) program.

Prerequisite: COMM 100W or ENGL 100WB or LLD 100WB and BUS 172A with a minimum grade of "C" in both. Upper division standing.

Normal Grade Rules
3 units

BUS1 172C. Futures and Options
The use of derivatives for risk management by individuals, banks and corporations. The functioning of the futures and options markets for equities, fixed income and commodities. Option valuation models; Black-Scholes and beyond. Risk arbitrage. Applications in personal investment strategies.

Prerequisite: BUS 170 and BUS 172A with a minimum grade of "C" in each.

Normal Grade Rules
3 units

BUS1 172D. Student Managed Investment Fund
Manage donated funds using Wall Street techniques. Design and evaluate fund investment strategy. Analyze firms for portfolio inclusion. Communicate buy-hold-sell recommendation.

Prerequisite: BUS1 170

Normal Grade Rules
3 units

BUS1 173A. Financial Management: Theory and Policy
From the financial manager's perspective, considerations and alternatives for maximizing a firm's value. Tools for understanding what determines value and what managerial actions can alter value, by combining theory with practical knowledge of marketplace limitations.

Prerequisite: BUS 170 (with minimum grade of "C"). Upper division standing. Business Administration Finance or Corporate Accounting and Finance Majors only.

Normal Grade Rules
3 units

BUS1 173B. Problems in Financial Management
Advance study of business case materials, including assessment of financial condition; projection of capital requirements; and analysis of decisions pertaining to working capital, capital expenditures, financing, capital structure, dividends, mergers and reorganization.

Prerequisite: COMM 100W or ENGL 100WB or LLD 100WB and BUS1 173A with a minimum grade of "C" in both. Upper division standing.

Normal Grade Rules
3 units

BUS1 173C. Entrepreneurial Finance
Basic principles of finance applied to new ventures and small businesses. Topics include incorporation, venture capital, business models, financial analysis, valuation, capital structure, cash flow forecasting, growth and exit strategies.

Prerequisite: BUS 170 with a minimum grade of 'C.' and Upper Division Standing

Normal Grade Rules
3 units

BUS1 175. Real Estate Finance
Real estate financing from the viewpoint of borrower and lender, financing mathematics, legal aspects of lending, appropriate financial instruments, taxes and real estate, loan cost analysis, loan valuation, development and assumability. Mortgage markets/institutions considered together with alternative financing techniques for various types of properties.

Prerequisite: BUS1 170 (with minimum grade of "C"). Upper division standing.

Normal Grade Rules
3 units

BUS1 177. International Business Finance
Focuses on the determination of exchange rates and the workings of international financial markets. Develops exchange rate parity relationships and techniques for hedging exchange rate risk. Strategies for managing working capital, long term debt, fixed asset selection and international financial reporting are also examined.

Prerequisite: BUS1 170 (with minimum grade of "C"). Upper division standing.

Normal Grade Rules
3 units

BUS1 179B. Selected Topics in Business Finance
Extensive investigation of selected topics with major emphasis on integration of finance theory and practice within a current business context.

Prerequisite: BUS1 173A (with minimum grade of "C"). Upper division standing.

Normal Grade Rules
3 units

BUS1 196B. Corporate Finance II
Introduction to selected topics of corporate finance: mergers and acquisitions, bankruptcy, initial public offerings, working capital management, payout policy, capital structure, multinational financial management. Application of finance theory to investment and financing decisions of a corporation.

Prerequisite: BUS1 173A

Normal Grade Rules
3 units

BUSINESS

UPPER DIVISION

BUS 180. Individual Studies in Business
Individual work on special topics by arrangement.

Notes: Business majors only. Petition and plan of study must have consent of instructor and Chairperson in the department of concentration.

Prerequisites: Upper division standing. Not available to Open University Students.

Credit / No Credit
1-6 units

GRADUATE

BUS 200. Business, Economics and Society
Emphasizes the relationship between the micro and macro economic environment and thoughtful managerial decision-making. Examines various theories and techniques that underlie the market economy. Costs and benefits of various governmental policies are investigated in a historical context.

Prerequisite: Graduate standing.

Normal Grade Rules
3 units

BUS 200W. Business Research and Communications
Using a case approach, students will learn about communication within the business world, with the intention that they will practice interpersonal, team, and presentation skills that are expected of effective managers.

Prerequisite: Graduate standing. Restricted to Business - MBA majors only

Note: This course satisfies graduate-level GWAR in this master's program.

Normal Grade Rules
GE: GWAR

3 units

BUS 201. Business Communications

This business communications course develops students' written and oral communication skills, emphasizing clear, concise and coherent articulation via a multitude of channels: e-mails, memos, cover letters, resumes, presentations, reports, etc. The course enables students to continue practicing effective communication in all aspects of their academic and professional careers.

Normal Grade Rules
1 unit

BUS 202. Managing in the Global Economy

This course investigates the world economy, including how markets, institutions and organizations vary from country to country, and how global competition, climate change, digital and emerging economics, and shifting from manufacturing to a service economy affect management practice.

Prerequisite: Graduate standing. Restricted to Business - MBA majors only

Normal Grade Rules
3 units

BUS 203. International Experience for American Executives

An intensive one-week program at one of the nine EMBA Consortium partner schools with opportunities to collaborate with classmates from around the globe. Develop your global business acumen while learning about the unique culture and business practices of the region you visit. The course consists of classroom work, company visits, and cultural experiences. Prerequisite: Instructor Consent

Normal Grade Rules
3 units

BUS 210. Developing and Managing People

Based on the philosophy that increased self-awareness and effective self-management leads to more effective management of others, uses experientially focused, integrating models, principles, and activities.

Prerequisite: Graduate standing. Restricted to Business - MBA majors only

Note: This course satisfies graduate-level GWAR in this master's program.

Normal Grade Rules
GE: GWAR
3 units

BUS 211. Orientation and Behavioral Workshop

The course provides graduate business students with frameworks, processes and methods to improve their opportunity for success in a rigorous, accelerated graduate business program format. Students are introduced to key concepts in business communication and etiquette, case study methodology, and business strategy. This overview includes the opportunity to apply key concepts in a team format and discuss their strategic, behavioral and career implications

Credit / No Credit
1 unit

BUS 220. Financial and Managerial Accounting

Introduces students to financial and managerial use of accounting information systems and concepts, including the sources, uses and limitations of accounting information as used by investors outside the firm and by managers within the firm.

Prerequisite: Graduate standing. Restricted to Business - MBA majors only

Normal Grade Rules
3 units

BUS 220A. Financial Statement Analysis for Accountants

Course develops the ability to understand, interpret, and analyze financial information, and examines the relationship between financial statement information and the capital markets. Students develop financial analysis skills, and expand business knowledge from an accounting perspective.

Prerequisite: MSA Classified Standing.

Normal Grade Rules
3 units

BUS 220B. Financial Reporting and Analysis I

Principles, control and theory of accounting for assets; correction of prior year's earnings; measurement and determination of income.

Prerequisite: MSA classified standing.

Normal Grade Rules
3 units

BUS 220C. Accounting Information Systems I

Will provide conceptual framework concerning contemporary accounting information systems including: database concepts, internal control, use of systems technology, applications, management, systems analysis/ design and auditing.

Prerequisite: MSA classified standing.

Normal Grade Rules
3 units

BUS 220D. Financial Analysis and Markets

Provides an overview of the required skills and the environment appropriate to the financial and economic decision-making function of the firm. The integrated approach of this course is designed to identify and analytically evaluate those internal and external variables which contribute to economic and financial decisions. Strategies of financial management in practical settings, application of concepts and analytical tools.

Prerequisite: MSA classified standing.

Normal Grade Rules
3 units

BUS 220E. Financial Reporting and Analysis II

Continuation of Financial Reporting and Analysis I. Principles, controls, and theory of accounting for liabilities and equities; preparation, utilization, and analysis of cash flow statements; financial ratios and statistical analysis of financial statements accounting data.

Prerequisite: MSA classified standing.

Normal Grade Rules
3 units

BUS 220F. Management Accounting and Control Systems

Provides the student techniques with an overview of the concepts and procedures of cost accounting relevant to managerial decision-making. Emphasizes planning and control, inventory valuation and income determination, and performance measurement.

Prerequisite: MSA classified standing.

Normal Grade Rules
3 units

BUS 220G. Tax Factors of Business and Investment Decisions: Theory and Practice

Introduces essentials of tax research methodology, focusing on taxation of corporations and shareholders. Includes taxation of property transactions, deferral techniques, accounting periods, and accounting methods.

Prerequisite: MSA classified standing.

Normal Grade Rules
3 units

BUS 220H. Auditing: Concepts/Practice

Discusses the public accounting profession and its socio-economic role; auditing techniques with an emphasis on EDP environment; audit procedures, practice and programs; working paper preparation; unqualified and qualified report writing.

Prerequisite: MSA classified standing. Graduate Standing only.

Normal Grade Rules
3 units

BUS 220I. Forensic Accounting

Course will examine the frauds perpetrated on companies and methods of discovery. The criminal justice system will be reviewed and litigation support services provided by accountants to attorneys, including damage computations and testifying techniques and skills will be covered.

Normal Grade Rules
3 units

BUS 220J. Business Communications & Ethics

Emphasizes communication effectiveness and skill building for influencing and guiding people. Includes fundamental skill building in researching, organizing and writing reports, making persuasive presentations that are sensitive to the needs and requirements of clients, peers and managers.

Prerequisite: MSA classified standing.

Note: This course satisfies graduate-level GWAR in this master's program.

Normal Grade Rules
GE: GWAR
3 units

BUS 220K. Accounting Practicum

The Accounting Practicum is an internship with an accounting firm or corporate finance group. This provides opportunities to apply program content to real-world environments, gain appreciation of work expectations and demands, and relate field experience to remaining program curriculum.

Prerequisite: MSA classified standing.

Credit / No Credit
3 units

BUS 220L. Legal and Ethical Environment of Accounting Practice

Emphasizes knowledge in the areas of the Law of Contracts and selected portions of the Uniform Commercial Code: Sales of Goods; Commercial Paper and other Negotiable Instruments; and Secured Transactions.

Prerequisite: MSA classified standing.

Normal Grade Rules
3 units

BUS 220M. Accounting Ethics

Examines professional ethical standards for accountants. Focuses on professional codes of conduct and workplace decisions for professionals in the fields of auditing, managerial accounting and taxation.

Prerequisite: BUS 220H, Graduate Standing only.

Normal Grade Rules
3 units

BUS 220N. Management of Organizations and Projects

Examines the integrative role of the general manager as a strategist responsible for leading and managing multi-functional projects and develop skills related to leadership, planning, decision-making, motivating, scheduling and shaping organizational team culture by making extensive use of team building exercises/cases.

Prerequisite: MSA Classified Standing.

Normal Grade Rules
3 units

BUS 220P. Taxation of Individuals and Flow-Through Entities

Taxation of individuals and pass-through entities (partnerships, LLCs, S corporations, estates and trusts) with emphasis on unique rules and factors in the Internal Revenue Code and Treasury Regulations.

Prerequisite: MSA classified standing.

Normal Grade Rules
3 units

BUS 220R. Software Applications for Accounting

Creation, internal controls, evaluation and audit of advanced electronic spreadsheets. Students learn to use complex queries to extract information from databases.

Prerequisites: BUS220C or equivalent

Normal Grade Rules
3 units

BUS 220S. Financial Reporting and Analysis III

Accounting for multi-unit operations: consolidated reporting issues, transfer pricing issues, globalization issues (foreign tax structures, organizational forms and international accounting), translation of foreign currency transactions and operations, hedging foreign currency exposures, goodwill and brief exposure to business combinations.

Prerequisite: MSA classified standing.

Normal Grade Rules
3 units

BUS 220T. Accounting Information/Tax

Builds project-oriented AIS skills in evaluation of performance/internal controls of accounting systems. Development of prototype accounting systems using computer tools. Deepens knowledge of property transactions, sales and use taxes, tax practice, tax penalties and tax procedures.

Prerequisite: MSA classified standing.

Normal Grade Rules
6 units

BUS 220U. IT Audit & Internal Controls

The course provides an understanding of the types of risk that arise in computer environments and consider the impact these risk and threats have on the audit by examining computer-assisted audit tools and techniques.

Prerequisite: MSA Classified Standing.

Normal Grade Rules
3 units

BUS 220V. Special Topics in Accounting

Current special topics in accounting including an understanding of the financial accounting policies and procedures followed by state, county, and municipal governments, universities, and other non-profits for accounting and budgeting of the receipt and expenditure of tax and related revenues.

Prerequisite: MSA Classified Standing.

Normal Grade Rules
3 units

BUS 220X. Business Analysis and Valuation Using Financial Statements

Development of Accounting based valuation framework that integrates a firm's strategy, accounting performance, and value; assessing a firm's value proposition and identifying key value drivers and risks; evaluating degree to which a firm's accounting policies capture the underlying business reality.

Prerequisite: MSA classified standing.

Normal Grade Rules
3 units

BUS 220Y. Professional Communications and Relationships III

Skill development in converting critique into meaningful and important information to improve professional performance; integration of professional skills; personal style with effective communication skills to prepare the student for transition to professional in the further development of their careers.

Prerequisite: MSA classified standing.

Normal Grade Rules
3 units

BUS 220Z. Data Analytics for Accounting

Basic principles and practices of data analytics as applied to accounting.

Prerequisite: Graduate standing in MS Accountancy program

Normal Grade Rules
3 units

BUS 222. Profit Planning and Control

Course covers how financial planning and control systems operate, and are used to deploy strategy, align interests, improve operations, and facilitate strategic change, maximizing firm value. Includes disciplined processes of decision-making, resource allocation, performance measurement to link strategy, management action, and shareholder accountability.

Prerequisite: BUS 220 and graduate standing.

Normal Grade Rules
3 units

BUS 223A. Tax Research and Decision Making

Develops basics for tax research and evaluates the interrelationships of statutes, regulations, rulings and court cases. Identifies tax services and other primary research materials with emphasis on their use in tax decision-making. Emphasizing critical thinking and communication skills.

Prerequisite: Graduate standing.

Note: This course satisfies graduate-level GWAR in this master's program.

Normal Grade Rules
GE: GWAR
3 units

BUS 223B. Taxation of Partnerships

Income tax treatment of partners and partnerships and LLCs, including the creation, operation, liquidation and sale or other amalgamation of organizations. Special allocation and non-recourse debt arrangements are also covered.

Prerequisite: BUS 223A and BUS 223G

Normal Grade Rules
3 units

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BUS 223D. Seminar in Tax Planning and Practice

Capstone course for the MS in Taxation degree. Will integrate financial planning throughout the program, including sale of the business and estate planning, and will include a final written comprehensive project.

Prerequisite: Graduate standing and completion of at least 3 tax core courses.

Notes: Completion of the course or BUS 223E satisfies the MST comprehensive project requirement.

Normal Grade Rules
3 units

BUS 223F. Tax Accounting Methods/Periods

Definition and importance of accounting methods and periods; timing rules for income, expenditures, inventory and R&D; change procedures; special methods; book-tax differences; introduction to provision for income taxes.

Pre/Corequisite: BUS 223A

Normal Grade Rules
3 units

BUS 223G. Taxation of Business Entities

Income tax treatment of different types of business entities and their owners. Focuses on operations, reporting, formation, restructuring and termination. Selected special state and international tax rules, tax planning, and underlying tax policies also covered.

Corequisites: BUS 223A

Normal Grade Rules
3 units

BUS 223H. Tax Policy Capstone

Capstone course that examines the principles and policies that underlie and shape tax systems and rules. Students gain a broader perspective of the tax law beyond its technical application, and learn how tax, economic, social and environmental policies interact.

Prerequisites: BUS 223A, BUS 223F, BUS 223G

Normal Grade Rules
3 units

BUS 224. Financial Statement Analysis

Course develops the ability to understand, interpret, and analyze financial information, and examines the relationship between financial statement information and the capital markets. Students develop financial analysis skills, and expand perspectives of business and professional roles.

Prerequisite: BUS 220 and graduate standing.

Normal Grade Rules
3 units

BUS 224C. Financial Accounting & Financial Aspect of Med Product Dev

Examine managerial accounting in medical product development with emphasis on financial aspects of the industry. Develops understanding of profit/loss statements; budget preparation and execution; financial implication of patent life, rationale for mergers and acquisitions; financial implications of outsourcing.

Prerequisite: Admission to MPDM program & completion of Bus 210 and SMPD 281A.

Normal Grade Rules
3 units

BUS 225A. Taxation of Estates and Trusts

Excise and transfer tax treatment of estates, gifts, trusts, creators, beneficiaries and fiduciaries. Distinguishes between revocable and irrevocable trusts, including proper trusts to achieve desired goals. Reviews taxation of asset sales and dissolution or liquidation of estates or trusts. Analyzes estate evaluation, family limited partnerships, grats, GST, and planning opportunities.

Pre/Corequisite: BUS 223A

Normal Grade Rules
3 units

BUS 225B. Taxation of Corporate Reorganizations

Income tax treatment of corporate reorganizations and amalgamations, including acquisitions, tax-free and taxable as well as corporate division. Tax treatment of net operating losses, earnings and profits, property basis and other corporate attributes.

Prerequisite: BUS 223A and BUS 223G

Normal Grade Rules
3 units

BUS 225C. International Tax - US Corporations with Foreign Activities

Taxation of outbound investment and activities of the US corporations. Topics include sourcing, foreign tax credit, subpart F, Sections 482 and 367, foreign currency, establishing foreign operations, state taxation of outbound operations, and issues affecting expanding US multinational technology firms.

Prerequisite: BUS 223G and BUS 225W

Normal Grade Rules
3 units

BUS 225D. International Tax - Individuals and Foreign Corporations

Taxation of individuals with foreign activities, and inbound investment and activities of foreign corporations. Topics include taxation of US expatriates and foreign nationals, foreign tax credit, tax treaties, foreign-owned US real estate, and issues of mobile employees.

Prerequisite: BUS 223G and BUS 225W

Normal Grade Rules
3 units

BUS 225F. State Taxation Fundamentals

Introduction to the legal foundation, nature and operation of key state and local taxes. Constitutional constraints regarding nexus, sourcing and apportionment are covered. Additional topics include research techniques, compliance and planning considerations, current issues and state tax reform.

Pre/Corequisite: BUS 223A

Normal Grade Rules
3 units

BUS 225G. Taxation of S Corporations

Topics include: Income tax treatment of S Corporations and their shareholders, built-in gains tax and excess net passive income tax; operating and distribution rules, shareholders basis, NOL pass-through rules; formation, reorganizations, QSUBS, and state income tax consequences.

Prerequisite: BUS 223A and 223G

Normal Grade Rules
3 units

BUS 225H. Taxation of Property Transactions

Key rules and planning considerations of property development, transfer, lease, abandonment, worthlessness, and destruction; depreciation and amortization; special types of intangibles and relevant tax rules; property indebtedness; sale of a business; tax-deferred transactions; sale of a principal residence; and basics of non-income taxes applicable to property and property transactions.

Pre/Corequisite: BUS 223A

Normal Grade Rules
3 units

BUS 225I. Tax Practices, Penalties and Procedures

Procedures applicable to filing returns, amended returns and claims for refund. Also covers key procedural matters governing examinations, appeals, and adjudication of disputes. Relevant penalty provisions and rules of conduct are also examined. While the focus is on federal rules, key procedural differences in California law are also covered.

Pre/Corequisite: BUS 223A

Normal Grade Rules
3 units

BUS 225J. Taxation of Executive Compensation

Tax aspects of executive compensation includes qualified and nonqualified stock options, deferred compensation, fringe benefits, 401(K), 403(B), pension and profit sharing plans, rabbi trusts, etc.

Pre/Corequisite: BUS 223A

Normal Grade Rules
3 units

BUS 225K. Advanced Individual Taxes
Course includes interest tracing, passive activity losses, net operating losses, divorce, AMT's impact on individuals and individual California income taxes.
Pre/Corequisite: BUS 223A, Graduate Standing only.
Normal Grade Rules
3 units

BUS 225L. Accounting for Income Taxes
Financial accounting rules regarding the calculation and presentation of a company's provision for income taxes.
Prerequisite: Graduate standing.
Normal Grade Rules
3 units

BUS 225M. State Tax Planning
Tax planning considerations are covered for multistate and single state businesses for key state taxes. Tax effects of location of property, payroll and sales are covered along with state tax incentives and dealing with incomplete guidance.
Prerequisite: BUS 223A and BUS 225F
Normal Grade Rules
3 units

BUS 225N. Financing Options - New or Growing Bus
Covers the fundamentals of various financing techniques for such businesses including equity, debt and "going public". Decision-making considerations, strategy, valuation and relevant security and tax laws are covered.
Pre/Corequisite: BUS 223A
Normal Grade Rules
3 units

BUS 225O. Taxation of Tax Exempt Organizations
Taxation of tax exempt organizations, including application of UBIT; investment in partnerships and S Corp., foundation, pension plans, VEBAS, form 990's.
Pre/Corequisite: BUS 223A
Normal Grade Rules
3 units

BUS 225P. Advanced International Tax - US Corporations
Advanced study of income tax treatment of international corporate transactions including international reorganizations and Section 367, Section 304 and corporate inversions. Planning for intangibles, subpart F planning, foreign entity structuring including use of check-the-box entities, foreign currency transactions, and foreign tax credit planning.
Prerequisite: BUS 223A and BUS 225C
Normal Grade Rules
3 units

BUS 225S. Consolidated Returns
Review and analysis of theory, rules and practice involving affiliated entities and filing of consolidated returns.
Prerequisite: BUS 223A and BUS 223G
Normal Grade Rules
3 units

BUS 225T. Intermediate Acctg for Income Taxes
Follow-up to BUS 225L, Accounting for Income Tax. Topics covered include IFRS-GAAP convergence, FAS 141R (Purchase accounting), International tax accounting (including APB 23, ARB 51, FAS 52), FAS 123R (advanced topics), State & Local considerations, FIN 48 and other relevant/current topics.
Prerequisite: BUS 225L
Normal Grade Rules
3 units

BUS 225U. Fundamentals of Transfer Pricing
Introduction to the fundamental principles of intercompany pricing, applications of transfer pricing methods to related party transactions under U.S. transfer pricing regulations and OECD Guidelines, and the economic analysis required for intercompany transactions of multinational corporations.
Prerequisites: BUS 223A and BUS 225W
Normal Grade Rules
3 units

BUS 225V. Tax Considerations for High Tech Companies
Explores the nature of high tech companies, special features, and why tax issues exist. In depth learning about tax incentives for innovation including the research credit, treatment of intangibles, stock options, multi-stage financing, multijurisdictional considerations, and book-tax differences.
Pre-Requisite: BUS 223A
Normal Grade Rules
3 units

BUS 225W. Introduction to International Taxation
Introduction to the structure, basic rules, and policies of the federal income tax system with respect to international transactions of US and foreign persons. Topics include residency, sourcing, tax treaties, foreign tax credit, transfer pricing, and compliance.
Prerequisite: BUS 223A
Corequisite: BUS 223G
Normal Grade Rules
3 units

BUS 225X. International Taxation - US and Foreign Individuals
Taxation of US and foreign individuals with investments and activities outside their home country. Topics include FTC, treaties, withholding taxes, US expatriates, foreign nationals, mobile employees, and compliance considerations, including US Bank Secrecy Act, FATCA and PFICs.
Prerequisite: BUS 223A and BUS 225W
Normal Grade Rules
3 units

BUS 225Y. Accounting Ethics
Covers professional responsibilities for accountants; meets CA licensure rules for a 3-unit accounting ethics course. Addresses CA statutory and regulatory ethics, AICPA rules of professional conduct, SSTS, and Circular 230, emphasizing compliance, history, process of change, and research.
Normal Grade Rules
3 units

BUS 225Z. Personal & Business Leadership Skills for Tax Professionals
Learn intrapersonal and interpersonal skills and knowledge a tax practitioner needs for personal and professional success. Includes listening, oral and written communication, ethical reasoning, relationship and team building, conflict minimization, leadership behaviors, EQ, mindfulness, and career planning.
Prerequisite: Graduate Standing
Normal Grade Rules
3 units

BUS 227A. Individual Tax Compliance
Basics of federal income tax compliance from information gathering to return filing. Includes practice preparing various individual forms and schedules, software tools, engagement letters, rules of conduct, disclosures, record keeping, key California adjustments, and completion of a moderately complex Form 1040.
Corequisites: BUS 223A.
Normal Grade Rules
1 unit

BUS 227B. Ethics for Tax Practitioners
Review of rules of conduct, tax penalties and professional ethical behavior relevant to tax compliance and planning. Key rules applicable to a CPA are covered in the context of their application in the day-to-day work of a tax practitioner.
Prerequisite: Graduate Standing only.
Corequisites: BUS 223A.
Normal Grade Rules
1 unit

BUS 227C. Tax Symposium
Tax symposium topics may vary from year to year to allow for focus on new developments or special tax topics. Check the MST schedule for the topic description.
Corequisites: BUS 223A.
Repeatable for credit
Normal Grade Rules
1 unit

BUS 227D. Employment Taxation and the Modern Workforce

An overview to the types of employment tax and related issues that can arise for companies and workers when employees telecommute or have multiple work locations. The basics of federal employment taxes are covered along with worker classification rules as well as selected state and international tax issues and rules relevant for today's workforce.

Pre/Corequisites: BUS 223A

Normal Grade Rules
1 unit

BUS 227E. Foundation for Understanding Taxation

Legal foundation of taxes, types of taxes, and underlying theories, definitions and concepts. How to analyze transactions and activities for tax consequences. Helps strengthen one's overall understanding of taxation and application of analytical skills to resolving tax issues.

Prerequisites: Undergraduate tax course

Normal Grade Rules
1 unit

BUS 227F. Personal and Business Leadership Skills for Tax Practitioners

Learn the intrapersonal and interpersonal skills and knowledge a tax practitioner needs for personal and professional success. Includes listening, oral and written communication, ethical reasoning, relationship and team building, establishment and assessment of accountability measures, time management, and career planning.

Pre-Requisite: Graduate Standing

Normal Grade Rules
2 units

BUS 230. Marketing Management

Fundamental concepts and skills required for understanding markets and managing marketing efforts. Includes market orientation, consumer and industrial buyer behavior, market segmentation, target market identification, product development, pricing, distribution channels, marketing communication, strategy development, and marketing planning and control.

Prerequisite: Graduate standing. Restricted to Business - MBA majors only

Normal Grade Rules
3 units

BUS 231. Consumer and Market Behavior

Influence of consumer behavior upon marketing management strategy; examination of behavioral concepts as they relate to purchase decisions; types of consumer research instructions and applications; focus on buyer behavior in action-oriented environments.

Prerequisite: Bus 230 and graduate standing.

Normal Grade Rules
3 units

BUS 231A. Market Forecasting

Course will help business people in understanding and identifying the appropriate forecasting methods in order to make a more accurate prediction of future demand.

Prerequisite: BUS 230, Business statistics and graduate standing.

Normal Grade Rules
3 units

BUS 231C. High Tech Marketing

Course will give students exposure to marketing in technology industries. Principal ideas from the technology adoption life cycle form the conceptual basis for the course. Differences between technology marketing and other kinds of marketing are explored and special skills identified.

Prerequisite: BUS 230, business statistics, and graduate standing.

Normal Grade Rules
3 units

BUS 232. Third World Marketing Manager

Marketing in Third World high risk areas: Russian, African, Islamic. Understanding methods of marketing, as well as how to deal with specific third world risks: mafia, bribery, "black" market, smuggling and corruption.

Prerequisite: BUS 230 and graduate standing.

Normal Grade Rules
3 units

BUS 233. Business to Business Marketing

Course deals with business-to-business marketing, that is, the marketing of goods, services, and ideas to business and non-retail institutions. Covers product, price, promotion and distribution with emphasis on strategy development and marketing decision-making.

Prerequisite: BUS 230 and graduate standing.

Normal Grade Rules
3 units

BUS 234A. Social Media Marketing

Approaches to social media marketing. Benefits and opportunities companies face as online social networking influences company marketing strategies. Use of emerging technology to promote brand awareness and strategies for social recovery.

Normal Grade Rules
3 units

BUS 234B. Promotional Strategy

Explores the media and techniques used by businesses to communicate with consumers, resellers, and the public. Topics will include budgeting; choosing media; testing communication effectiveness; executing and controlling advertising; personal selling, and consumer trade promotions.

Prerequisite: BUS 230 and graduate standing.

Normal Grade Rules
3 units

BUS 235A. Introduction to Business Analytics

This course will introduce fundamental business analytics tools including Probability Analysis, Decision Analysis, and Linear and Discrete Optimization.An emphasis will be placed on conceptual understanding and analytic insight.

Prerequisite: Graduate Standing only.

Normal Grade Rules
3 units

BUS 235B. Business Research

This course introduces participants to 21st Century business research methodology. The emphasis here is not on issues related to ongoing data sources but rather to unique, one-time problems that are best solved with custom research projects. Quantitative methods are emphasized but the advantages of the qualitative perspective are not overlooked. Other topics include questionnaire design, data collection, analysis, and presentation, highlighting appropriate new technology. The aim is to prepare managers to conduct research as well as to enable them to engage collaboratively with their research consultants.

Prerequisite: Graduate Standing only.

Normal Grade Rules
3 units

BUS 235C. Data Mining

Data mining is used to discover patterns and relationships in data. Emphasis is on large complex data sets such as those in transactional databases or gathered through web mining. Topics: data visualization, association rules, clustering, and various modern classification techniques.

Prerequisite: Graduate Standing only.

Normal Grade Rules
3 units

BUS 235D. Business Analytics Simulation

Transforming diverse data into knowledge-driven business decisions. Participants make tactical and strategic decisions based on consumer, competitor, aggregate market, financial, etc. Success is gauged by monitoring a dashboard that includes manufacturing productivity, return on investment, investment in the future, market share, product quality, financial performance, etc.

Prerequisite: Graduate Standing only.

Normal Grade Rules
3 units

BUS 236. Current Topics in Marketing

Emphasizes marketing and decision-making in social, government and business environments. Uses behavioral science and quantitative techniques to develop strategies for tactical and strategic marketing solutions to problems which impact on R&D, finance, logistics, manufacturing, distribution and others.

Prerequisite: BUS 230 and graduate standing.

Repeatable for credit
Normal Grade Rules
3 units

BUS 237. Sales Management

Learn to recognize and capitalize on emerging market opportunities. Develop ability to manage different personality types, enhance communication skills, and increase cultural sensitivity. Sales forecasting, training, motivational techniques, and ethics.

Normal Grade Rules
3 units

BUS 238. International Marketing

The development of international marketing strategy. Focus on the evaluation of the various environmental variables, selection of target markets, methods of entry, developing an appropriate marketing mix and planning/control of the international marketing effort.

Prerequisite: BUS 230 and graduate standing.

Normal Grade Rules
3 units

BUS 240. Electronic Commerce

Focuses on organizational uses of information technology, impacts of IT on organizational operations and strategies, and increasing importance of Internet in business activities. Covers fundamentals of IT, organizational applications of IT and Internet, and successfully developing and implementing IT-based applications.

Prerequisite: Graduate standing.

Normal Grade Rules
3 units

BUS 241. Structured Methods of Information Technology

An analysis of structured methodologies of programming, documentation, testing, and management. Examined in terms of various information technologies; emphasis on development of techniques to analyze, design and adapt system solutions to organizational information needs.

Prerequisite: Graduate standing.

Normal Grade Rules
3 units

BUS 242. Distributed Information Systems

An analysis of database management systems, data communications, and telecommunications in a distributed information network. Focus will concentrate on identifying the means through which an organization can use the information technologies of distributed systems to satisfy its data needs.

Prerequisite: Graduate standing.

Normal Grade Rules
3 units

BUS 243. Database Management

Introduction to database approach of planning, design and implementation of information systems applications in organizations from the viewpoint of the manager as a knowledgeable user. Includes data modeling, data integrity and practical project assignments.

Prerequisite: Graduate standing.

Normal Grade Rules
3 units

BUS 245. Service Innovation

The course introduces students to the service in a variety of trade, enterprise and service industry settings. Students will learn about the economics and management of service systems and their design, operations, information technology, performance measurement, marketing, supply chain and quality assurance.

Prerequisite: Graduate standing.

Normal Grade Rules
3 units

BUS 247. Big Data Management

Exploration of Big Data and how businesses are succeeding (or failing) in using it. Learn to extract value from Big Data by getting data ready for analysis (data wrangling), and by understanding and communicating the business value.

Normal Grade Rules
3 units

BUS 248. Cyber Risk Management

This course surveys cyber risk management concepts and best practices. Topics include cyber security threats, countermeasures, vulnerabilities, cost/benefit analysis, incident handling/response, business contingency planning, ethics, and legal imperatives within the organizational context.

Normal Grade Rules
3 units

BUS 250. Law and Ethics

Course focuses on both law and ethics in the business environment, how individuals and organizations approach law and ethics, as well as the ethical, legal and social consequences of disregarding law and ethics in favor of other objectives.

Prerequisite: Graduate standing. Restricted to Business - MBA majors only

Normal Grade Rules
3 units

BUS 251. Strategic Human Capital Performance Management

This course utilizes case and research discussions as well as quantitative costing and utility analyses to develop practical skills in the global deployment of human resources to achieve and sustain strategic competitive advantage.

Prerequisite: Graduate standing.

Normal Grade Rules
3 units

BUS 252. Managing Organizational Change

The focus will be upon applied organizational change by covering organizational behavior from a normative, policy-oriented perspective. The perspective will be one of viewing the person (student) as an actual or potential change agent; a consultant (internal or external), innovative personnel specialist, or middle or top level manager.

Prerequisite: Graduate standing.

Normal Grade Rules
3 units

BUS 253. Negotiation and Conflict Management

Introduces a theoretical framework and skill-building exercises/simulations for negotiating agreements in adversarial or competitive relationships. Explores conflict resolution methods applicable to commercial transactions, employee relations, union management negotiation and contract disputes, as well as international diplomacy.

Prerequisite: Graduate standing.

Normal Grade Rules
3 units

BUS 254. Advanced Personnel Management

Selected human resource management topics are studied, including: computer applications and quantitative methods, forecasting, job analysis, personnel recruitment and selection, training and development, EEO, compensation, performance appraisal, OSHA requirements, labor relations.

Prerequisite: BUS 251 (or equivalent); statistics and computer applications; graduate standing.

Repeatable for credit
Normal Grade Rules
3 units

BUS 255. Diversity in the Workforce

Analysis of communication, leadership, motivation, group dynamics, decision-making, problem solving, training, change, conflict resolution and other behavioral concerns as they apply to the management of the multicultural workforce.

Prerequisite: Graduate standing.

Normal Grade Rules
3 units

BUS 258. Leading Edge Managers

Experiential seminar to develop specific managing and leading capabilities. Focus on skills typically missing from MBA education: managing a multi- and cross-cultural workforce; developing effective teams and collaborative work; building a high-performing work system.

Prerequisite: Graduate standing.

Normal Grade Rules
3 units

BUS 259. Mg Legal Aspects of Tech & New Prod Dev

This course addresses emerging issues in intellectual property - patent, copyright, trademark, and trade secrets laws - with an emphasis toward managing and protecting innovation and new product development in areas such as computer technology, biotechnology, and cyber-space.

Prerequisite: Graduate standing.

Normal Grade Rules
3 units

BUS 260. Managerial Decision Analysis

Concerns the inherent complexities in the process of choice. Covers decomposition of the decision environment, the use of decision trees, value theory, analysis of criterion, the statistical measurement of risk and uncertainty, preposterior analysis, and problems of collective choice.

Prerequisite: Business statistics and graduate standing; restricted to Business - MBA majors only

Normal Grade Rules
3 units

BUS 261. Legal Challenges for the International Manager

Learn how legal systems affect international business. Topics include: securities law in international transactions; US trade law; export regulations; foreign legal problems; legal risk analysis; labor law systems; control of capital and currency; intellectual property rights; licensing; business with state-controlled agencies.

Prerequisite: Graduate standing.

Normal Grade Rules
3 units

BUS 262. Leadership

Explores classic and contemporary models of leaders and leadership and defines the difference between management and leadership. Practical applications of theory emphasizing the contingency perspective.

Prerequisite: Graduate standing.

Normal Grade Rules
3 units

BUS 262A. Global Leadership and Innovation

This course provides an in-depth introduction to global leadership and its development and to fostering innovation and global change. Through assessments and behavioral simulations, it prepares students to do global work effectively in a complex context with people from various cultures.

Prerequisite: Graduate standing.

Normal Grade Rules
3 units

BUS 262B. Global Leadership Development

Students learn about global leadership and, in particular, its development in the Global Leadership Laboratory. As GLLab Associates, they help facilitate high impact experiential exercises, learn to give feedback, and supervise and coach student teams in global leadership courses.

Prerequisite: Graduate Standing

Normal Grade Rules
3 units

BUS 263. High Performance Management

An intense analysis of management with main focus on understanding organizations as systems. Use of academic theories as tools with which you solve real-world tactical performance problems. Emphasizes critical thinking and problem solving.

Prerequisite: Graduate standing.

Normal Grade Rules
3 units

BUS 264. Introduction to Technology Planning and Management

Develops technology strategies through a qualitative (scenario and strategy map-based) and a quantitative (decision analysis and option theory-based) approach for technology portfolio planning and management. It provides practical, stimulating, and easy-to-use methods for realistic applications.

Prerequisite: Graduate standing.

Normal Grade Rules
3 units

BUS 264A. Professional/Business Ethics

Ethical principles relevant to decision-making in business situations. Using case studies, examines and analyzes moral issues to determine the most appropriate actions. Experiential and self-reflective as well as theoretical.

Prerequisite: Graduate standing.

Normal Grade Rules
3 units

BUS 265. Silicon Valley Experience

This course is designed to develop the "whole student" for success in the business world, including professionalism, ethics, case competitions, communications, networking, career success, and work/life balance. It includes lectures, speakers, panels, competitions, and other events providing students with an in-depth exposure to Silicon Valley.

Normal Grade Rules
2 units

BUS 267. Alternative Compensation Systems

A systematic exposure to theories and practices of various organizational reward systems. Drawing on managerial, behavioral, and economic frameworks to review various compensation topics and tackle some of the most controversial or innovative issues in compensation management.

Prerequisite: Graduate standing.

Normal Grade Rules
3 units

BUS 268. Managing Across Cultures

A comprehensive foundation for understanding, managing, and successfully interacting in the multi-faceted, culturally-embedded contexts of multinational firms. Understanding major issues facing multinational corporations in the management of international operations; insights into cultural, historical and institutional factors; skills for working effectively in international multicultural teams.

Prerequisite: Graduate standing.

Normal Grade Rules
3 units

BUS 268A. Global Business Management

A global view on business, investigating why and how companies succeed internationally. It provides students a conceptual tool by which to understand how economic, social and political factors influence both domestic and international operations.

Prerequisite: Graduate standing.

Normal Grade Rules
3 units

BUS 269. Strategic Management in the Computer Industry

The online course focuses on the industry-specific strategic challenges faced by companies that comprise the sector that is preeminent in the Information Age. Case studies favor PCs over big Iron and software over hardware.

Prerequisite: Graduate standing.

Normal Grade Rules
3 units

BUS 270. Financial Management

Introduces the structure, markets and regulatory factors within the financial system. Develops basic skills in preparing financial plans/budgets, valuing capital costs, financial assets and evaluating the firm's capital structure, cost of capital, working capital, dividend policies, financing and investment decisions.

Prerequisite: BUS 220 or BUS 231B and graduate standing; restricted to Business - MBA majors only

Normal Grade Rules
3 units

BUS 271. Capital Markets

Driven by technological change, deregulation and globalization, course provides students an overview of the U.S. and international financial environment through financial media, spreadsheets and the Internet. Students leave the class with knowledge of interest rates, flow of funds, derivatives, money and capital markets and financial intermediaries.

Prerequisite: BUS 270 and graduate standing.

Normal Grade Rules
3 units

BUS 272. Current Topics in Finance

Presented as a collection of topics of current interest and concern to managers, investors and creditors. A seminar approach emphasizes discussion, illustrations, examples and applications drawn from current financial practice to encourage exploration of all facets of select financial issues.

Prerequisite: BUS 270 and graduate standing.

Repeatable for credit
Normal Grade Rules
3 units

BUS 273. Business Valuation

Course uses accounting and market data to determine the value of public and private businesses. The course considers methods and models whereby business values are created and destroyed. Techniques, from basic rules of thumb to holistic computer models are considered.

Prerequisites: BUS 220 and BUS 270.

Normal Grade Rules
3 units

BUS 274. Financial Analysis of Technology-Based Firms

Students will learn to develop financial strategies in practical settings. This includes the ability to construct and interpret pro forma financial statements, planning and control models, working capital analysis, capital structure studies, capital budgeting and cost of capital models, and valuation analysis.

Prerequisite: BUS 270 and graduate standing.

Normal Grade Rules
3 units

BUS 275. Corporate Finance: Cases in High Tech Firms

Course is a continuation of corporate finance where finance concepts directly related to high technology firms are examined. The concepts are enhanced by using five Harvard cases. Other data and handouts are provided to supplement these cases and the textbook.

Prerequisite: BUS 270 and graduate standing.

Repeatable for credit
Normal Grade Rules
3 units

BUS 276. New Venture Finance

New ventures face different business and financing environments than large, publicly-traded firms. The risk of R&D failure is more severe for new ventures. Examines how business and financing decisions are intertwined. Topics: Venture capital, joint ventures and intrapreneurship.

Prerequisite: BUS 270 and graduate standing.

Normal Grade Rules
3 units

BUS 277. Investment Analysis and Management

Principles of financial and portfolio analysis applied to investments in common stocks and bonds. Descriptive characteristics of financial markets reviewed, with main emphasis on application of financial theory and statistics to understanding movements in security prices and portfolio values. A financial management viewpoint will be taken in conducting fundamental valuation analysis and formulating portfolio policy.

Prerequisite: BUS 270 and graduate standing.

Normal Grade Rules
3 units

BUS 278. International Corporate Finance

The finance manager's responsibilities, risks, problems and need for strategic planning. Unique aspects of financial analysis for international business discussed and applied to real and/or similar decision situations.

Prerequisite: BUS 270 and graduate standing.

Normal Grade Rules
3 units

BUS 280. Operations and Supply Chain Management

Analysis of effective and efficient flow of materials, products, services, and information within and across organizations. Includes: process flow analysis, capacity planning, quality, lean supply chain, layout, aggregate planning, supply chain networks, inventory management, sourcing, ERP, and logistics planning.

Prerequisite: Graduate standing. Restricted to Business - MBA majors only

Normal Grade Rules
3 units

BUS 281. Management of High Technology Organizations

Investigates ingredients for sustained profitable innovation. Emphasizes management of technological innovation, including: innovation strategies, organization, project selection, project management, managing and integrating functional areas. Analyzes developmental processes which enable small firms to grow and prevent large organizations from stifling innovation.

Prerequisite: Graduate standing.

Normal Grade Rules
3 units

BUS 282. Silicon Valley: The Business of Technology

The Silicon Valley Business of Technology course prepares students for fast-paced and pressure-packed conditions to accelerate development of Critical Thinking Skills; providing a unique insight into the Silicon Valley culture. Students will apply technology to various industries by understanding its origins, categories, and functionality.

Prerequisite: Graduate Standing

Normal Grade Rules
3 units

BUS 282A. Essentials of Management and Organizational Behavior

Familiarizes students with the challenges that arise for managers in organizational settings; surveys theories and practices relating to managerial roles, organizational cultures, strategy, planning, team building, communication, motivation, leadership, decision-making, control, structure, and change.

Prerequisite: Enrollment in the MBT program.

Normal Grade Rules
3 units

BUS 282B. Essentials of Operations Management

Familiarizes students with the role and importance of operations management and how it interacts with other parts of the organization; develops skills in applying analytical tools and techniques to operations management challenges.

Prerequisite: Enrollment in the MBT program.

Normal Grade Rules
3 units

BUS 283. Entrepreneurship

Examines the growth and nature of entrepreneurship and the support infrastructure of tasks, people, finances and technology. Emphasizes entrepreneur characteristics sought by venture capitalists and investors, role of the business plan and evolutionary stages of start-up activity.

Prerequisite: Graduate standing.

Normal Grade Rules
3 units

BUS 284. Managing Product Development

Views product development as a cross-functional business process. Examines concepts used and management challenges faced in structuring product development activity and in strategically managing a portfolio of product development projects.

Prerequisite: Graduate Standing.

Normal Grade Rules
3 units

BUS 284C. Managing Medical Product Development

Views medical product development as a cross-functional business process. Examines concepts used and management challenges faced in structuring medical product development activity and in strategically managing a portfolio of medical product development projects. Examines industry practices and cases relevant to medical product development.

Prerequisite: Admission to MPDM program and completion of BUS 224C, BUS 286 and SMPD 289A.

Normal Grade Rules
3 units

BUS 285. Total Quality Management

Documents forces which propel quality (competition, Deming, Baldridge, etc.) and impact on planning, benchmarking and competitive analysis. Includes design for manufacturability, design of experiments, Taguchi methods, systems analysis, continuous process development and statistical process control.

Prerequisite: Graduate standing.

Normal Grade Rules
3 units

BUS 286. Project Management

Covers both strategic and operational points of view for managing projects. Quantitative methods include project planning, budgeting, selection, scheduling, evaluation and control. Qualitative methods include project organization, staffing and team building.

Prerequisite: Graduate standing.

Normal Grade Rules
3 units

BUS 287. Advanced Topics in Global Supply Chain Management

In depth analysis of current issues in global SCM with emphasis on industry best practices from around the globe. Topics may include continuous replenishment, value of information, outsourcing, collaboration, strategic alliances, e-SCM, supply chain risk, performance metrics, SCM simulations.

Prerequisite: Bus 280. Graduate standing.

Normal Grade Rules
3 units

BUS 288. Manufacturing Planning, Cost and Control

Methods for analyzing cost/volume/profit relationships, job costing, process costing and activity-based accounting. Creating budgets, standards and performance measurements applied to cost of quality and internal control systems. Develops financial tools for non-financial managers.

Prerequisite: Graduate standing.

Normal Grade Rules
3 units

BUS 289. Managing Information and High Technology

Applies convergence among information, technology and strategy to organization and design of information and business systems for competitive advantage. Practical uses of electronic data interchange, expert systems and design and control of database systems to manage high-tech production.

Prerequisite: Graduate standing.

Normal Grade Rules
3 units

BUS 290. Strategic Thinking

Integrative focus on managing the total enterprise, including corporate and business-level strategy formation. Applies market and industry analysis, using qualitative and quantitative techniques, to position companies in their competitive environment. Students create a strategic plan for on-going or new organization.

Prerequisites for Early Career MBA students: Completion of BUS 201, BUS 202, BUS 210, BUS 220, BUS 230, BUS 250, BUS 260, BUS 270, BUS 280 and graduate standing; restricted to Business - MBA majors only.

Prerequisites for MBA for Professional students: BUS 200W, BUS 202, BUS 210, BUS 220, BUS 230, BUS 250, BUS 260, BUS 270, BUS 280 and graduate standing; restricted to Business - MBA majors only.

Note: Must receive a minimum grade of "B" on project.

Normal Grade Rules
3 units

BUS 294. Management Simulation Competition

Developing analytical and general management decision-making skills as member of a team competing in the regional business schools' management simulation game. Extensive use of computers for simulation and analytical/planning tools.

Prerequisite: Graduate standing or instructor consent.

Normal Grade Rules
3 units

BUS 295. Management Consulting Field Experience

Apply management theory and learn consulting skills by carrying out an intensive project. Identify and analyze actual business problems, develop and evaluate alternative solutions and present plan to management.

Prerequisite: Graduate standing and instructor consent.

Normal Grade Rules
1-3 units

BUS 297A. Special Topics in Business Administration

Special topics to augment regularly-scheduled electives.

Prerequisite: Graduate standing and prerequisite courses as specified.

Repeatable for credit
Normal Grade Rules
1-4 units

BUS 297D. Special Topics in Business Administration

Special topics to augment regularly-scheduled electives.

Prerequisite: Graduate standing and prerequisite courses as specified.

Repeatable for credit
Normal Grade Rules
3 units

BUS 298. Master's Project

Supervised completion of the Plan B (Project) culminating experience.

Prerequisite: Advancement to Candidacy and instructor consent. Not available to Open University Students.

Repeatable for credit
Mandatory CR/NC/RP
3 units

BUS 298C. Applied Business Experience Internship

The course provides students with an opportunity to translate their academic training into real world practice and gain overall knowledge of key functional areas of business. The internship must offer students a valuable learning experience and must significantly increase their knowledge of business organizations. Students are responsible for identifying a specific internship opportunity and obtaining an official offer from an employer. Upon approval from the MBA Director, the students will be able to enroll in the 3-unit course which will count as one of the MBA electives. The course requires the preparation of an internship journal & report. The internship qualifies as Curricular Practical Training (CPT) for international students.

Prerequisites: Advancement to Candidacy

Normal Grade Rules
3 units

BUS 298I. Applied Business Experience Internship

For the student with a specific internship providing a quality experience that reinforces the curriculum and involves meaningful work. The student must submit a one-page formal proposal to the graduate program director. A final report is required. The internship must qualify as Curricular Practical Training (CPT) for international students.

Prerequisite: Approved advancement to candidacy.

Repeatable for credit
Mandatory CR/NC/RP
1 unit

BUS 299. Master's Thesis

Master's Thesis Plan A.

Prerequisite: Approval of the instructor and admission to candidacy. Not available to Open University Students

Mandatory CR/NC/RP
1-4 units

SJSU SAN JOSÉ STATE UNIVERSITY

Academic Year 2019-2020

Course Descriptions

v1
July 1, 2019

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DESCRIPTION CONTENTS

GLOBAL INNOVATION AND LEADERSHIP

LOWER DIVISION

BUS5 016. Introduction to Leadership & Innovation

This interdisciplinary course covers basic theories of leadership and innovation and investigates key topics that influence contemporary social leadership issues. Students assess their leadership styles to create personal development plans leading toward positive, innovative impacts on society.

Normal Grade Rules
3 units

BUS5 040. Developing Your Entrepreneurial Potential

This course introduces foundational concepts in innovation and entrepreneurship. It provides insights into the characteristics and motivations of entrepreneurs, and the factors that foster an entrepreneurial mind-set and enable individuals to translate positive attitudes toward entrepreneurship into actual behavior.

Normal Grade Rules
3 units

UPPER DIVISION

BUS5 140. Fundamentals of Operations Management

Familiarizes students with processes that transform inputs into finished goods and services; helps students understand the importance of operations management and how it interacts with other parts of the organization; develops skills in applying appropriate analytical tools to business operations challenges.

Prerequisites: Upper division standing.

Normal Grade Rules
3 units

BUS5 141. Procurement and Supply Management

Comprehensive survey of forecasting, inventory management (including just-in-time), purchasing, supplier relations, warehousing (tiered, centralized, decentralized) and distribution methods. Make-or-buy analysis and specification/standardization techniques.

Prerequisite: Upper Division Standing or instructor consent.

Normal Grade Rules
3 units

BUS5 141B. Transportation & Logistics Management

Coverage of the fundamentals of transportation management combined with a focus on its role in global supply management. The challenge of managing the various modes of transportation is combined with strategies for their use in the supply chain environment.

Prerequisite: Upper division standing or instructor consent

Normal Grade Rules
3 units

BUS5 142. Total Quality Management

Holistic approach to managing quality: interaction of production design, work design and the manufacturing process. International view and roles qualitative and quantitative techniques play in successful quality management programs.

Prerequisite: Upper Division Standing or instructor consent.

Normal Grade Rules
3 units

BUS5 142B. Business Process Management

Includes concepts and methods to optimize business processes relevant for creating value for the customers and adding value to an organization. Provides capability of designing and managing business processes and the interfaces between Operations Management and other business functions.

Prerequisite: Upper Division Standing or instructor consent

Normal Grade Rules
3 units

BUS5 144. Supply Chain Management

Addresses concepts/tools for effective and efficient management of supply chains. Topics include materials planning/control, sourcing strategy, strategic alliances, information technology role, quality/customer issues, inventory management, and distribution/logistics management.

Prerequisite: Upper division standing or instructor consent

Normal Grade Rules
3 units

BUS5 144B. Global Operations Analytics

Builds analytic thinking for improving global operations management (GOM). Introduces analytical methods, tools, and software to analyze GOM problems and then derive managerial implications and decisions in global business operations perspectives.

Prequisite: Upper Division Standing or Instructor Consent

Normal Grade Rules
3 units

BUS5 145. Global Operations Strategy

Studies operations management issues unique to manufacturers with extensive international operations. Educational objectives are to develop an understanding of: the strategic tradeoffs associated with global operations, total supply chain management and the economics of transnational logistics.

Prerequisite: Upper Division Standing or instructor consent.

Normal Grade Rules
3 units

BUS5 145B. Healthcare Operations Management

Operations Management (OM) approaches across a broad range of healthcare settings: clinical, management, and support processes in the medical and public healthcare systems. Apply OM tools including flowcharting, process analysis, queuing, forecasting, six-sigma, health worker scheduling.

Prerequisite: Upper Division Standing or instructor consent

Normal Grade Rules
3 units

BUS5 146. Fundamentals of Project Management

Fundamentals of managing projects, basic concepts and techniques underlying project management, and application using the appropriate software.

Prerequisite: Upper division standing or instructor consent

Normal Grade Rules
3 units

BUS5 147. Service Operations Management

Develops skills in setting formal standards for product attributes and operating procedures that comprise service experience. Categories of services; indirect and direct consumption. Psychological/social characteristics of the consumer/server encounters, enhancing ability to monitor service quality. Total quality management.

Prerequisite: Upper Division Standing or instructor consent. Business Minor.

Normal Grade Rules
3 units

BUS5 148. Sustainable Operations Management

Introduces a holistic view of the interaction between operations activities and the environment. Builds awareness of major environmental problems and issues in the operations function of business, and learns environmental assessment and management tools for operations management.

Prerequisite: Upper division standing or instructor consent

Normal Grade Rules
3 units

BUS5 162. International and Comparative Management

Management functions and practices in an international context; comparison of management and business practices from various political and cultural perspectives; emphasis on what managers need to be aware of in order to perform in the international environment.

Prerequisite: Any 100w, BUS 187 or instructor consent. Upper division standing.

Normal Grade Rules
3 units

BUS5 162A. International Business Strategy

Course focuses on the strategic challenges and the strategic management of firms that operate and compete in a global environment. Course provides an overarching experience in international business by integrating knowledge and previous international business learning.

Prerequisite:COMM 100W or ENGL 100WB or LLD 100WB, BUS 187, or instructor consent.

Normal Grade Rules
3 units

BUS5 163. Management Issues in High Technology Companies

Provides an overview of a wide variety of key managerial concerns, industry knowledge and management techniques that are especially relevant in high technology companies. Such organizations compete within an environment characterized by rapid technological change and a high degree of uncertainty.

Prerequisite: Upper division standing.

Normal Grade Rules
3 units

BUS5 163A. Negotiating Globally

Introduces a theoretical framework and skill-building exercises for negotiating agreements, resolving disputes, and making decisions across cultures. Builds awareness of the global negotiating environment including cultural and institutional factors. Applicable to commercial transactions, employee relations, contract disputes, and international diplomacy.

Prerequisite: Upper division standing or instructor consent

Normal Grade Rules
3 units

BUS5 163B. Globalization and Innovation in Emerging and Developing Markets

This course investigates the world economy, specifically emerging and developing markets and provides an in-depth understanding of how institutions shape the strategies that firms employ and the actions that managers take in these countries.

Prerequisite: COMM 100W or ENGL 100WB or LLD 100WB, BUS 187, or instructor consent.

Normal Grade Rules
3 units

BUS5 164. Strategies in High Technology Companies

Examines strategies for companies within high technology industries, focusing on how to anticipate, identify and exploit such technological change for competitive advantage. Technological change creates opportunities for new industries and products, but at the same time renders obsolete existing company capabilities.

Prerequisite: BUS 161A. Upper division standing.

Repeatable for credit
Normal Grade Rules
3 units

BUS5 164A. Country Perspectives on Business and Management

Provides a comprehensive study of the business and management practices of a featured country or region. Includes historical, institutional, sociopolitical, and cultural context. Japan is the featured country this semester. May be repeated for credit with a different featured country or region.

Prerequisite: Upper Division Standing or Instructor Consent

Repeatable for credit
Normal Grade Rules
3 units

BUS5 164B. Doing Business Globally

Course is designed with a faculty-led program abroad. Students gain first-hand knowledge of the historical, institutional, and cultural factors influencing business and management practices in the destination country. May be repeated for credit with a different country destination.

Prerequisite: Upper Division Standing or Instructor Consent

Normal Grade Rules
1-4 units

BUS5 165A. Global Leadership

This course introduces students to global leadership and its development and is designed for students who want to work effectively with people in diverse settings. Taught experientially, the course involves simulations, innovation projects, and extensive individual feedback.

Prerequisite: Any 100W.

Normal Grade Rules
3 units

BUS5 165B. Leadership & Innovation Practicum

This is a project-based practicum course for students interested in global leadership and innovation. Course topics include project management of multicultural teams, innovation, and change management. Students apply theory and skills gained in previous courses as they implement personal leadership projects.

Prerequisites: Any 100W; BUS3 016; BUS3 165A; or instructor consent.

Normal Grade Rules
3 units

BUS5 167. Managing Environmental Issues

The management of environmental issues, including the relationship of business to the natural environment; the public policy context of management decision-making; and the greening of the corporation and implications for strategic management, operations, human resources, marketing and accounting.

Normal Grade Rules
3 units

BUS5 169B. Honors Practicum in Organization and Management

Second part of a two-semester honors program sequence. Student teams will work on a project sponsored by a company or other organization, under the supervision of the sponsor and the instructor. Teams will present their final report to the sponsor.

Prerequisite: BUS 160 or BUS 161A and permission of the instructor.

Normal Grade Rules
3 units

BUS5 180D. Individual Study

Individual work on special topics by arrangement. Petition and plan of study must have consent of instructor and Chairperson.

Repeatable for credit
Credit / No Credit
1-3 units

BUS5 181. Introduction to Entrepreneurship

Insight into the characteristics of entrepreneurs, the approaches they use to create, identify and evaluate opportunities for new ventures and the skills that are needed to start and manage new ventures and develop a preliminary business plan.

Prerequisite: Upper division standing

Repeatable for credit
Normal Grade Rules
3 units

BUS5 182. Business Plans for New Ventures

An integrative course involving teamwork to prepare complete plans for starting a new business. This will require analyzing the industry and potential market, the competitive advantage of the business proposition, human and financial resource requirements and the founders' skills.

Prerequisite: BUS 181 or instructor consent. Upper division standing.

Repeatable for credit
Normal Grade Rules
3 units

BUS5 183. Global Entrepreneurship
Will explore the opportunities that entrepreneurs create, encounter and change in the global and cross-cultural arena. It will examine how entrepreneurs adapt to and succeed in a global economy and how institutional networks facilitate global and immigrant entrepreneurship.

Prerequisite: Upper Division or instructor consent

Repeatable for credit
Normal Grade Rules
3 units

BUS5 184A. Management of Innovation
Discusses types of innovation and their impact. Analyzes industry practices in management of innovation for corporate growth and renewal through new products, processes, organization, and business models. Examines strategic and tactical aspects of the innovation process and alignment of innovation efforts with strategy.

Prerequisite: Upper division standing or instructor consent

Normal Grade Rules
3 units

BUS5 185. Family Business Dynamics
This course explores and analyzes the unique issues and challenges of family businesses in terms of the dynamic relationship between the family and business and its impact on decision-making and performance of the business.

Prerequisite: BUS3 181 or instructor consent.

Normal Grade Rules
3 units

BUS5 186H. Entrepreneurship Laboratory
Explores all facets of growing an entrepreneurial organization, including building the team, sales, marketing, operations, and finance. Opportunity to learn with practical internship and roundtables with entrepreneurs, venture capitalists and others in the new venture ecosystem.

Prerequisite: Instructor's consent.

Normal Grade Rules
3 units

BUS5 186S. Current Issues in Entrepreneurship
A presentation of topics of current interest to entrepreneurs and intrapreneurs. Focuses on one or more special topics of concern to current practice, such as green entrepreneurship, social entrepreneurship, or managing high-growth ventures.

Prerequisites: BUS3 181 or instructor consent.

Normal Grade Rules
3 units

BUS5 186V. Venture Lab
VLAB is an experiential course in which students work on the process of developing and testing the idea(s) for a new venture. The course combines theory with hands-on entrepreneurship. Students will test each aspect of the business model outside the class, and share the insights with their peers in class. By the end of the course, they will have completed a prototype and be able to demonstrate the business opportunity.

Prerequisite: Upper Division Standing or Instructor Consent

Normal Grade Rules
3 units

BUS5 187. Global Dimensions of Business
An integrative interdisciplinary foundation for more specialized courses and self-directed learning. Provides an overview of economic, social, cultural and political/legal forces and factors influencing crossborder business and an introduction to international dimensions of business functions and operations.

Prerequisites: Upper division standing.

Normal Grade Rules
3 units

BUS5 194. Business Organization and Management of Technology Enterprise
See ENGR 194.

Normal Grade Rules
3 units

BUS5 196. Doing Business Globally
A hands-on, project-oriented course beginning with seminars led by instructor with experience in Latin American business providing insights into conducting business in the region. Each weekly, hour-long seminar will involve discussions of international business topics and issues specifically related to countries in the Latin American region. Students work through solutions with the instructor's guidance. To provide students with an opportunity apply a real-world context to what they have learned, at least one week of the course will be set in a Latin American country in which students will visit local businesses and other organizations, along with cultural sites.

Prerequisite: BUS3 80

Repeatable for credit
Normal Grade Rules
1-4 units

BUS5 196E. Startup Founders and Funders
Covers the early decisions that have important long-term consequences for founders and funders. It also examines the motivations, mechanics and resources available for those interested in investing in early stage ventures as an angel investor or venture capitalist.

Prerequisite: BUS5 181 or Instructor Permission

Normal Grade Rules
3 units

BUS5 196F. Critical Thinking in Business
Development of critical thinking skills in business through analyis of current news stories, business case studies, and videos to assess credibility of sources, biases, assumptions, and inferences, and generate alternative hypotheses based on logic and facts. Analysis of a current social issue including its sources, associated biases, related assumptions, current attempts at the solving the issue, and generatation of solutions based on logic and facts.

Prerequisite: COMM 100W, ENGL 100W or LLD 100W

Normal Grade Rules
3 units

BUS5 197. Special Topics in International Business
This course features special topics in International Business. The course can be taken for credit on campus or in a study abroad or short-term faculty-led program. It may be repeated for credit in the case of different special topics.

Prerequisite: Upper Division Standing or Instructor Consent

Normal Grade Rules
3 units

BUS5 198. Strategic Consulting for Small Business
An integrative course requiring student work in a consulting arrangement with a local small business. Field study involves working within an integrated strategic framework to guide original data collection/analysis/ recommendations encompassing external and internal considerations.

Prerequisite:Upper division standing.

Normal Grade Rules
3 units

MARKETING AND BUSINESS ANALYTICS

LOWER DIVISION

BUS2 090. Business Statistics
In terms of theory and application: collection and presentation of data; measures of central values and spread; probability as a measure of uncertainty; sampling and sampling distribution of the sample mean; confidence intervals; hypothesis testing; regression and correlation.

Prerequisite: MATH 071

Normal Grade Rules
3 units

SJSU SAN JOSÉ STATE UNIVERSITY

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UPPER DIVISION

BUS2 130. Introduction to Marketing

Analysis of marketing opportunities; planning of marketing programs with emphasis on product, price, promotion and distribution; control of the marketing effort; social and ethical responsibilities of marketing.

Prerequisite: Upper division standing

Recommended: COMM 100W or ENGL 100WB or LLD 100WB.

Normal Grade Rules
3 units

BUS2 131A. Business to Business Marketing

Marketing of goods, services and ideas to businesses. Examines distribution, pricing, promotion, marketing research and planning. Emphasizes strategy development and the decision-making processes of customers.

Prerequisite: BUS2 130. Upper division standing.

Normal Grade Rules
3 units

BUS2 131B. Retail Marketing Management

Special issues faced and approaches taken in retailing. Topics include store location, merchandise selection and display, financial management, promotion, store layout and image.

Prerequisite: BUS2 130. Upper division standing.

Notes: Offered only occasionally.

Normal Grade Rules
3 units

BUS2 131D. Marketing in New Ventures

Examines and explores the roles of marketing in the new venture. Focuses on learning conceptual framework for understanding customers, designing appropriate marketing activities, making marketing decisions and addressing marketing problems in building a new venture. Students analyze cases and undertake projects.

Prerequisite: BUS2 130.

Normal Grade Rules
3 units

BUS2 132B. Business Logistics

Logistics in the process of planning, implementing and controlling the efficient, effective flow and storage of goods, services and related information from the point of origin to the point of consumption for the purpose of conforming to customer requirements.

Prerequisite: BUS2 130 and BUS 190. Upper division standing.

Normal Grade Rules
3 units

BUS2 133A. International Marketing

Impact of the international business environment on the development of marketing strategy and marketing mix, with emphasis on development of a global perspective and cultural sensitivity. Also covers international trade, importing and exporting.

Prerequisite: BUS2 130. Upper division standing.

Normal Grade Rules
3 units

BUS2 133B. Relationship Marketing: Pacific Rim

Why not use PacRim marketing methods in PacRim markets? Americans tend to be short-term, sales-oriented. Asians tend to be relationship oriented. Why not master both marketing methods? Focus: Launching a "start-up". Topics: PacRim forms of product-launch, sales presentation, negotiation, promotion, PacRim risks.

Prerequisite: BUS2 130.

Normal Grade Rules
3 units

BUS2 133C. International Marketing: Developing Nations

Why not use Third World marketing methods in Third World markets? Russian, African and Islamic regions pose special risks for U.S. marketers. Focus: Third World ways to cope. Topics: Bribery, corruption, terrorism, smuggling, as well as Anti-Americanism, Market-Communism, Fundamentalist Islam.

Prerequisite: BUS 130. Upper division standing.

Normal Grade Rules
3 units

BUS2 133E. Marketing to Eastern/Western Europe

To market in Europe, one must learn how Europeans market. Developed and evolved over centuries, European business methods are complex, subtle, and largely unknown to America. This course provides insights into these methods.

Prerequisite: BUS2 130

Normal Grade Rules
3 units

BUS2 134A. Consumer Behavior

An examination of psychological, sociological, and other factors that affect customer behavior. These factors are examined in an effort to help businesses and other organizations to accurately assess and effectively satisfy customer needs.

Prerequisite: BUS 130, and Any 100w. Upper division standing

Normal Grade Rules
3 units

BUS2 134B. Integrated Marketing Communications

Focus is on design and delivery of marketing messages to targeted audiences. Analysis and planning seeks integration of messages delivered through advertising, sales promotion, personal selling, public relations, and other communication methods.

Prerequisite: BUS2 130 and Any 100w. Upper division standing.

Normal Grade Rules
3 units

BUS2 134C. Social Media Marketing

This course seeks to provide students with insights into the latest technologies and medial platforms available to marketers and used in marketing practice. Students will learn about major theories, best practices, new technologies and new media platforms and apply them to real-life examples.

Prerequisite: BUS2 130

Normal Grade Rules
3 units

BUS2 135. Sales Management

Teaches skills in personal selling with guidelines for designing and managing the sales function. Topics include advanced sales techniques, high impact questioning methodologies, closing techniques and managing objections, account and territory planning and management, resource planning and management, and sales compensation programs.

Prerequisite: BUS2 130. Upper division standing.

Normal Grade Rules
3 units

BUS2 136. Product Development

Integrative analysis of product development related to life-cycle management. Emphasis is on new product/service planning.

BUS2 130. Upper division standing.

Normal Grade Rules
3 units

BUS2 137A. Soft Skills

An examination of the soft skills (self-management skills and people skills) employers feel recent college graduates are lacking. Some of these skills include, but aren't limited to, listening skills, likability, flexibility, giving/receiving criticism, work ethic, dining etiquette, cultural sensitivity, etc.

Prerequisites: BUS2 130

Normal Grade Rules
3 units

BUS2 137H. Marketing Honors Practicum

Course involves sponsored projects in the area of Marketing. Students are assigned to a host company and are required to work with the host company and faculty advisor on a topic in Marketing. A report will be presented.

Prerequisite: BUS2 130, or Instructor consent.

Repeatable for credit
Normal Grade Rules
3 units

BUS2 137S. Special Topics in Marketing

Special topics in the management of marketing or in the marketing environment. The instructor may choose to address one special topic, theme, or several related topics. Requires one or more projects, at instructors discretion.

Prerequisite: BUS2 130.

Normal Grade Rules
3 units

BUS2 138. Marketing Research

Fundamentals of empirical study in marketing, including hypotheses formulation, testing, and the basis of inference. Questionnaire and experimental design, attitude measurement, sampling and data collection, and analysis are emphasized along with applications to marketing decision-making.

Prerequisite: BUS2 90, BUS2 130, Any 100W. Upper division standing.

Normal Grade Rules
3 units

BUS2 139. Marketing Management

Marketing management is a capstone course whose purpose is to provide the student with the opportunity to demonstrate and integrate the capabilities acquired from the prerequisite courses.

Prerequisite: BUS2 130, BUS 134A, BUS 134B, BUS 138, COMM 100W or ENGL 100WB or LLD 100WB and Senior standing.

Recommend: BUS 190 is strongly recommended.

Normal Grade Rules
3 units

BUS2 190. Quantitative Business Analysis

Quantitative models and computer software used in business decision-making. Studies of network and transportation models, linear programming, CPM/PERT project analysis, decision analysis, simulation and other techniques used in management science applications.

Prerequisite: BUS2 090 and MATH 071. Upper Division Standing. Not available to Open University Students.

Normal Grade Rules
3 units

BUS2 191. Decision Making Under Uncertainty

Decision analysis models and methods for optimizing decision policies: Bayes' Theorem, decision trees, influence diagrams, utility functions and certainty equivalence functions for risk-averse analyses, measures of the value of information, use of relevant spreadsheet computer tools.

Prerequisite: BUS2 090 or any one of the following: MATH 161, HS 167, ISE 130, ECON 003, ECON 103A, or Instructor Consent.

Note: Offered only occasionally.

Normal Grade Rules
3 units

BUS2 193. Data Mining

Data Mining is used to discover patterns and relationships in data. Emphasis is on large complex data sets such as those in very large databases or through web mining. Topics: data visualization, association rules, clustering, and various modern classification techniques.

Prerequisite: BUS2 90, BUS2 130 or Instructor Consent

Normal Grade Rules
3 units

BUS2 194A. Statistical Analysis

This course develops fundamental knowledge and skills for applying statistics in business decision-making. Topics include hypothesis testing, simple and multiple regression, experimental design, time series analysis and non-parametric estimation.

Prerequisite: BUS2 90

Normal Grade Rules
3 units

BUS2 194B. Business Analytics

This course covers applications of linear, nonlinear, and discrete optimization as well as the modeling of stochastic processes, including inventory control models and waiting line models.

Prerequisite: BUS2 190

Normal Grade Rules
3 units

BUS2 195A. Spreadsheet Modeling

Develop your analytical modeling skills and learn advanced features of Excel. Focus is on using Excel to model real-world decision-making problems. Covers Excel features including IF functions, lookup tables, date and text manipulation, sorting, filtering, graphing, and VBA.

Prerequisite: BUS2 190

Normal Grade Rules
3 units

BUS2 195B. Data Visualization

This course focuses on state-of-the-art data techniques for creating effective visualizations for structured and unstructured data. The course targets students who are interested in using visualizations to better understand information and communicate with other people.

Prerequisite: BUS2 90

Normal Grade Rules
3 units

BUS2 195C. Simulation Modeling and Analysis

Building and using simulation models in business systems using both Excel and high-level simulation software package. Topics include discrete-event simulation, Monte Carlo simulation, simulation input data collection and analysis, statistical analysis of simulation output.

Prerequisite: BUS2 190

Normal Grade Rules
3 units

BUS2 195D. Analytic Strategy

This course provides hands-on experience in transforming large amounts of diverse data into business decisions. This is accomplished via an engaging, complex simulation in which participants develop data-driven tactical and strategic decisions.

Prerequisite: BUS2 194A and BUS2 194B

Normal Grade Rules
3 units

SCHOOL OF INFORMATION SYSTEMS AND TECHNOLOGY

LOWER DIVISION

BUS4 091A. Advanced Computer Tools for Business

Students learn advanced spreadsheet and presentation software skills through individual lessons and through application in team case projects.

Prerequisite: Basic Excel and PowerPoint skill proficiency

Credit / No Credit
1 unit

BUS4 091L. Computer Tools for Business

Fundamentals of spreadsheet software through in-class exercises and individual assignments. Team projects to improve students' collaboration and communication skills, using online tools to produce slide and video presentations.

Credit / No Credit
1 unit

BUS4 092. Introduction to Business Programming

Analysis of business problems to design and implement the software component of an information system. Emphasis on structured design and programming. Introduction to visual programming languages.

Prerequisite: BUS 91L.

Normal Grade Rules
3 units

UPPER DIVISION

BUS4 110A. Fundamentals of Management Information Systems

Prepares students for upper division MIS courses by providing an overview of the strategic and managerial issues involved in the design, implementation, and maintenance of information systems. Includes an introduction to business application programming.

Prerequisite: BUS 92, upper division standing.

Normal Grade Rules
3 units

BUS4 110B. Systems Analysis and Design

Introduction to systems development methodologies, techniques and tools. Emphasis on enterprise, process, data and object modeling techniques. Students use UML and prototyping tools to analyze and design an information system.

Corequisite: BUS4 092.

Normal Grade Rules
3 units

BUS4 111. Networking and Data Communications

Emphasis on the concepts, architectures, components, protocols and standards for message movement within information networks. Uses the network design process to develop understanding of business and information technology perspectives.

Prerequisite: Upper Division Standing

Normal Grade Rules
3 units

BUS4 112. Database Management Systems

Introduction to intermediate database management concepts, methods, and technologies, stressing the design and development of relational databases and data analysis. Emphasis on data modeling, data integrity, and SQL. Non-relational data and information management technologies are also introduced.

Prerequisite: BUS4 092 with a grade of C or better

Normal Grade Rules
3 units

BUS4 115. Advanced Networking and Data Communications

Integration of telecommunications and database management systems concepts in a distributed information systems environment. Emphasis on information systems architectures, systems integration, open systems and other advanced topics.

Prerequisite: BUS4 111

Normal Grade Rules
3 units

BUS4 116. Advanced Database Management Systems

Advanced topics in relational data management and analysis including advanced SQL, PL/SQL, and database functions, procedures, and triggers; dimensional modeling, data warehousing, and data visualization; non-relational (NoSQL, big data) databases and data analysis.

Prerequisite: BUS4 112

Normal Grade Rules
3 units

BUS4 118C. Information Security and Assurance Management

Introduces the spectrum of threats and associated best practices for managing information security and assurance in organizations. Covers use of education/training, policy/procedure and technology to balance information confidentiality, integrity and accessibility requirements against associated costs to support organizations' strategic goals.

Corequisite: BUS4 111.

Note: Offered only occasionally.

Normal Grade Rules
3 units

BUS4 118D. Big Data

How to formulate business questions and use current Big Data analytics technologies through hands on assignments to wrangle, query, and graph relationships using a large unstructured dataset. Issues relating to developing the business proposition, Big Data strategies, and ethical considerations.

Prerequisite: BUS4 112

Co-Requisite: BUS4 110A

Normal Grade Rules
3 units

BUS4 118H. Honors Practicum in MIS I

Honors student teams formulate, develop and initiate implementation of an MIS project for an organization in our community. Requirements include using industry-standard project management tools and methods, interacting with project stakeholders in a professional manner, and applying appropriate technical skills/processes to the project.

Prerequisite: BUS4 110A, BUS4 110B, 100W, admission to MIS Honors Program

Corequisite: BUS4 112

Normal Grade Rules
3 units

BUS4 118S. Special Topics in MIS

Special topics to augment regularly scheduled electives. Course is repeatable for credit, maximum 9 units.

Prerequisite: BUS 111; BUS 112; and COMM 100W or ENGL 100WB or LLD 100WB.

Repeatable for credit
Normal Grade Rules
3 units

BUS4 118W. Web Based Computing

Explores Web applications for personal, E-Commerce and corporate computing. Covers essentials of WWW protocols. Students will learn to design and program both client and server-side applications using HTML and extensions, JavaScript, Perl, VBScript, Active Server Pages, database connections, XML, Java.

Prerequisite: Grade of "C" or better in BUS4 110A and BUS4 112.

Normal Grade Rules
3 units

BUS4 119A. Practicum in MIS

Students, working in teams, complete an MIS project for a community organization. Requirements include using industry-standard project management tools and methods, interacting with project stakeholders in a professional manner, and applying appropriate technical skills and processes to the project.

Prerequisite: Any 100W or equivalent; BUS4 110A, BUS4 110B, BUS4 111 and BUS4 112

Normal Grade Rules
3 units

BUS4 119B. Business Strategy and Information Systems

Analysis of the effective use of information systems and technology for competitive advantage by a business organization for enterprise, business-to-business, and e-Commerce computing. Emphasis on integration of information systems and technology with business strategy, financial justification, personnel and organizational considerations. Intended for last semester before graduation.

Prerequisite: Any 100W or equivalent, BUS4 110A, BUS4 110B, BUS4 111, BUS4 112

Normal Grade Rules
3 units

BUS4 119H. Honors Practicum in MIS II

Honors student teams develop and complete implementation of an MIS project for an organization in the community initiated in 118H. Requirements include using industry-standard project management tools and methods, interacting with project stakeholders in a professional manner, and applying appropriate technical skills/processes to the project.

Prerequisite: BUS4 118H

Normal Grade Rules
3 units

BUS4 188. Business Systems and Policy

Provides system perspective on organizations, using information as an integrating vehicle. Examines how information systems can serve business functions and integrate value chain activities.

Prerequisite: COMM 100W or ENGL 100WB or LLD 100WB.

Pre/Corequisite: Fundamental courses.

Normal Grade Rules
3 units

SCHOOL OF MANAGEMENT

LOWER DIVISION

BUS3 010. Discovering Business

Simulates setting up a small business to explore the many facets of an enterprise (marketing, accounting, finance, management, information systems, etc.). Through self-assessment and readings, directs students toward career paths that best reflect their personal aptitudes and interests.

Prerequisite: Highly recommended for SJSU freshman business majors, optional for others.

Normal Grade Rules
3 units

BUS3 012. Managing My life

An interdisciplinary course in personal development that introduces basic concepts and practical skills for improving and enhancing life during college and beyond. The course includes how to succeed in college, manage one's finances, plan one's career, manage stress, and increase overall happiness and well-being.

Normal Grade Rules
GE: EE
3 units

BUS3 080. Legal Environment of Business

Understand the judicial system and dispute resolution with emphasis on the role of law in purchasing, contracting and administering a business as it impacts the firm's constituencies and society as a whole.

Prerequisite: Sophomore status.

Normal Grade Rules
3 units

UPPER DIVISION

BUS3 148. E-Commerce Management

Includes all aspects of management of e-commerce businesses. Topics include business planning, business-to-business and business-to-consumer sectors, entrepreneurship, and small business management.

Normal Grade Rules
3 units

BUS3 149. Negotiation and Conflict Resolution

Provides conflict resolving and negotiation techniques. Case studies demonstrate applications of these methods in real world business, personal, interpersonal and international situations. Emphasis on acquiring and improving skills.

Normal Grade Rules
3 units

BUS3 150. Fundamentals of Human Resource Management

Theories, concepts and processes of human resource management; specific topics include EEO, employee motivation, job analysis and work design, strategic human resource planning, recruitment and selection, talent assessment and development, performance management, compensation and benefits, OSH, and employee rights and discipline.

Prerequisite: BUS 91L or instructor consent. Upper division standing. Lower Division Business Pool or Business Minor.

Normal Grade Rules
3 units

BUS3 151. Labor Relations

Private sector union-management relations; labor history, basic labor economics. Legislative, judicial, administrative issues in collective bargaining; contract negotiations, grievance procedures, dispute resolution. Overview of public sector collective bargaining and comparative labor relations. Current trends, including labor-management cooperation.

Prerequisites: Upper division standing

Normal Grade Rules
3 units

BUS3 152. Human Resource Information Systems

Examines the strategic role of Human Resource Information Systems (HRIS) in the effective management of organizations; needs analysis, criteria for selection and evaluation of software tools for HR decision-making; HRIS issues in Internet, privacy, security, system integration, expert systems.

Prerequisite: BUS3 150 or instructor consent. Upper division standing.

Normal Grade Rules
3 units

BUS3 153. Management of Diversity

Cross-cultural differences in effective HR management; organizational culture, cross-cultural communication, opportunity structures, organizational change; legal compliance and planning models such as Equal Employment Opportunity and Affirmative Action; conflict resolution strategies; dealing with internal and external compliance agencies.

Prerequisite: BUS3 150 or instructor consent. Upper division standing.

Normal Grade Rules
3 units

BUS3 154. Workforce Planning, Staffing and Training

Examines basic concepts, strategies and current issues in recruitment, talent acquisition, selection and training. Involves use of computer tools to analyze impacts of legal compliance, diversity, technology, outsourcing, restructuring and downsizing on effective management of human resources.

Prerequisite: BUS 150 and COMM 100W or ENGL 100WB or LLD 100WB. Upper division standing.

Normal Grade Rules
3 units

BUS3 155. Performance Management and Development

Assessment and performance management of individuals, groups and organizations in a rapidly changing environment. Explores need for change management skills such as organizational development, career development and coaching to assess and improve the talent base of organizations. Project required.

Prerequisite: BUS 150, COMM 100W or ENGL 100WB or LLD 100WB.

Normal Grade Rules
3 units

BUS3 156. International Issues in Human Resource Management

Personnel practices in international context; cross-cultural management, human resource planning, recruitment and selection, expatriation/repatriation, training, performance appraisal, compensation and benefits, labor relations as experienced by multinational corporations; comparative human resource management.

Pre/Corequisite: BUS3 150 or instructor consent. Upper division standing.

Normal Grade Rules
3 units

BUS3 157. Legal Issues in Human Resource Management

Legal aspects of the employment relationship, including employment at will; contract, privacy, public policy, and whistleblower exceptions; EEO and affirmative action; prohibitions against discrimination and harassment; arbitration, trade secrets and non-competition agreements; occupational safety/health; compensation, benefit and family leave laws. Project required.

Prerequisite: BUS3 80, BUS3 150 and BUS100W or COMM 100W or ENGL 100WB or LLD 100WB. Upper division standing. Allowed Declared Major: Bus Admin/ Human Resource Mgmt or Business Minor.

Normal Grade Rules
3 units

BUS3 158. Compensation and Reward Systems

Theories and practices of compensation and benefits; strategies to establish and administer equitable pay structures; job analysis, and evaluation, salary surveys, pay and motivation, skill-based pay systems, long-term and short-term performance plans, merit increase, bonus, stock options, profit-sharing, executive compensation and computer tools in compensation.

Prerequisite: BUS4 91L and BUS3 150. Upper division standing.

Normal Grade Rules
3 units

BUS3 159. Senior Seminar in Human Resource Management

Extension and integration of student knowledge, skills and abilities in strategic HRM; critical analysis of current HRM issues; exploration of HR career options; analysis of existing organization to develop methods of improving HRM decision-making in a real-world setting.

Prerequisite: COMM 100W or ENGL 100WB or LLD 100WB; BUS3 150; BUS3 157 and BUS3 158.Allowed Declared Major: Bus Admin/Human Resource Mgmt. Graduating Senior Status.

Normal Grade Rules
3 units

BUS3 160. Fundamentals of Management and Organizational Behavior
Provides a foundation for major topics in management and organizational behavior by surveying theories and practices relating to managerial roles, organizational cultures, fundamental strategic issues, planning, team building, communication, motivation, leadership, decision-making, control, structure and change.

Prerequisites: Upper division standing.

Normal Grade Rules
3 units

BUS3 161A. Applied Organizational Behavior
Focuses on high-level application, analysis, synthesis and evaluation of group dynamics, interpersonal communication, motivation, leadership, perception and attitudes, individual power and politics, conflict and stress management. In-depth emphasis on key theories plus interpersonal managerial skills.

Prerequisite: BUS3 160, COMM 100W or ENGL 100WB or LLD 100WB.

Normal Grade Rules
3 units

BUS3 161B. Organization Theory
Managing organization-wide structural and cultural changes leading to designs that enhance organizational effectiveness. Change issues of managing growth, resistance, intervention phases, crisis management, intergroup conflict/power are combined with design issues of balancing innovation and predictability, decentralization and centralization.

Prerequisite: BUS3 160, COMM 100W or ENGL 100WB or LLD 100WB. Upper division standing.

Normal Grade Rules
3 units

BUS3 166. Business, Government, & Society
Analysis of the American business system in terms of socio-economic and political constraints imposed upon business organizations by external, physical, legal, political, social and economic environments. Special reference to ethical issues in business, corporate social responsibility, profit maximization and countervailing powers in a pluralistic society.

Prerequisite: COMM 100W or ENGL 100WB or LLD 100WB. Upper division standing.

Normal Grade Rules
3 units

BUS3 169A. Honors Seminar
This course will introduce some of the seminal theories in management and related fields. The seminar will provide a variety of views on organizations, organizational life and the way organizations function. The course will be cross-disciplinary, drawing on readings about organizations from a variety of sources and disciplines. Students will be required to apply theoretical concepts to their own work, field study, or internship experiences.

Prerequisite: BUS 160 or BUS 161B.

Normal Grade Rules
3 units

BUS3 186. Professional and Business Ethics
See PHIL 186.

Normal Grade Rules
GE: S
3 units

BUS3 189. Strategic Management
Integrative capstone seminar analyzing interrelationships of managerial decisions/actions within and between the firm and its environment. Applies multi-disciplinary techniques to diagnose and recommend actions appropriate to specific company situations, using case method.

Prerequisite: Any 100W. Restricted to students who completed the Jack Holland Student Success Center graduation application process.

Normal Grade Rules
3 units

TRANSPORTATION MANAGEMENT

GRADUATE

MTM 201. Transportation Systems and Society
Core transportation knowledge and systems thinking. Characteristics of travel modes and infrastructural elements that produce transportation systems; public, private, and nonprofit actors involved in transportation; transportation systems as levers toward achieving economic vitality, social equity, environmental sustainability, and community goals; and key challenges transportation system managers will face in the coming decade. Note: This course satisfies the GWAR for the MSTM program.

Normal Grade Rules
GE: GWAR
3 units

MTM 202. Introduction to Transportation Funding & Finance
Introduces financial and managerial uses of accounting information systems and concepts. Includes standard costs, cost-volume-profit relationships, contribution analysis, budgeting, performance measurement, variance analysis, working capital, valuing capital costs and financing investment decisions. Explores use of complex information decision systems.

Normal Grade Rules
3 units

MTM 203. Transportation Marketing and Communications Management
Emphasizes positioning services to meet the needs of particular groups/market segments and marketing the system to new users/user groups (including developing the public/private sector relationship). Examines strategies for developing the community relationship with marketing and public relations efforts (and using the media to advantage).

Normal Grade Rules
3 units

MTM 214. Transportation Policy and Regulation
Surveys political frameworks of governments as both customer and provider; development of transportation policy with public involvement; and performance measurement with public oversight. Reviews policy impact on intermodal development in seeking to manage public and private objectives and diverse agendas of federal, state and local agencies.

Normal Grade Rules
3 units

MTM 215. Transportation Planning and Project Development
Examines management of transportation planning and project development processes, including: regional and state system-wide planning; project-level planning; environmental review; obtaining governmental approvals and permits; contract management; and project management. Prerequisite: MTM 201 or instructor approval.

Normal Grade Rules
3 units

MTM 217. Leadership and Management of Transportation Organizations
A study of the human resource aspects of managing transportation systems, including labor/management collaboration/negotiation and consultative employee relations programs. Builds skills in leadership and team building within the context of bringing about organizational change in a complex transportation system.

Normal Grade Rules
3 units

MTM 226A. Emergency Management Issues for Transportation Professionals
Examines the role of emergency management within transportation agencies and the role of transportation and related resources in community-wide responses to emergencies disasters. Includes instruction in Standardized Emergency Management Systems (SEMS).

Normal Grade Rules
3 units

MTM 226B. Security Issues for Transportation Professionals
Examines contemporary challenges to transportation security. Topics to be covered include: management of infrastructure challenges (such as tunnel, bridge, road and rail vulnerabilities) prevention of and response to theft, work place violence, disruptive terrorism, suicide and placement combing attacks, and their related protection strategies. Students will learn about federal and state grants for security, as well as regional transportation planning for disaster response planning.

Normal Grade Rules
3 units

MTM 230. Multi Modal Transportation in CA

Course provides an overview of public transit systems in California. It examines the maze of public transit services, funding and regulation.

Repeatable for credit
Normal Grade Rules
3 units

MTM 236. Managing Technology Innovations in Transportation

Management challenges posed by five technological trends: electrification, vehicle automation, connected vehicles and infrastructure, car sharing and ride sharing, and mobility as a service. Topics include: impacts on infrastructure, financing, and labor; managing technologies to support environmental, equity, and economic efficiency policy goals; and supporting collaboration between public agencies and private sector firms.

Normal Grade Rules
3 units

MTM 245. High Speed Rail Mgmt I

The course is designated for students interested in participating in the evolving high-speed rail program in the United States. The course will introduce students to the HS Passenger Rail mode and describe its attributes and technical components. The course will also deal with general enterprise management and the management competencies required. It will also introduce students to the issues of organizing for HSR project development and implementation.

Normal Grade Rules
3 units

MTM 246. High Speed Rail Mgmt II

Designed for students interested in participating in the evolving Intercity and High Speed Passenger Rail Program in the United States, the course is a companion to MTM245, and will introduce students to the Intercity and High Speed Passenger Rail mode and describe its attributes and technical components. The worldwide status of the mode will be described as well as the path being taken in the United States. The course will also deal with general enterprise management and the management competencies required. It will introduce students to the issues of organizing project development and implementation.

Normal Grade Rules
3 units

MTM 250. Transportation and the Environment

Students will be introduced to the complexities in the relationship of transportation and the environment. An important theme of this class is that real world trade-offs are inherent in addressing transportation as an important cause of environmental degradation. Solutions considered have technical, socio-economic, and cultural impediments.

Students will learn from case studies of success in creating more environmentally-benign forms of access and mobility. Students will contribute their own ideas in class discussions and a term paper on innovation in transportation policy to address environmental concerns.

Normal Grade Rules
3 units

MTM 283. MSTM Capstone - Project Design

Provides the first part of a culminating experience in which students design and carry out an individual, comprehensive policy or program evaluation. Students conduct background research and develop a Policy or Program Evaluation Proposal that demonstrates their capacity to do independent research, analysis, and writing about a complex transportation management problem.

Prerequisite: Completion of 21 units towards the Master of Science in Transportation Management degree

Credit / No Credit
3 units

MTM 290. MSTM Capstone - Evaluation Report

Provides the second part of a culminating experience in which students design and carry out an individual, comprehensive policy or program evaluation. Students complete a Policy or Program Evaluation following the proposal design they developed in MTM 283. The final report demonstrates their capacity to do independent research, analysis, and writing about a complex transportation management problem.

Prerequisite: MTM 283

Mandatory CR/NC/RP
3 units

UPPER DIVISION

MTM 1290R. Culminating Experience Supervision

Continued work on thesis or project.

Prerequisite: Outstanding RP grade in a preceding semester in a project or thesis class

Note: No Degree Credit.

Repeatable for credit
No Degree Credit
1 unit

Charles W. Davidson College of Engineering Courses

ENGINEERING

LOWER DIVISION

ENGR 005. Science of High Technology

Scientific principles underlying commonly used high technology devices and systems such as the computer, cell phone, IPODS, cameras, and the Internet. Emphasizes practical applications of scientific principles to contemporary engineering products and services. GE Area: B1

Normal Grade Rules
GE: B1
3 units

ENGR 008Q. Engineering Success

Combination of workshop and lab exercises emphasizing group interaction, communications skills and problem solving for incoming students. May be repeated for a total of 2 units.

Misc/Lab: Activity 2 hours.

Repeatable for credit
Credit / No Credit
1 unit

ENGR 010. Introduction to Engineering

Introduction to engineering through hands-on design projects, case studies, and problem-solving using computers. Students also acquire non-technical skills, such as team skills and the ability to deal with ethical dilemmas. GE Area: E

Prerequisite: Eligible for MATH 019 and Writing Enrollment Category W-I or W-II, or ENGL 1AF with a grade of CR, or ENGL 1A with a grade of C- or better. Engineering Majors Only

Misc/Lab: Lecture 2 hour/lab 3 hours.

Normal Grade Rules
GE: EE
3 units

ENGR 011. Intro to Engineering: Transfer Students

Ethical issues related to engineering. Information literacy and communication skills in engineering. Working on multidisciplinary teams on collaborative engineering projects.

Prerequisite: Upper division transfer student in engineering

Normal Grade Rules
1 unit

ENGR 025. The Digital World and Society

The secure, effective and ethical use of information technology. The effect of such technology on people and institutions. Technology-related challenges to society and policy. Frameworks for the analysis of information technology with respect to its cultural, historical, environmental, and spatial contexts. GE Area: D1

Normal Grade Rules
GE: D1
3 units

ENGR 060SL. Engineering Projects in Community Service

EPICS is a service-learning course where engineering students work in multidisciplinary teams to undertake community-identified engineering projects. Students will gain insight into design and development processes and perform and report upon tasks consistent with their level of discipline expertise.

Prerequisite: Engineering major; non-remedial

Repeatable for credit
Normal Grade Rules
1 unit

ENGR 090W. Technical Writing Workshop

Weekly writing and speaking practice to develop technical communication skills. Repeatable not for graduation credit.

Prerequisite: Referral by engineering faculty.

Repeatable for credit
Credit / No Credit
2 units

UPPER DIVISION

ENGR 100W. Engineering Reports

Regular technical writing assignments and company-focused oral presentations while integrating effects of environmental factors as they relate to products, systems and engineering processes. GE Area: R and Z

Prerequisite: ENGL 1B or equivalent second semester composition course (with a grade of C- or better); Completion of core GE, satisfaction of Writing Skills Test and upper division standing. Allowed Declared Majors: All Engineering, Aviation, Industrial Technology, Mathematics and Applied Mathematics.

Note: All SJSU Studies courses require completion of the WST and upper division standing. Must be passed with C or better to satisfy the CSU Graduation Writing Assessment requirement (GWAR).

Misc/Lab: Lecture 3 hours/lab 3hours.

Normal Grade Rules
GE: ZR
3 units

ENGR 102. Renewable Energy Engineering

Essentials of fluid dynamics and heat transfer. Solar thermal theory and applications. Photovoltaic generation. Biomass and biofuels. Fuel cells. Energy systems, generation and storage.

Prerequisite: CHEM 1A and (PHYS 71 or PHYS 52 or PHYS 2B); Upper division standing in engineering.

Normal Grade Rules
3 units

ENGR 108. Green Electronics

Scientific principles underlying electronic and computer devices for non-engineers. Energy efficiency of consumer devices. Electricity consumption of the electronics students use in their daily lives. Social impacts of energy efficiency. GE Area: R

Prerequisite: Passage of the Writing Skills Test (WST) or ENGL/LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

Note: All SJSU Studies courses require completion of the WST and upper division standing.

Normal Grade Rules
GE: R
3 units

ENGR 119. Energy and the Environment

See ENVS 119.

Normal Grade Rules
GE: R
3 units

ENGR 120. Programming Concepts for Behavioral and Social Science Applications

This course covers the application of Python programming to the fields of behavioral and social sciences, as well as basic building blocks of computers and the Web. This course also covers how programming is used in various careers.

Prerequisite: STAT 095, or MATH 30, or MATH 71

Normal Grade Rules
3 units

ENGR 121. Data Structures and Algorithms for Behavioral and Social Science Applications

Represent and analyze behavioral and social science data using Python and data structures such as classes, trees, and graphs; use related algorithms to solve behavioral and social science problems.

Prerequisite: ENGR 120 with C- or instructor consent

Normal Grade Rules
3 units

ENGR 122. Data Technology for Behavioral and Social Science Applications

Use R programming language to collect, analyze, and present data sets from behavioral and social science applications.

Prerequisite: ENGR 120

Normal Grade Rules
3 units

ENGR 157SL. Community Action/Community Service

See COMM 157SL.

Normal Grade Rules
GE: S
3 units

ENGR 160SL. Engineering Projects in Community Service UD

EPICS UD is a service-learning course where upper division engineering students work in multidisciplinary teams to undertake community-identified engineering projects. Students will gain insight into design and development processes and perform and report upon tasks consistent with their level of discipline expertise.

Prerequisite: Engineering major; upper division standing

Repeatable for credit
Normal Grade Rules
1 unit

ENGR 180. Individual Studies

Individual work on special topics, by arrangement.

Prerequisite: Upper division standing and instructor consent.

Allowed Declared Majors: Engineering. Not available to Open University Students.

Repeatable for credit
Credit / No Credit
1-3 units

ENGR 184. Business Strategy in Practice in Technology Enterprise

This course provides students with the practical tools and assessment for applying their business acumen. The first half introduces the students to standard business assessment tools that feed business strategies, such as marketing, business development and M & A. The second half of the course is comprised of developing the basic elements of a formal Business Plan and providing both comprehension and application levels of learning of business strategy.

Prerequisite: BUS 193 or ENGR 193 and BUS 181.

Normal Grade Rules
3 units

ENGR 194. Business Organization and Management of Technology Enterprise

This course provides a "top down" overview of how commercial business works, including the business components: Corporate Environments, Human Resources, Legal, Marketing, Customer Insights, Management/ Leadership. Communication and business soft skills will be covered providing a foundation for a solid business acumen. All class sessions focus on local and global perspectives.

Prerequisite: BUS 193 or ENGR 193.

Normal Grade Rules
3 units

ENGR 195A. Global and Social Issues in Engineering

Interdisciplinary seminar treating social and global impacts of technology and engineering. This integrated GE experience requires students to apply these concepts in their senior project classes. Students must enroll concurrently in their department senior project course Part A. GE Area: S when taken as part of Engineering Major sequence.

Prerequisite: ENGR 100W with a C or better. Engineering Majors only. Completion of Core General Education and upper division standing are prerequisites to all SJSU Studies courses.

Corequisite: Enrollment in major capstone course or equivalent.

Note: Meets GE Areas S and V when course is taken in combination with ENGR 195B and Engineering major specific sequence. Must be passed with a C or better to earn S and V

Repeatable for credit
Normal Grade Rules
GE: S
1 unit

ENGR 195B. Global and Social Issues in Engineering

Second course in a two-course sequence to support the integration of General Education Area S and Area V into the engineering major. Case study approach to the relationship of engineering to social, ethical and cultural aspects of the broader community both in the U. S. and worldwide. GE Area: V when taken as part of Engineering Major Sequence.

Prerequisite: ENGR 195A (with a grade of "C" or better). Engineering Majors Only Passage of the Writing Skills Test (WST) or ENGL/LLD 100A with a "C or better" (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

Corequisite: Enrollment in major capstone course or equivalent.

Note: To receive credit for GE Areas S and V, students must complete both ENGR 195A and ENGR 195B, each with a grade of C or better. They must also complete their senior project course sequence and earn a grade of C or better in each course.

Repeatable for credit
Normal Grade Rules
GE: V
1 unit

ENGR 195C. Interdisciplinary Senior Project I

Interdisciplinary team senior design projects. Proposal preparation with feasibility plans and specifications; oral and written reports; professional seminars. GE Area: S when taken as part of an engineering major sequence.

Prerequisites: ENGR 100W; eligible for senior project course in major.

Note: Meets GE Areas S and V when course is taken in combination with: ENGR 195D, ENGR 195A and ENGR 195B

Normal Grade Rules
GE: S
3 units

ENGR 195D. Interdisciplinary Senior Project II

Construction, testing, and evaluation of the design from ENGR 195C culminating in demonstrations and written and oral presentations to faculty, industry mentors and peers. GE Area: V when taken as part of an engineering major sequence.

Prerequisites: ENGR 195C with a grade of "C" or better.

Note: Meets GE Areas S and V when course is taken in combination with: ENGR 195C, ENGR 195A and ENGR 195B

Normal Grade Rules
GE: V
3 units

ENGR 195E. Interdisciplinary Computing Project

Culminating project experience for students to apply computing knowledge and skills to solving problems or generating insights in their chosen area of study such as behavioral and social sciences.

Prerequisite: ENGR 120 or Instructor Consent

Normal Grade Rules
3 units

ENGR 197. Cooperative Education Project

Part or full-time on-site paid work experience based on a pre-approved project assignment in area of student's career objective. Oral presentations, written final report and evaluation by project supervisor. Approved technical elective.

Prerequisite: Instructor consent.

Normal Grade Rules
3 units

ENGR 198. Technology and Civilization

See TECH 198.

Normal Grade Rules
GE: V
3 units

GRADUATE

ENGR 200W. Engineering Reports and Graduate Research

Graduate level technical writing workshop designed to develop advanced communication skills that will readily transfer to the engineer's professional needs, along with research methodologies, copyright issues, and proper documentation for the master's thesis project.

Prerequisite: Graduate standing and completion of an undergraduate writing course.

Note: This course satisfies graduate-level GWAR in this master's program.

ABC/No Credit
GE: GWAR
3 units

ENGR 201. Engineering Analysis

Mathematical techniques for solving engineering problems. Topics include linear systems analysis, probability and statistics, and differential equations. Applications include modeling and simulation, optimization, projection, experimental design. Several computer projects are required.

Prerequisite: Graduate standing or instructor consent.

Normal Grade Rules
3 units

ENGR 202. Systems Engineering

Large scale system design and development. Integrated approach including mission statement, synthesis of design concepts, tradeoff studies, risk assessment and interactions encountered in the optimal design, development, manufacture and test of systems.

Prerequisite: Graduate standing or instructor consent.

Normal Grade Rules
3 units

ENGR 203. Engineering Management

Students will develop contemporary expertise in the principles of engineering finance, management, IP, operations management, performance metrics, and their application to design, development, and commercialization of new products and services in dynamic environments.

Prerequisite: Graduate standing and instructor consent.

Normal Grade Rules
3 units

ENGR 206. Renewable Energy Systems

Advanced knowledge in renewable energy resources such as solar, wind, geothermal, biomass, waves and tidal energy. Solar resources and technologies, Integrated Resource Planning and System Operations, Enabling technologies and new energy use trends: Smart Grid, Demand Response, Energy Storage, and Electric Vehicles.

Prerequisite: Instructor consent

Normal Grade Rules
3 units

ENGR 212. Engineering Management in a Global Economy

Application of engineering methodologies and practices to manage projects and organizations in a global digital economy. Topics include shifting from a manufacturing, production, marketing, and supply chain to a service economy, premium manufacturing, ethics, and competitive soft skills.

Prerequisites: ENGR 203 or Instructor Consent.

Normal Grade Rules
3 units

ENGR 231. Fundamentals of Facility Management

Overview of facility managers financial and business responsibilities. Principles of real estate and property management, facility operations, maintenance activities, and human resource management. Includes sustainable development, environmental management, and corporate social responsibility.

Repeatable for credit
Normal Grade Rules
3 units

ENGR 232. Technology for Facility Management

Overview of current and emerging facility management technologies and how and when to apply them. Includes facility management automation, transactional and human-centric processes, building automation and control systems, BIM technologies, and GIS analysis.

Repeatable for credit
Normal Grade Rules
3 units

ENGR 233. Managing Facility Assets for Cost and Compliance

Fundamental skills for assessing condition indices of assets in high-tech factories/laboratories, large office buildings, and other modern facilities; quantifying costs and financial impacts; and providing decision support for asset replacement or maintenance and for lease negotiation. Includes ISO 55000 standards for facility management.

Repeatable for credit
Normal Grade Rules
3 units

ENGR 234. Facility Operations and Maintenance

Fundamental skills and management and assessment tools for facility maintenance and operations. Includes predictive facility maintenance management, facility maintenance methods and strategies, analysis of service providers, and analysis of facility systems, equipment, and grounds. Prerequisite: ENGR 231

Repeatable for credit
Normal Grade Rules
3 units

ENGR 236. Design for Manufacturability

Knowledge-based design, value engineering, DFM methodologies, robust design, process and materials selection, design constraints, design for assembly. Techniques of quality engineering, CAD/CAM integration and simultaneous engineering, cost estimating, activity-based costing, case studies, team projects.

Prerequisite: Principles of Design and Manufacturing Processes.

Normal Grade Rules
3 units

ENGR 240. Control Systems Design and Applications

Introduction to control system analysis, feedback control theory, control law design and implementation. Topics include system modeling and identification, computer simulation, frequency domain and state space design approaches, control law implementation, and commonly used sensors and actuators for control systems. CAD tools for control systems analysis, design and simulation are used throughout this course.

Prerequisite: Graduate Standing

Normal Grade Rules
3 units

ENGR 261. Battery Technologies I

ENGR 261 teaches fundamentals of battery technologies. Concepts and understanding of electrochemical interactions, kinetics and thermodynamics in batteries will be covered. Basic concepts, material development and modeling of lithium-ion batteries will be discussed as well as understanding of flow batteries. Advanced and future technologies for next generation batteries will be introduced.

Normal Grade Rules
3 units

ENGR 262. Battery Technologies II

This follow-up course will provide an in-depth look at batteries with a focus on cutting-edge research and development. Topics such as material synthesis techniques, science of electrode fabrication, advanced characterization techniques, battery life degradation mechanisms, design of battery electrodes, thermal management, and state-of-charge and state-of-health measurements will be covered.

Normal Grade Rules
3 units

ENGR 263. Battery Electrochemsitry

This course will cover the basics of electrochemistry, including thermodynamics, kinetics, mass transfer effects, reference electrodes, porous electrodes, dilute and concentrated solution theory, and electro-analytical methods, including voltammetry, coulometry and impedance spectroscopy.

Normal Grade Rules
3 units

ENGR 264. Battery Manufacturing

Lectures will cover the manufacturing of Li-ion cells and battery packs in detail and the basics steps in manufacturing, equipment, cost considerations, and quality issues related to manufacturing.

Normal Grade Rules
3 units

ENGR 265. Battery Control Systems

Learn how to design, analyze, and perform experiments for model and system validation work on battery control systems in electric vehicles, solar and/or wind renewable energy storage, and retrieval systems for the electric grid.

Normal Grade Rules
GE: GWAR
3 units

ENGR 271. Passive Optical Sensing

An introduction to passive optical sensing systems, including application areas, phenomenology and component/technology performance analysis. Detector types, principles, noise and sensor cooling issues will be addressed. Case studies and system analysis of complete passive optical sensing systems included.

Prerequisite: Instructor consent.

Normal Grade Rules
3 units

ENGR 281. Master's Project/Thesis Preparation Seminar

Preparation for project or thesis research, including development of scope, assembly of committee, preparation of schedule, completion of literature survey, completion of introductory chapter for final report, and research proposal examination at the end of the course.

Prerequisite: Complete common and option core courses, a grade of "B" or better in ENGR 200W or any GS&R approved course that satisfies the Graduate Writing Competency Requirement and approved candidacy form on file.

Misc/Lab: Lab 3 hours.

Mandatory CR/NC/RP
1 unit

ENGR 282A. Engineering for Teachers: Introduction to Engineering Design

A thematic approach to the study of relevant topics and concepts in engineering. Development of inquiry-based, hands-on classroom activities in engineering education. Design process, research and analysis, teamwork, communication methods, global and human impacts, engineering standards, and technical documentation.

Prerequisites: Instructor consent

Mandatory CR/NC/RP
3 units

ENGR 282B. Engineering for Teachers: Principles of Engineering

A thematic approach to the study of relevant topics and concepts in engineering. Communication, presentation skills and teamwork, visualization and sketching techniques, introduction to mechanical systems and mechanisms, basic thermodynamics, fluid control and hydraulic systems, control systems and feedback, robotics, engineering units, instruments, tools and measurements, statics, material properties and strength of materials

Prerequisites: Instructor consent

Mandatory CR/NC/RP
3 units

ENGR 282C. Engineering for Teachers: Digital Electronics

A thematic approach to the study of relevant topics and concepts in electronics engineering. Introduction to process and control of digital signals, design process for combinational and sequential logic design, teamwork, communication methods, engineering standards, and technical documentation.

Prerequisites: Instructor consent

Mandatory CR/NC/RP
3 units

ENGR 282D. Engineering for Teachers: Gateway to Technology Foundations

A project-based curricular approach to the teaching of technology, designed to challenge and engage the natural curiosity and imagination of middle school students. Introduction to mechanical and computer control systems, robotics and animation, and explorations of the importance of energy, including innovative ways to reduce, conserve and produce it using solar, thermal and wind power.

Prerequisites: Instructor consent

Mandatory CR/NC/RP
3 units

ENGR 282E. Engineering for Teachers: Gateway to Technology Specializations

A project-based curricular approach to the teaching of technology, designed to challenge and engage the natural curiosity and imagination of middle school students. Includes units on the impact of energy on our lives and the environment; the science behind aeronautics; design, build and test an

airfoil; the science of electricity, behavior and parts of atoms, and sensing devices; knowledge and skills in basic circuitry design and examine the impact of electricity on our lives.

Prerequisites: Instructor consent

Mandatory CR/NC/RP
3 units

ENGR 282F. Engineering for Teachers: Civil Engineering and Architecture

A thematic approach to the study of relevant topics and concepts in engineering. Development of inquiry-based, hands-on classroom activities in engineering education. History of and careers in civil engineering and architecture including residential and commercial design, aesthetics and building safety codes.

Prerequisites: Instructor consent

Mandatory CR/NC/RP
3 units

ENGR 282G. Engineering for Teachers: Aerospace Engineering

A thematic approach to the study of relevant topics and concepts in engineering. Development of inquiry-based, hands-on classroom activities in engineering education. Introduction to the study of relevant topics and concepts in aerospace engineering, including the history and physics of flight, flight navigation, aerospace design, materials and structures, propulsion, flight physiology, space travel and aerospace careers.

Prerequisites: Instructor consent

Mandatory CR/NC/RP
3 units

ENGR 282H. Engineering for Teachers: Biotechnical Engineering

A thematic approach to the study of relevant topics and concepts in engineering. Development of inquiry-based, hands-on classroom activities in engineering education and careers. Topics include biotechnical history and industry, impact of technology on human health and safety, forensics, biomedical, environmental and agricultural applications.

Prerequisites: Instructor consent

Mandatory CR/NC/RP
3 units

ENGR 282J. Engineering for Teachers: Computer Integrated Manufacturing

A thematic approach to the study of relevant topics and concepts in engineering. Development of inquiry-based, hands-on classroom activities in engineering education and careers. Topics include history of manufacturing, control systems, design for manufacturability, cost estimating, and elements of automation.

Prerequisites: Instructor consent

Mandatory CR/NC/RP
3 units

ENGR 282K. Engineering for Teachers: Engineering Design and Development

A thematic approach to the study of relevant topics and concepts in engineering. Development of inquiry-based, hands-on classroom activities in engineering education and careers. Topics include project management, research and development of problem solutions, prototyping and testing, project and process evaluation, documentation and presentation.

Prerequisites: Instructor consent

Mandatory CR/NC/RP
3 units

ENGR 295A. Master Project I

In-depth developmental engineering work relating to problems of interest to an individual or a group of students. Project includes proposal formulation, analysis, design, implementation, and testing.

Prerequisite: Graduate Advisor consent. Not available to Open University students.

Repeatable for credit
Mandatory CR/NC/RP
3 units

ENGR 295B. Master Project II

A continuation of ENGR 295A. Students complete the in-depth project, write a detailed project report and make a comprehensive presentation and demonstration of project.

Prerequisite: Admission to Candidacy of Master's Degree and CMPE 295A or CMPE 295W. Not available to Open University students.

Mandatory CR/NC/RP
3 units

ENGR 297C. Special Topics in Systems Engineering

Special seminars and discussions to augment regularly-scheduled graduate courses. Emphasis on systems, process, product, and service integration in short-life cycle product and service industries using systems, concurrent engineering, and cost of ownership principles.

Prerequisite: Instructor consent.

Normal Grade Rules
3 units

ENGR 297D. Special Topics in Emerging Technologies

Special topics in emerging technologies that emphasize new development in technologies, skills and knowledge which are suitable for the new technologies development such as but not limited to Machine Learning, Big Data Processing, Analytics, Data Analysis, and Information retrieval.

Prerequisite: Instructor consent.

Normal Grade Rules
1-3 units

ENGR 297E. Special Topics in Electronic Materials and Devices

Special Seminars and discussions to augment regularly-scheduled graduate courses. Emphasis on VLSI design computer-aided design, modeling, simulation and testing. Materials and processes includes characterizing and processing of electronic materials.

Prerequisite: Instructor's consent

Repeatable for credit
Normal Grade Rules
3 units

ENGR 297G. Battery Technology 1

Basic and fundamentals about battery technologies. Cover the concepts and understanding of electrochemical, kinetics and thermodynamics in batteries. Discussion on basic concepts on material development and modeling of lithium-ion batteries as well as understanding of flow batteries. Introduction to advanced and future technologies for next generation batteries.

Prerequisite: Graduate standing or instructor's consent

Repeatable for credit
Normal Grade Rules
3 units

ENGR 297M. Special Topics in Engineering Management

Special seminars and discussions to augment regularly-schedule graduate courses. Emphasis on engineering management fundamentals, product development and marketing, finance management, managing people and organizations and communication, planning, estimation, tracking metrics, risk analysis, e-business, project and change management.

Prerequisite: Graduate standing or instructor's consent

Normal Grade Rules
3 units

ENGR 298. Master's Project

Completion of an in-depth project, a detailed project report, followed by a comprehensive presentation and demonstration of project.

Prerequisite: ENGR 281, satisfaction of English Proficiency requirement, advancement to candidacy.

Misc/Lab: Lab 6 hours.

Mandatory CR/NC/RP
2 units

ENGR 298I. MSE Internship

Student will be employed in an industry as an intern, working in an engineering area to their MSE option. This course supplements and supports the student's program of study.

Prerequisite: Students must have graduate standing.

Mandatory CR/NC/RP
1-3 units

ENGR 299. Master's Thesis

Master's thesis work in engineering.

Prerequisite: Admission to candidacy for master's degree; written contract with thesis advisor and graduate coordinator.

Misc/Lab: Lab 9 hours.

Repeatable for credit
Mandatory CR/NC/RP
1-6 units

UPPER DIVISION

ENGR 1081W. Basic Writing Workshop

Weekly writing to improve grammar and punctuation skills needed for student success. Repeatable for up to 6 units.

Notes: No Degree Credit.

Misc/Lab: Activity 3 hours.

Repeatable for credit
No Degree Credit
1 unit

ENGR 1290R. Culminating Experience Supervision

This course covers the same topics and has the same objectives as ENGR298/ENGR299.

Prerequisite: Student must have been enrolled in ENGR298 or ENGR299 in a previous semester.

Note: No Degree Credit.

Repeatable for credit
No Degree Credit
1 unit

Chemical and Materials Engineering Department Courses

CHEMICAL ENGINEERING

UPPER DIVISION

CHE 109. Heat Transfer in Electronics

Introduction to thermodynamics and heat transfer, including conduction, convection and radiation. An emphasis on applications for electronics; including heat transfer in computer components, heat sinks, liquid and air cooling and heat pipes.

Prerequisite: EE 098, PHYS 051 and one of the following courses: MATH 129 or MATH 123 or MATH 129. Allowed Declared Majors: Computer Engineering, Electrical Engineering, Engineering, Industrial and Systems Engineering

Normal Grade Rules
3 units

CHE 115. Industrial Chemical Calculations

Methods of formulation and solution of material and energy balances as applied to chemical processes.

Prerequisite: PHYS 051 (with a grade of "C-" or better); MATH 133A; CHEM 001B

Corequisite: ENGR 010.

Misc/Lab: Lecture 2 hours/calculation period 3 hours.

Normal Grade Rules
3 units

CHE 131. Air Pollution Meteorology

See METR 131.

Normal Grade Rules
3 units

CHE 151. Process Engineering Thermodynamics

Analysis of the ideal and real behavior of gases, liquids and solids from a macroscopic viewpoint; 1st and 2nd Law; phase rule, volumetric properties of fluids; heat effects; solution theory and applications; vapor-liquid and solid-solid equilibrium; chemical reaction equilibria.

Prerequisite: CHE 115 and ENGR 10

Misc/Lab: Lecture 3 hours/calculation period 3 hours.

Normal Grade Rules
4 units

CHE 158. Kinetics and Reactor Design

Analysis of unsteady chemical processes with emphasis on kinetics of reaction and application of fundamental principles to the design and operation of commercial reactors.

Prerequisite: CHE 115, CHE 151, CHE 160A, CHE 162 and CHE 190 (with an average of "C" or better in the five courses); ENGR 100W.

Misc/Lab: Lecture 2 hours/calculation period 3 hours.

Normal Grade Rules
3 units

CHE 160A. Unit Operations I

Materials transportation, fluid metering, mixing, sedimentation, filtration, heat exchange and evaporation; types of equipment used and numerous practical applications. Introduction to transport theory.

Prerequisite: CHE 115 and CHE 190.

Misc/Lab: Lecture 3 hours/lab 3 hours.

Normal Grade Rules
4 units

CHE 160B. Unit Operations II

Continuation of CHE 160A. Mass transfer operations, diffusion, absorption, extraction, distillation, humidification, membrane separations, drying and crystallization. Field trips to process industries. Integrate global and social issues in engineering.

Prerequisite: CHE 115, CHE 151, CHE 160A, CHE 162 and CHE 190 (with an average of "C" or better in the five courses); ENGR 100W. Allowed Declared Major: Chemical Engineering.

Misc/Lab: Lecture 3 hours/calculation period 3 hours.

Normal Grade Rules
4 units

CHE 161. Process Safety and Engineering Ethics

Topics include principles of chemical process safety, risk assessment, analysis of ethics issues, and the application of the engineering ethical code using case studies. Integrate global and social issues in engineering.

Prerequisite: CHEM 1B.

Misc/Lab: Lecture 1 hour.

Normal Grade Rules
1 unit

CHE 161L. Undergraduate Chemical Engineering Laboratory

Quantitative study of chemical engineering processes, with emphasis on fluid flow and heat transfer operations. Written and oral reports required.

Prerequisite: CHE 115, CHE 151, CHE 160A, CHE 162 and CHE 190 (with an average of "C" or better in the five courses); ENGR 100W.

Corequisite: CHE 160B and CHE 161.

Misc/Lab: Lecture 1 hour/lab 3 hours.

Normal Grade Rules
2 units

CHE 162. Engineering Statistics and Analysis

Topics will include error analysis, probability, statistics including hypothesis testing, confidence limits and control variables, design of experiments and statistical process control as they are utilized in the chemical, materials and process engineering industries.

Prerequisite: MATH 133A.

Misc/Lab: Lecture 1 hour/ Lab 3 hours

Normal Grade Rules
2 units

CHE 163L. Undergraduate Chemical Engineering Laboratory II

Chemical engineering principles with an emphasis on traditional and novel applications in focuses such as environmental engineering and biotechnology. Written and oral reports are required.

Prerequisite: ENGR 100W, CHE 161L

Corequisite: CHE 158 and CHE 160B

Misc/Lab: Lecture 1 hour/lab 3 hours.

Normal Grade Rules
2 units

CHE 165A. Plant Design I

Introduction to the technical and economic evaluation of a chemical processing plant design. Introduction to project design and effective team management.

Corequisite: CHE 158 and CHE 160B; instructor consent.

Misc/Lab: Lab 3 hours.

Normal Grade Rules
1 unit

CHE 165B. Plant Design II

Continuation of the technical and economic evaluation of a chemical processing plant, including most aspects of a typical industrial design.

Major plant design project report required.

Prerequisite: CHE 165A; instructor consent.

Misc/Lab: 2 hours lecture/ 2 hours lab

Normal Grade Rules
3 units

CHE 172. Biofuels Process Engineering

Focus on the practical applications of engineering principles and practices used to produce the three major biofuels products commonly available today: ethanol, biodiesel and methane. Differences between entrepreneurial efforts and more traditional processes will be explored.

Prerequisite: ChE 160A

Normal Grade Rules
3 units

CHE 174. Hazardous Materials

Review of current methods and procedures for management of hazardous materials and hazardous wastes; analysis of contaminated systems and remedial actions.

Prerequisite: PHYS 51, PHYS 52, or PHYS 71 and CHEM 1A or instructor consent.

Normal Grade Rules
3 units

CHE 176. Energy Storage Systems

Principles and technology of energy conversion relateed to energy storage systems such as batteries, fuel cells, solar cells, and super capacitors. Relationships among electricity, chemistry, heat and mass transfer in energy storage systems. Energy storage system design and applications are emphasized.

Prerequisite: Senior Standing. Engineering and Science majors only

Normal Grade Rules
3 units

CHE 180. Individual Studies

Individual work on special topics by arrangement.

Prerequisite: Not available to Open University Students

Repeatable for credit
Credit / No Credit
1-3 units

CHE 180R. Undergraduate Research and Projects

Individual work on special topics by arrangement. This section is for students working on formal, structured research or projects that are substantial enough to meet the requirements of the elective ChE lab requirement in each of the emphasis tracks.

Repeatable for credit
Normal Grade Rules
1-3 units

CHE 185. Chemical Process Dynamics and Control

Dynamic behavior of representative chemical processes. Process control; dynamics of open-loop systems; techniques of closed-loop control.

Prerequisite: CHE 160B.

Misc/Lab: Lecture 2 hours/lab 3 hours.

Normal Grade Rules
3 units

CHE 190. Introduction to Transport Phenomena

Introduction to thermodynamics, fluid mechanics and heat transfer. Basic thermodynamics with first and second laws. Laminar and turbulent flow of incompressible fluids. Boundary layer analysis. Convection and steady state and transient conduction.

Prerequisite: PHYS 051 (with a grade of "C-" or better); MATH 133A; CHEM 001B, CE 099

Normal Grade Rules
3 units

CHE 192. Introduction to Biochemical Engineering

Enzyme kinetics and enzyme reactors, enzyme isolation and purification, cellular regulation and recombinant DNA technology, microbial kinetics and design/operation of fermenters.

Prerequisite: CHEM 112A, or both CHEM 130A and CHEM 130B, or CHEM 135 or CHE 158.

Normal Grade Rules
3 units

CHE 193. Microbiological Techniques

See BIOL 193.

Normal Grade Rules
1 unit

CHE 194. Biochemical Engineering Lab

Principles, concepts and mechanisms of growth and purification of products from biological systems investigated, with emphasis on scale-up procedures. Recombinant DNA techniques and bioinformatics included.

Pre/Corequisite: CHE 192.

Misc/Lab: Lecture 2 hour/lab 3 hours.

Normal Grade Rules
3 units

CHE 197. Cooperative Education Project

See ENGR 197.

Normal Grade Rules
3 units

CHE 199. Special Topics in Chemical and Materials Engineering

Special Topics in Chemical and Materials Engineering. Content varies from semester to semester. Course is repeatable for a total of 6 units.

Prerequisite: Instructor consent.

Repeatable for credit
Normal Grade Rules
3 units

GRADUATE

CHE 200. Research Methods

Introduction to key statistical, experimental, and computational tools for independent project and research investigation in chemical and materials engineering. Literature review, experiments, data analysis, and individual written reports.

Prerequisite: Conditional graduate standing in Chemical or Materials Engineering

Note: This course satisfies graduate-level GWAR.

Normal Grade Rules
3 units

CHE 207. Mass Transfer

An advanced study of the principles of mass transfer in the diffusional operations of distillation, absorption. extraction, drying and humidification.

Prerequisite: CHE 160B.

Normal Grade Rules
3 units

CHE 211. Advanced Chemical Engineering Thermodynamics

Quantitative development of fundamental laws of thermodynamics and their application to chemical processes. Equilibria and thermal effects in homogeneous and heterogeneous systems. Studies of behavior of complex mixtures and high pressure phenomena.

Prerequisite: CHE 151 and MATH 133A.

Normal Grade Rules
3 units

CHE 218. Reaction Kinetics

Theoretical background of simple homogeneous reactions collision theory and absolute reaction rate theory; mechanisms of complex homogeneous reactions. Mechanisms of reactions catalyzed by solids; diffusion in solid catalyst. Reactor design.

Prerequisite: MATH 133A, CHE 151 and CHE 158.

Note: This course satisfies graduate-level GWAR in this master's program.

Normal Grade Rules
GE: GWAR
3 units

CHE 219. Transport Processes

Derivation of general differential equations for transport of heat, mass and momentum; kinetic theory of fluids and its application to transport phenomena based on molecular motion; methods for estimating transport coefficients in fluids.

Prerequisite: CHE 160B.

Normal Grade Rules
3 units

CHE 281. MS Thesis/Project Preparation Seminar

See MATE 281.

Credit / No Credit
1 unit

CHE 291. Industrial Bioseparations

Industrial considerations for downstream bioseparation processes including design, troubleshooting, scale-up, economics and validation with a focus on pharmaceutical products.

Prerequisite: ChE 192 or biochemistry or relevant industrial experience.

Normal Grade Rules
3 units

CHE 293. Applied Bioinformatics

Bioinformatics theory and applications including sequence search, proteomics, molecular modeling, and combinatorial chemistry. Students will work in teams and be guided in independent inquiry to solve practical bioinformatics problems.

Prerequisite: Senior or graduate standing in engineering or science.

Normal Grade Rules
3 units

CHE 297. Special Topics in Chemical Engineering
Special topics to augment regularly-scheduled graduate courses.

Prerequisite: Graduate standing or instructor permission.

Repeatable for credit
Normal Grade Rules
1-4 units

CHE 298. MS Research/Project
Master's project work in Chemical Engineering.

Prerequisite: Admission to candidacy. Not available to Open University Students

Corequisite: CHE 281.

Repeatable for credit
Mandatory CR/NC/RP
1-2 units

CHE 299. Master's Thesis
Master's thesis work in Chemical Engineering. Prerequisite: CHE 281 and ChE 298. ChE 298 may be taken co-currently wtih instructor approval. Not available to Open University Students.

Mandatory CR/NC/RP
3 units

CHE 299I. Master's Thesis Internship
Master's thesis work in Chemical Engineering. This section is for students completing their Master's thesis work at an off campus location. Prerequisite: CHE 281, ChE 298. Not available to Open University Students.

Note: ChE 298 may be taken co-currently wtih instructor approval.

Repeatable for credit
Mandatory CR/NC/RP
1-3 units

UPPER DIVISION

CHE 1290R. Culminating Experience Supervision
Continued work on dissertation, thesis, or project or in preparation for comprehensive exams beyond the minimum required units for cases in which final deliverables are still in progress and all other degree requirements except the culminating experience have been fulfilled.

Prerequisite: Outstanding RP grade in a previous semester in ChE 298 or 299

Note: No Degree Credit

No Degree Credit
1 unit

MATERIALS ENGINEERING

LOWER DIVISION

MATE 025. Introduction to Materials
Atomic and crystal structures; imperfections and atom movement; phase equilibria and transformations; boundaries; heat treatment of metals; mechanical, physical and chemical properties of engineering materials.

Prerequisite: CHEM 001A; PHYS 050; MATH 031.
Allowed Declared Majors: Any Engineering

Normal Grade Rules
3 units

UPPER DIVISION

MATE 115. Structure/Properties of Solids
Bonding and crystal structure; the space lattice and unit cell calculations; crystalline anisotropy; point, line and surface defects; phase equilibria and interpretation of phase diagrams; thermal activation and the vacancy mechanism of mass transport in solids.

Prerequisite: PHYS 051 (with a grade of "C-" or better); MATH 133A; CHEM 001B and MATE 025

Corequisite: ENGR 010.

Normal Grade Rules
3 units

MATE 129. Introduction to Integrated Circuits Processing and Design
Basic processes involved in fabrication of integrated circuits; semiconductor physics, material preparation, oxidation, diffusion; photolithographic, thin-film deposition and etching. Simple component layout and evaluation of device parameters.

Prerequisite: MATE 25 or MATE 153.

Misc/Lab: Lecture 2 hours/lab 3 hours.

Normal Grade Rules
3 units

MATE 131. Fundamentals of Additive Manufacturing
Introduction to additive manufacturing (AM) and 3D printing, including development of AM, AM process chain, design for AM, and case studies. Focus on capabilities, limitations, and basic principles of various AM techniques, such as material extrusion, vat polymerization, powder bed fusion processes, material jetting, binder jetting, sheet lamination, and directed energy deposition processes.

Prerequisite: MATE 25 with "C" or better

Normal Grade Rules
3 units

MATE 135. Introduction to Composite Materials
Introduction to theory, application, and design with composite materials, including high performance resin-matrix fibrous composites and metal-matrix materials. Topics include materials, test techniques, environmental effects, design considerations, and application requirements.

Prerequisite: MATE 025.

Normal Grade Rules
3 units

MATE 141. Structure and Analysis of Materials
Crystallography and structural analysis of materials by x-rays and electrons. Imaging, diffraction, scattering and spectroscopic methods of characterization.

Prerequisite: MATE 115.

Corequisite: MATE 153.

Normal Grade Rules
3 units

MATE 143. Principles of Scanning Electron Microscopy
Principles and practice of scanning electron microscopy. Basic theory and skills development of electron microscopy, including electron dispersive spectroscopy. Imaging and compositional analysis of conductive and non-conductive samples.

Prerequisite: Introductory course in chemistry, physics or materials engineering.

Misc/Lab: 3 hour lab.

ABC/No Credit
1 unit

MATE 144. X-Ray Diffraction Lab
Practical applications of X-ray diffraction. Including phase identification, texture analysis, grain size determination.

Prerequisite or Corequisite: MATE 141 or instructor consent.

ABC/No Credit
1 unit

MATE 145. Principles of Scanning Probe Microscopy
Principles and practice of various surface probe microscopies including AFM and STM.

Prerequisite: Introductory course in chemistry, physics or materials engineering.

ABC/No Credit
1 unit

MATE 151. Solid State Thermodynamics
Analysis of the ideal and real behavior of gases, liquids and solids from a macroscopic viewpoint; 1st and 2nd Law; phase rule, volumetric properties of fluids; heat effects; solution theory and applications; vapor-liquid and solid-solid equilibrium; chemical reaction equilibria.

Prerequisite: MATE 115

Notes: Lecture 3 hours

Normal Grade Rules
3 units

MATE 152. Solid State Kinetics

Diffusion and rates of reaction in solids. Transformations in solids, including nucleation and growth, martensitic transformation, spinodal decomposition and order-disorder reactions.

Prerequisite: 2.0 average for MATE 115, MATE 141, MATE 151, MATE 154 and MATE 155; ENGR 100W; CHE 162.

Normal Grade Rules
3 units

MATE 153. Electronic, Optical and Magnetic Properties of Materials

Crystalline and energy band structure of materials, thermal properties and electrical conduction in semiconductors and metals, optical and magnetic properties of solids.

Prerequisite: PHYS 051; CHEM 001A; EE 098 and MATH 133A

Misc/Lab: Lecture 2 hours/lab 3 hours.

Normal Grade Rules
3 units

MATE 154. Metals and Alloys

Thermal and mechanical processing of metals and alloys. Heat treatments, metallography and interpretation of microstructure. Biomedical, aerospace, automotive and other applications of metals discussed, including precipitation hardening of non-ferrous metal alloys, and the processing/structure/properties relationship in titanium alloys.

Prerequisite: MATE 115.

Corequisite: MATE 153 or ENGR 100W.

Misc/Lab: Lecture 2 hours/lab 3 hours.

Normal Grade Rules
3 units

MATE 155. Materials Selection and Process Design

Methodology for selecting materials in process design for engineering applications. Case studies emphasizing materials selection and process parameters. Evaluation of material performance, robust design, and process control on semiconductor manufacturing, bioengineering devices, energy storage and conversion, water purification applications.

Prerequisite: MATE 115, CHE 162, and ENGR 010.

Normal Grade Rules
3 units

MATE 165. Photovoltaic Fabrication/Testing Lab

Laboratory course covering photovoltaic (solar cell) design, fabrication, and testing. TCAD simulation tools will be used in design. Fabrication processes will include cleaning, surface texturing, deposition, diffusion, metallization, photolithography, etching, and electrical testing.

Prerequisites: MATE 025 or MATE 153 or corequisite of MATE 129.

Misc/Lab: Lab 3 hours.

Normal Grade Rules
1 unit

MATE 168. Microfluid Fabrication and Design

See ME 168.

Normal Grade Rules
1 unit

MATE 169. Microelectromechanical Systems Fabrication and Design

See ME 169.

Normal Grade Rules
1 unit

MATE 175. Biomaterials

Fundamentals of structure, processing, and properties of metallic, ceramic and polymeric materials utilized in biomedical devices and biotechnology. Effect of structure and processing on properties, especially biocompatibility, corrosion and long term reliability. Methods for characterization and testing of materials. New trends in biomaterials for interventional cardiology, implants, vascular prostheses, catheters and orthopedics.

Prerequisite: MATE 25 or instructor consent.

Misc/Lab: Lecture 3 hours/Lab 3 hours.

Normal Grade Rules
3 units

MATE 180. Individual Studies

Individual work on special topics by arrangement.

Prerequisite: Major form on file with department and instructor consent. Not available to Open University Students.

Repeatable for credit
Credit / No Credit
1-3 units

MATE 185. Ceramics

Structure, properties and processing of crystalline and glassy ceramics, including defect thermodynamics, surfaces, ternary phase equilibria, and sintering. Applications include solid oxide fuel cells, oxide based chemical sensors, ceramics for biomedical and dental applications, and processing of electronic components.

Prerequisite: MATE 115, MATE 151; MATE majors must also satisfiy Jr. Core requirements.

Normal Grade Rules
3 units

MATE 186. Polymers

Structure and properties of solid polymers; chemistry; thermal transitions; mechanical, electrical and optical properties; influence of chemical structure and processing on properties; applications.

Prerequisite: MATE 25 (with a grade of "C")

Normal Grade Rules
3 units

MATE 195. Mechanical Behavior of Materials

Elasticity, plasticity, anelasticity; deformation mechanisms; effect of microstructure and imperfections; fatigue, creep, fracture; plane stress and plane strain; failure analysis for structural applications involving engineering devices and systems, bulk and nanomaterials, material compatibility, and interfacial bonding in thin films.

Prerequisite: MATE 115, ENGR 100W, CHE 162, CE 099; MatE majors must satisfy the Junior core.

Misc/Lab: Lecture 2 hours/lab 3 hours.

Normal Grade Rules
3 units

MATE 197. Cooperative Education Project

See ENGR 197.

Normal Grade Rules
3 units

MATE 198A. Senior Design Project

Apply materials engineering principles to the design and implementation of an approved materials engineering project, Integrate global and social issues in engineering. GE Area: S when taken as part of the MATE Major sequence.

Prerequisite: 2.0 average and "C-" minimum grade in (MATE 115, MATE 141, MATE 151, MATE 153, MATE 154, MATE 155); ENGR 100W; CHE 162.

Corequisite: ENGR 195A, MATE 195 and CHE 161

Misc/Lab: Lecture 1 hour/Lab 3 hours.

Note: Meets GE Areas S and V when course is taken in combination with: MATE 198B, ENGR 195A and ENGR 195B

Normal Grade Rules
GE: S
2 units

MATE 198B. Senior Design Project

Apply materials engineering principles to the design and implementation of an approved materials engineering project, Integrate global and social issues in engineering. GE Area: V when taken as part of the MATE Major sequence.

Prerequisite: MATE 198A with a minimum grade of "C".

Corequisite: ENGR 195B

Misc/Lab: Lecture 1 hour/Lab 3 hours.

Note: Meets GE Areas S and V when course is taken in combination with: MATE 198A, ENGR 195A and ENGR 195B.

Normal Grade Rules
GE: V
2 units

MATE 199. Special Topics in Chemical and Materials Engineering

See CHE 199.

Repeatable for credit
Normal Grade Rules
3 units

GRADUATE

MATE 205. Advanced Mechanical Behavior of Solids

Structure-property relationships in mechanical behavior of materials, including elastic, anelastic and plastic behavior; creep characteristics, fracture, testing methods, dislocation dynamics, strengthening mechanisms.

Prerequisite: MATE 115 (or equivalent).

Normal Grade Rules
3 units

MATE 210. Experimental Methods in Materials Engineering

Advanced study of experimental techniques used in materials engineering, including data acquisition and analysis, experiment design strategy and hands-on operation of advanced equipment.

Prerequisite: MATE 115 (or equivalent).

Misc/Lab: Lecture 2 hour/lab 3 hours.

Normal Grade Rules
3 units

MATE 215. Solid State Materials Engineering

Electrical, optical and magnetic properties. Includes wave mechanics, bonding theory, energy band theory, electronic transport, conduction, semiconduction and insulation.

Prerequisite: MATE 115 (or equivalent).

Normal Grade Rules
3 units

MATE 220. Principles and Applications of Electrochemistry

Applied electrochemical systems, such as fuel cells, batteries, electrolytic plating, electrosynthesis. Environmental degradation in biological and material systems. Modern electrochemical techniques in analytical chemistry, including polargraphy, cyclic voltammetry, coulometric and pulse methods.

Prerequisite: MATE 155 (or equivalent) or instructor consent.

Normal Grade Rules
3 units

MATE 232. Plasma Processing of Materials

Principles of low temperature plasmas used for materials processing, including plasma fundamentals, plasma chemistry, collision and heating mechanisms and diagnostics. Material interactions in plasma assisted etching, deposition, and surface treatment will be emphasized.

Prerequisite: MATE 133A, MATE 25, and PHYS 51 or equivalent courses.

Normal Grade Rules
3 units

MATE 241. Advanced Methods of Materials Characterization

Methods for characterization and analysis of bulk materials, films, nanoscale structures and surfaces.

Prerequisite: Upper division undergraduate course in chemistry, condensed matter physics or materials.

Normal Grade Rules
3 units

MATE 251. Advanced Solid State Thermodynamics

Thermodynamics of phase changes, nucleation and growth, martensitic changes, diffusion, rate theory, structural changes accompanying transformation, applications of theoretical concepts to materials development.

Prerequisites: MATE 115 and MATE 151 (or equivalent).

Normal Grade Rules
3 units

MATE 260. Theory of Semiconductor Materials

Advanced theory of constitution, structure and energy bands in semiconductors; material requirements of devices; different methods of doping, interconnection, isolation of circuits, material processing and failure analysis.

Prerequisite: MATE 25, MATE 115, MATE 153 or MATE 129 (or equivalent).

Normal Grade Rules
3 units

MATE 265. Principles of Nanomaterials

The fundamental properties of nanomaterials including thermodynamic, mechanical, electrical, magnetic, optical and biochemical properties and synthesis and characterization. Applications including nanomaterials for structural composites, memory and logic devices, clean renewable energy technologies, bio materials in drug delivery, and aerospace applications.

Prerequisites: CHEM 001A, EE 098, MATH 133A, PHYS 051, PHYS 071, MATE 025, and MATE 153.

Normal Grade Rules
3 units

MATE 270. Methods of Thin Film Deposition

Chemical and physical methods of thin film deposition including evaporation, sputtering, chemical vapor deposition, and electroplating. Thermodynamics and kinetics of growth; considerations for reactor design; control of deposition to alter film properties; deposition processes used for metals, dielectrics and semiconductors.

Prerequisite: MATE 152 (or equivalent).

Normal Grade Rules
3 units

MATE 281. MS Thesis/Project Preparation Seminar

Development of project or thesis proposal.

Prerequisites: Classified standing, completion of minimum 9 units towards MS degree, candidacy form submitted, satisfactory completion of university graduate writing requirement.

Misc/Lab: Lab 3 hours.

Credit / No Credit
1 unit

MATE 297. Special Topics in Materials Engineering

Special topics to augment regularly-scheduled graduate courses.

Prerequisite: Graduate standing or instructor permission.

Notes: By arrangement only.

Repeatable for credit
Normal Grade Rules
1-4 units

MATE 298. MS Research/Project

Master's project work in Materials Engineering.

Prerequisite: Admission to candidacy

Corequisite: MATE 281. Not available to Open University Students.

Repeatable for credit
Mandatory CR/NC/RP
1-2 units

MATE 298I. Master's Project Internship

For students completing their MATE Master's Plan B (Project) work at an off-campus location.

Repeatable for credit
Mandatory CR/NC/RP
1-2 units

MATE 299. Master's Thesis

Master's thesis work in Materials Engineering.

Prerequisite: Admission to candidacy. Not available to Open University Students.

Corequisite: MATE 281.

Repeatable for credit
Mandatory CR/NC/RP
1-3 units

MATE 299I. Master's Thesis Internship

For students completing their MATE Master's thesis work at an off-campus location. Prerequisite: MatE 281, MatE 298. MatE 298 may be taken co-currently with instructor approval. Not available to Open University Students.

Repeatable for credit
Mandatory CR/NC/RP
1-3 units

UPPER DIVISION

MATE 1290R. Culminating Experience Supervision

Continued work on dissertation, thesis, or project or in preparation for comprehensive exams beyond the minimum required units for cases in which final deliverables are still in progress and all other degree requirements except the culminating experience have been fulfilled.

Prerequisite: Outstanding RP grade in a previous semester in MatE 298 or 299

Note: No Degree Credit

No Degree Credit
1 unit

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SJSU SAN JOSÉ STATE UNIVERSITY

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Course Descriptions

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DESCRIPTION CONTENTS

Chemistry Department Courses

CHEMISTRY

LOWER DIVISION

CHEM 001A. General Chemistry

Topics including stoichiometry, reactions, atomic structure, periodicity, bonding, states of matter, energy changes, solutions using organic and inorganic examples. Lab program complements lecture.

Prerequisite: Proficiency in high school chemistry or CHEM 010 (with a grade of "C" or better; "C-" not accepted) or instructor consent; proficiency in high school algebra and eligibility for MATH 019; Writing Enrollment Group W-I or W-II, or ENGL 1AF with a grade of CR, or ENGL 1A with a grade of C- or better.

Misc/Lab: Lecture 3 hours/lecture 1 hour/lab 3 hours.

Normal Grade Rules
GE: B1B3
5 units

CHEM 001B. General Chemistry

Topics including stoichiometry, colligative properties, kinetics, equilibria, thermodynamics and electrochemistry. Lab program complements lecture. GE Area: B1 and B3

Prerequisite: CHEM 001A (with a grade of "C" or better; "C-" not accepted).

Misc/Lab: Lecture 3 hours/lab

Normal Grade Rules
GE: B1B3
5 units

CHEM 008. Organic Chemistry

Introduction to the chemistry of carbon compounds for allied health majors and others requiring only 3 units of organic chemistry lecture.

Prerequisite: CHEM 001B (with a grade of "C" or better; "C-" not accepted).

Notes: CHEM 008 is not a satisfactory prerequisite for CHEM 112B. No credit toward Chemistry major or minor.

Normal Grade Rules
3 units

CHEM 009. Organic Chemistry Lab

Organic chemistry laboratory for allied health majors and others requiring only 1 unit of organic chemistry lab.

Pre/Corequisite: CHEM 008.

Misc/Lab: Lab 3 hours.

Notes: No credit toward Chemistry major or minor.

Normal Grade Rules
1 unit

CHEM 010. Chemical Calculations and Concepts

Fundamental concepts in chemistry and problems in chemical symbolism and calculations. For students wishing to continue in chemistry, but lacking prerequisites for CHEM 001A.

Prerequisite: One year high school algebra.

Misc/Lab: Lecture 2 hours/activity 2 hours.

Notes: No credit towards chemistry major or minor.

Normal Grade Rules
3 units

CHEM 030A. Introductory Chemistry

The physical world as seen by a chemist; the ways this world affects humans, other animals and plants used as illustrations of fundamental general chemistry. GE Area: B1 and B3

Misc/Lab: Lecture 2 hours/lab 3 hours.

Notes: No credit toward Chemistry major or minor.

Normal Grade Rules
GE: B1B3
3 units

CHEM 030B. Introductory Chemistry

Organic compounds produced both in nature and artificially and the reactions they undergo, particularly in the human.

Prerequisite: CHEM 030A or CHEM 001A (with a grade of "C" or better; "C-" not accepted).

Misc/Lab: Lecture 2 hours/lab 3 hours.

Notes: No credit toward Chemistry major or minor.

Normal Grade Rules
3 units

CHEM 055. Quantitative Analysis

Introduction to theories and techniques of chemical analysis.

Prerequisite: Chem 001B (with a grade of "C" or better; "C-" not accepted)

Normal Grade Rules
2 units

CHEM 055L. Quantitative Analysis Laboratory

Introduction to chemical analysis techniques.

Pre/Co-requisite: CHEM 055

Misc/Lab: Lab 6 hours.

Normal Grade Rules
2 units

CHEM 090. Problem Solving for Chemistry

Supplemental course taken simultaneously with lower division chemistry lecture courses. Techniques for studying and problem solving emphasis. Preparation and active participation expected. Consult schedule of classes for current offering(s).

Notes: No credit toward chemistry major or minor.

Repeatable for credit
Credit / No Credit
1 unit

UPPER DIVISION

CHEM 100W. Writing Workshop: Chemical Communications

Improvement of skills in scientific writing and speaking. GE Area: Z

Prerequisite: A3 or equivalent second semester composition course (with a grade of C- or better); Completion of core GE, satisfaction of Writing Skills Test and upper division standing. CHEM 055 or CHEM 112A (with grades of "C" or better; "C-" not accepted). Allowed Declared Majors: Chemistry, Biochemistry.

Note: All SJSU Studies courses require completion of the WST and upper division standing. Must be passed with "C or better" to satisfy the CSU Graduation Writing Assessment requirement (GWAR).

Normal Grade Rules
GE: Z
3 units

CHEM 101. Chemistry and the Computer

Analysis of chemical problems. Spreadsheets, mathematical software packages, computer programming, computational chemistry methods.

Prerequisite: CHEM 055 and MATH 030 or MATH 030P (with a grade of "C" or better; "C-" not accepted).

Misc/Lab: Lecture 2 hours/activity 2 hours.

Normal Grade Rules
3 units

CHEM 112A. Organic Chemistry

Chemistry of the carbon compounds, both aliphatic and aromatic, emphasizing underlying concepts.

Prerequisite: CHEM 1B (with a grade of "C" or better; "C-" not accepted).

Normal Grade Rules
3 units

CHEM 112B. Organic Chemistry

Continuation of CHEM 112A.

Prerequisite: CHEM 112A (with a grade of "C" or better; "C-" not accepted).

Normal Grade Rules
3 units

CHEM 113A. Organic Chemistry Lab

Fundamental techniques for the isolation, characterization and synthesis of organic compounds.

Prerequisite: CHEM 112A (with a grade of "C" or better; "C-" not accepted). Chemistry, Biology, Forensic Science-Chemistry, Forensic Science-Biology, Biomedical Engineering and Chemical Engineering majors only, all others by department consent.

Misc/Lab: Lab 6 hours.

Normal Grade Rules
2 units

CHEM 113B. Organic Chemistry Lab

Continuation of CHEM 113A including more advanced work.

Prerequisite: CHEM 113A (with a grade of "C" or better; "C-" not accepted). Chemistry majors only or instructor consent.

Pre/Corequisite: CHEM 112B.

Misc/Lab: Lecture 1 hour/lab 6 hours.

Normal Grade Rules
3 units

CHEM 114. Advanced Organic Chemistry Lab

A capstone course on special topics in laboratory experiments utilizing modern chemical, physical and spectrometric methods. A grade of "C" or better is required for majors.

Prerequisite: CHEM 055, CHEM 100W, CHEM 112B and CHEM 113B (with grades of "C" or better; "C-" not accepted).

Misc/Lab: Lecture 1 hour/lab 6 hours.

Normal Grade Rules
3 units

CHEM 118. Special Topics in Organic Chemistry

Introduction to a wide range of subjects typically missing from the traditional organic chemistry sequence (CHEM 112A and CHEM 112B, CHEM 113A and CHEM 113B). Consult schedule of classes for current offering(s).

Prerequisite: CHEM 112B (with a grade of "C" or better; "C-" not accepted).

Repeatable for credit
Normal Grade Rules
1 unit

CHEM 120S. Chemical Safety Seminar

Safety protocol appropriate to working with hazardous chemicals. Physical nature of hazards, biological effects, permissible exposures, safety precaution techniques. OSHA requirements.

Prerequisite: College level chemistry course. Upper division standing.

Credit / No Credit
1 unit

CHEM 121S. Radiation Safety

See NUCS 121S.

Normal Grade Rules
1-2 units

CHEM 126. Introduction to Nuclear Science

Properties of the atomic nucleus. Applications of nuclear science in biology, chemistry, engineering, geology and physics.

Prerequisite: Lower division calculus, chemistry and physics.

Normal Grade Rules
3 units

CHEM 127. Nuclear Science Lab

Basic techniques and procedures used in nuclear science. Nuclear decay, nuclear reactions, radiation detection and measurements, nuclear analytical methods and tracer techniques.

Prerequisite: NUCS 121S, CHEM 100W and CHEM 126 (with grades of "C" or better; "C-" not accepted); or instructor consent.

Misc/Lab: Lecture 1 hour/lab 6 hours.

ABC/No Credit
3 units

CHEM 130A. Biochemistry

Chemistry of amino acids, carbohydrates, lipids and nucleotides. Studies of protein structure and function, protein isolation, enzyme kinetics and enzyme mechanisms.

Prerequisite: CHEM 112B (with grades of "C" or better; "C-" not accepted).

Note: CHEM 130A and CHEM 135 cannot both be applied towards a chemistry major or a chemistry minor.

Normal Grade Rules
4 units

CHEM 130B. Biochemistry

Continuation of CHEM 130A, Concepts of bioenergetics; biochemical pathways of degradation and synthesis; metabolic regulation.

Prerequisite: CHEM 130A and BIOL 30 (with grades of "C" or better; "C-" not accepted).

Normal Grade Rules
4 units

CHEM 130C. Biochemistry

Advanced biochemical topics selected from the fields of immunology, physiology, molecular and cell biology.

Prerequisite: CHEM 130A and BIOL 30 (with grades of "C" or better; "C-" not accepted).

Normal Grade Rules
3 units

CHEM 131A. Biochemistry Lab

Fundamental qualitative and quantitative techniques and methodology in modern biochemistry.

Prerequisite: CHEM 55, 55L and 113A (with a grade of "C" or better; "C-" not accepted).

Pre/Corequisite: CHEM 130A.

Misc/Lab: Lab 6 hours.

Normal Grade Rules
2 units

CHEM 131B. Biochemistry Lab

A capstone course on advanced isolation techniques and enzyme methodology. A continuation of CHEM 131A. A grade of "C" or better is required for majors.

Prerequisite: CHEM 100W, CHEM 130A, CHEM 131A (with grades of "C" or better; "C-" not accepted).

Pre/Corequisite: CHEM 130B or CHEM 130C.

Misc/Lab: Lecture 1 hour/lab 6 hours.

Normal Grade Rules
GE: R
3 units

CHEM 132. Introductory Biochemistry

Cellular and nutritional biochemistry for those who do not plan to continue in biochemistry, such as nutritional science and other science majors.

Prerequisite: CHEM 30B or CHEM 8 (with grades of "C" or better; "C-" not accepted).

Notes: No credit toward Chemistry major or minor.

Normal Grade Rules
4 units

CHEM 132L. Introductory Biochemistry Lab

Lab work associated with chemistry of foods and nutrition, cellular metabolism, biomacromolecules, vitamins and the structure of carbohydrates, lipids, proteins and nucleic acids.

Prerequisites: CHEM 030B or CHEM 008 (with a grade of "C" or better, "C-" not accepted).

Pre/Corequisite: CHEM 132.

Misc/Lab: Lab 3 hours.

Notes: No credit toward Chemistry major or minor.

Normal Grade Rules
1 unit

CHEM 135. General Biochemistry

Survey course on structure/function of biological molecules such as amino acids, proteins including enzymes, lipids/membranes, carbohydrates, and nucleic. Course topics include intermediary metabolism, regulation, and molecular biology.

Prerequisite: BIOL 30, CHEM 112A, CHEM 112B (with a grade of "C" or better; "C-" not accepted).

Note: CHEM 135 and CHEM 130A cannot both be applied toward a chemistry major or a chemistry minor.

Normal Grade Rules
4 units

CHEM 145. Inorganic Chemistry

Development of unifying principles to understand the chemistry of the elements. An introduction to the chemistry, bonding theories and applications of coordination compounds.

Prerequisite: CHEM 112B (with grade of "C" or better; "C-" not accepted).

Co-requisite: CHEM 113A (with grade of "C" or better; "C-" not accepted).

Normal Grade Rules
3 units

CHEM 146. Physical-Inorganic Techniques

Application of advanced instrumental and preparative techniques to the study of structure, reactivity and spectroscopy of inorganic and organic substances including materials. This is a capstone course. A grade of "C" or better is required for majors. Prerequisite: CHEM 100W, CHEM 101, CHEM 145, CHEM 161A (with grades of "C" or better; "C-" not accepted) or instructor consent. Pre/corequisite: CHEM 155 Misc/Lab: Lecture 1 hour/lab 6 hours.

Normal Grade Rules
3 units

CHEM 155. Instrumental Analysis

Principles and practices in the use of instrumental methods in chemical analysis. Basic physical chemistry necessary to understand the operation and limitations of the instruments.

Prerequisite: CHEM 100W, CHEM 160 or CHEM 161A (with grades of "C" or better, "C-" not accepted).

Misc/Lab: Lecture 3 hours/lab 3 hours.

Normal Grade Rules
4 units

CHEM 159. Advanced Analytical Chemistry

A lecture and problem course which considers advanced topics in chemical analysis. Consult schedule of classes for current offering(s).

Prerequisite: Upper division standing or instructor consent.

Notes: A total of 6 units may apply toward degree.

Repeatable for credit
Normal Grade Rules
1-2 units

CHEM 160. Physical Chemistry

Introduction to the fundamental principles of physical chemistry. Thermodynamics, kinetics, quantum mechanics and spectroscopy.

Prerequisite: CHEM 55, PHYS 2B and MATH 30 (with grades of "C" or better; "C-" not accepted).

Normal Grade Rules
4 units

CHEM 161A. Physical Chemistry

Principles of classical physical chemistry. Chemical thermodynamics, kinetics and electrochemistry.

Prerequisite: CHEM 55 (or CHEM 1B and upper division standing for engineering majors), PHYS 50 and MATH 32 (with grades of "C" or better; "C-" not accepted).

Normal Grade Rules
3 units

CHEM 161B. Physical Chemistry

Principles of modern physical chemistry. Quantum chemistry, spectroscopy and statistical mechanics.

Prerequisite: CHEM 161A and PHYS 52 (with grades of "C" or better; "C-" not accepted). Upper division standing.

Normal Grade Rules
3 units

CHEM 162L. Physical Chemistry Lab

Physical chemical measurements with data analysis and written reports.

Prerequisite: CHEM 100W or ENGR 100W; CHEM 161A or CHEM 160 (all prerequisites with grades of "C" or better; "C-" not accepted).

Note: If using CHEM 161A as a prerequisite, it requires either CHEM 161B or CHE 158 as a co-requisite.

Misc/Lab: Lab 6 hours.

Normal Grade Rules
2 units

CHEM 170A. Foundations of Macromolecular Chemistry

Introduction to macromolecular, supramolecular, mesoscale and nanoscale systems and the principles that govern them including preparation, characterization and physical properties.

Prerequisite: CHEM 112B with grade of "C" or better (C- not accepted)

Normal Grade Rules
1 unit

CHEM 172. Chemistry of Wine

Introduction to chemistry of important components (organic acids, pigments, tannins, flavor constituents, etc.) of grape wine. Chemical changes that occur during fermentation, maturation and aging.

Prerequisite: CHEM 1B (with a grade of "C" or better; "C-" not accepted) or instructor consent.

Normal Grade Rules
1 unit

CHEM 173. Polymer Chemistry

Chemistry of polymeric substances, both natural and synthetic, emphasizing polymers of current interest.

Prerequisite: CHEM 112B (with a grade of "C" or better; "C-" not accepted) or instructor consent.

Normal Grade Rules
3 units

CHEM 180. Individual Studies

Advanced supervised lab work. Work and results described in written and oral reports as required by instructor. An honors course.

Prerequisite: CHEM 120S, instructor consent and "B" average. Not available to Open University Students

Repeatable for credit
Credit / No Credit
1-4 units

CHEM 184. Directed Reading

Assigned readings of selected books, journals and papers to fill gaps in training or for contact with new fields. Regular conferences with instructor. Written report required. An honors course.

Prerequisite: Instructor consent and CHEM 55. Not available to Open University Students

Repeatable for credit
Credit / No Credit
1-3 units

CHEM 190. Introduction to Research

Supplemental course taken simultaneously with lower and upper division chemistry lecture courses. Foundational techniques for doing research. Preparation and active participation expected.

Normal Grade Rules
1 unit

CHEM 191. Undergraduate Seminar

Problem solving and presentation of topics within specialized sub-areas of chemistry by students, faculty and guests. A total of 2 units may be repeated.

Prerequisite: CHEM 1B.

Repeatable for credit
Credit / No Credit
0.5 units

CHEM 199. Senior Thesis or Project

Prerequisite: Minimum of 2 units of CHEM 180 or CHEM 184, instructor consent and CHEM 100W. Not available to Open University Students

Credit / No Credit
1 unit

GRADUATE

CHEM 201. Graduate Studies in Chemistry

Principles and topics in contemporary chemical research. Open to senior undergraduates with instructor consent.

Credit / No Credit
1 unit

CHEM 212. Natural Products

Topics from the structure proof, synthesis and biosynthesis of secondary metabolites.

Prerequisite: CHEM 114 (or equivalent with a grade of "C" or better; "C-" not accepted) or other advanced organic course.

Notes: Alternate years.

Normal Grade Rules
3 units

CHEM 213. Organic Synthesis

Synthetic methods and their application to multistep organic syntheses. Emphasis will be placed on synthetic strategy and a mechanistic understanding of synthetic reactions.

Prerequisite: CHEM 112B (or equivalent with a grade of "C" or better; "C-" not accepted). Alternate years 3 units.

Normal Grade Rules
3 units

CHEM 216. Physical Organic Chemistry

Application of molecular orbital theory to organic chemistry and related topics.

Prerequisite: CHEM 112B and CHEM 161B (or equivalents with grades of "C" or better; "C-" not accepted).

Notes: Alternate years.

Normal Grade Rules
3 units

CHEM 218. Organotransition Metal Chemistry

Structure and reaction chemistry of compounds which contain transition metal-carbon bonds. Applications to catalytic processes and to organic synthesis.

Prerequisite: CHEM 112B and CHEM 145 (or equivalents with grades of "C" or better; "C-" not accepted) or instructor consent.

Notes: Alternate years.

Normal Grade Rules
3 units

CHEM 231. Advanced Biochemistry

Chemistry of the amino acids, peptides and proteins, the chemistry of enzyme action and introduction to the metabolism of amino acids and related compounds.

Prerequisite: CHEM 130B or CHEM 135 (or equivalent with a grade of "C" or better; "C-" not accepted).

Notes: Alternate years.

Normal Grade Rules
3 units

CHEM 232. Nucleic Acids

Topics include structural features of DNA and RNA, protein-DNA or RNA interactions, chemical and enzymatic basis for gene expression, and recombinant DNA methods.

Prerequisite: CHEM 130C or CHEM 135 (or equivalent with a grade of "C" or better; "C-" not accepted).

Notes: Alternate years.

Normal Grade Rules
3 units

CHEM 234. Enzymology

Enzyme structure, function, classification, isolation and methodology, mechanisms, theory of catalysis, enzyme kinetics, pH effects, allosterism and regulation.

Prerequisite: CHEM 130B or CHEM 135 (or equivalent with a grade of "C" or better; "C-" not accepted).

Notes: Alternate years.

Normal Grade Rules
3 units

CHEM 236. Biophysical Methods

Advanced lectures on theory and methodology of biophysical measurements. Topics selected from spectroscopic, electromigration and hydrodynamic methods. Practice, limitations and data reduction procedures for each method examined.

Prerequisite: CHEM 130A or CHEM 135 (or equivalent with a grade of "C" or better; "C-" not accepted) or instructor consent.

Notes: Alternate years.

Normal Grade Rules
3 units

CHEM 237. Bioinorganic Chemistry

Provides an in-depth survey of the frontiers of bioinorganic chemistry from both biochemical and synthetic inorganic chemistry perspectives.

Prerequisite: CHEM 130A (or equivalent with a grade of "C" or better; "C-" not accepted) or instructor consent.

Notes: Alternate years.

Normal Grade Rules
3 units

CHEM 245. Advanced Inorganic Chemistry

Advanced topics of current interest in inorganic chemistry.

Prerequisite: CHEM 145 (or equivalent with grade of "C" or better; "C-" not accepted).

Notes: Alternate years.

Repeatable for credit
Normal Grade Rules
3 units

CHEM 250. Current Topics in Analytical Chemistry

Lecture, discussion and reading assignments on special topics in analytical chemistry. Topics vary each semester. Course may be repeated for credit for different topics.

Prerequisite: CHEM 155 (or equivalent with a grade of "C" or better; "C-" not accepted).

Repeatable for credit
Normal Grade Rules
3 units

CHEM 264. Chemical Applications of Group Theory

The application of group theoretical principles to problems in quantum chemistry, molecular structure, spectroscopy and ligand field theory.

Prerequisite: CHEM 161B (or equivalent with grade of "C" or better; "C-" not accepted) or instructor consent.

Notes: Alternate years.

Normal Grade Rules
3 units

CHEM 265. Molecular Spectroscopy

Interaction of non-ionizing radiation with matter. Development of the foundations of modern molecular spectroscopy. Determination of detailed molecular structure through spectroscopic information.

Prerequisite: CHEM 161B (or equivalent with grade of "C" or better; "C-" not accepted).

Notes: Alternate years.

Normal Grade Rules
3 units

CHEM 268. Laser Spectroscopy

See PHYS 268.

Normal Grade Rules
3 units

CHEM 270. Advanced Chemistry

Lectures, discussions and reading assignments in special fields of chemistry. Topics vary. Course may be repeatable for maximum of 10 units.

Prerequisite: Satisfactory background in upper division chemistry and instructor consent.

Repeatable for credit
Normal Grade Rules
1-5 units

CHEM 270L. Advanced Chemistry Laboratory

Advanced laboratory assignments in special fields of chemistry. Topics vary. Maximum of 4 units may be repeatable.

Prerequisite: Satisfactory background in upper division chemistry, CHEM 120S and instructor consent.

Repeatable for credit
Normal Grade Rules
1-3 units

CHEM 276. Physical Polymer Chemistry

Techniques for characterizing molecular weights of polymers, their distribution functions, polymer chain statistics and solution thermodynamics.

Prerequisite: Satisfactory background in upper division chemistry or materials science or instructor consent.

Notes: Alternate years.

Normal Grade Rules
3 units

CHEM 285. Seminar

Presentation of chemical topics by graduate students, faculty and guests. A maximum of 3 units may be repeated.

Repeatable for credit
Normal Grade Rules
0.5 units

CHEM 291. Divisional Seminar

Problem solving and presentation of topics in chemistry by graduate students, faculty and guests. A maximum of 1 unit may be repeated.

Repeatable for credit
Credit / No Credit
0.5 units

CHEM 293. Applied Bioinformatics

See CHE 293.

Normal Grade Rules
3 units

CHEM 297. MA Special Study

Supervised individual MA project. Maximum of 12 unit may be repeated.

Pre/corequisite: CHEM 201 and instructor consent. Not available to Open University Students

Repeatable for credit
Credit / No Credit
1-3 units

CHEM 298. Research

Supervised individual laboratory work or directed chemical field studies for the student with adequate preparation. Maximum of 12 unit may be repeated.

Pre/Corequisite: CHEM 120S, CHEM 201 and instructor consent. Not available to Open University Students

Repeatable for credit
Mandatory CR/NC/RP
1-6 units

CHEM 299. Master's Thesis

Prerequisite: CHEM 298, instructor consent and admission to candidacy for the master's degree. Maximum of 6 unit may be repeated. Not available to Open University Students

Notes: 1-2 units per semester.

Repeatable for credit
Mandatory CR/NC/RP
1-6 units

UPPER DIVISION

CHEM 1290R. Culminating Experience Supervision

Continued work on thesis or project.

Prerequisite: Outstanding RP grade in a preceding semester in CHEM 299, Master's Thesis

Note: No Degree Credit.

Repeatable for credit
No Degree Credit
1 unit

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SJSU SAN JOSÉ STATE UNIVERSITY

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DESCRIPTION CONTENTS

Chicana and Chicano Studies Department Courses

CHICANA AND CHICANO STUDIES

LOWER DIVISION

CCS 001. Introduction to Chicana and Chicano Studies

Through readings, lectures, discussions and assignments students are introduced to Chicana/o Studies. Students learn how CCS examines problems, policies, and social issues to analyze theories, problems, resistance, historical development, identity choices, social/cultural contributions, and consciousness among Chicanas and Chicanos.

Normal Grade Rules
3 units

CCS 002. Library Studies

An introduction to the library, its resources, and skills for students to be successful in the MAS major and at SJSU. Topics will cover developing a research topic, developing a research strategy, and finding and evaluating print and non-print sources.

Credit / No Credit
1 unit

CCS 007. Mexican Folklorico Dance

Introduction to Mexican Folklorico Dance. Focus is on the development of fundamental Mexican Folk dance skills and knowledge. Review of the interrelationship of dance culture to origins, holidays, people, and historical context. Students learn danzas & Mestizo dances from various states and regions of Mexico (e.g. Veracruz Huasteca, Tamaulipas Norte) and indigenous community (e.g. Oaxaca Mixe) dance categories.

Repeatable for credit
Normal Grade Rules
GE: PE
1 unit

CCS 010A. Mexican Americans and the Development of U.S. History and Government

The American people and institutions from various ethnic points of view. Historical similarities and differences of various groups that make up the U.S. and its historical/ political institutions. From pre-Columbian times to 1865. GE Area: D2, meets additional GE Areas when taken with MAS 10B.

Note: Must complete the entire sequence (MAS 10A and 10B) to satisfy U.S. History, U.S. Constitution and California Government (US1,2,3).

Normal Grade Rules
GE: D2
3 units

CCS 010B. Mexican Americans and the Development of U.S. History and Government

The American people and institutions from various ethnic points of view. Historical similarities and differences of various groups that make up the U.S. and its historical/ political institutions. From 1865 to the present. GE Area: D3, meets additional GE Areas when taken with MAS 10A.

Prerequisite: MAS 10A

Note: Must complete the entire sequence (MAS 10A and 10B) to satisfy U.S. History, U.S. Constitution and California Government (US1,2,3).

Normal Grade Rules
GE: M7
3 units

CCS 025. The Changing Majority: Power and Ethnicity in America

Comparative and historical analysis of racial minorities. Focus on Euro American response to American Indians, Asian Americans, African Americans and Mexican Americans to provide understanding of minority experience in the U.S. as well as American culture. GE Area: D2

Normal Grade Rules
GE: D2
3 units

CCS 030. Race and Ethnicity in Public Space

This course focuses on race and ethnicity. Using readings, field trips, media images, and course discussion students learn about racialization in American society. We explore uses of racial and ethnic categories and their institutionalization in everyday life. GE Area: D1

Normal Grade Rules
GE: D1
3 units

CCS 040. The Chicano Theatre (El Teatro Chicano)

Prerequisite: ENGL 1A or instructor consent.

Misc/Lab: Lecture 1 hour/activity 2 hours.

Repeatable for credit
Normal Grade Rules
3 units

CCS 074. Public Address

Techniques of effective oral communication. Principles of rhetoric through analysis and critique of contemporary issues concerning Mexican Americans. GE Area: A1

Normal Grade Rules
GE: A1
3 units

UPPER DIVISION

CCS 105. Chicanos: United States/Mexico Relations

Exploration of U.S./Mexico relations through the Chicana/o perspective. Emphasis is on both historical and contemporary issues.

Normal Grade Rules
3 units

CCS 115. Chicana/o Families

Examines Mexican and Mexican American families from the 19th to the 21st century. Special attention is given to the diversity of family structures in terms of incorporation, settlement, and socio-cultural interfacing within group and with diverse race/ethnic communities.

Prerequisite: Upper division standing.

Normal Grade Rules
3 units

CCS 120. Political Economy and Chicana/o Communities

Analysis of the American political and economic systems and institutions and their inter-connections from a Chicana/o perspective. Focus on the changing roles of Chicanas/os in the U.S. and global economies and political processes.

Prerequisite: Upper division standing.

Normal Grade Rules
3 units

CCS 125. Chicana/o Community Studies

Examination of Chicana/o community activities, including organizations and contemporary issues.

Normal Grade Rules
3 units

CCS 127. Chicanas/os and the Criminal Justice System

Crime, delinquency and the interaction between Chicano/Latino communities and the criminal justice system. The roles of government agencies, local law enforcement, the courts and corrections.

Prerequisite: Upper division standing or instructor consent.

Normal Grade Rules
3 units

CCS 130. Chicanas and Chicanos in American Society

Analysis of the Chicana/o community and its role in US society, emphasizing understanding social change. Covers critical areas of the Chicana/o experience, including: family, politics, gender and sexual orientation, education, immigration, identity, institutional racism and discrimination, class, and environmental justice. GE Area: S

Prerequisite: Passage of the Writing Skills Test (WST) or ENGL/LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

Note: All SJSU Studies courses require completion of the WST and upper division standing.

Normal Grade Rules
GE: S
3 units

CCS 135. Contemporary Chicana/o Issues

Analysis of selected issues/topics involving Chicano/Latino communities. May be repeated with different topic/issue.

Prerequisite: ENGL 1A or instructor consent.

Repeatable for credit
Normal Grade Rules
3 units

CCS 144. Chicana/o Literature

An examination of selected Chicana/o literature including poetry, short stories, essays, and novels. May be repeated with different topic.

Prerequisite: ENGL 1A or instructor consent.

Repeatable for credit
Normal Grade Rules
3 units

CCS 147. Music in Mexican America

Introduction to historical and stylistic musical developments in the experience of ethnic Mexicans in the U.S. The course surveys various styles and genres (such as corridos, conjunto, Tejano, Chicana/o rock and rap). No musical (performance) experiene is required.

Normal Grade Rules
3 units

CCS 150. Research Methods

A survey of research methods used in Chicana/o studies that address issues in Chicana/o communities.

Prerequisite: ENGL 1A and CCS 130.

Notes: Offered only occasionally.

Normal Grade Rules
3 units

CCS 151. Theory in Chicana/o Studies

An introduction to the theories and study of race, gender and sexuality in Chicana/o communities. Study of the various theoretical and analytical frameworks that are or have been used in the scholarly field.

Prerequisite: CCS 1 and CCS 2

Normal Grade Rules
3 units

CCS 152. The Story of Chicano Spanish

Exploration of the origins, development, and use of the Spanish spoken by Mexican Americans and Chicanas/os in the United States. Examines Chicano Spanish from its roots in Colonial Mexico through its development and use in the United States since the first Spanish/Mexicans settled the American Southwest. Particular focus on the etymology of Chicano Spanish.

Prerequisite: CCS 1 and CCS 2

Normal Grade Rules
3 units

CCS 160. Gender and Sexuality in the Chicana/o Community

An examination of how patriarchy, race, and class shape Chicanas in their everyday lives in American society. It explores how women resist and challenge the limitations placed on them as a result of being women and members of a racial/ethnic group. GE Area: S

Prerequisite: Passage of the Writing Skills Test (WST) or ENGL/LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

Note: All SJSU Studies courses require completion of the WST and upper division standing.

Normal Grade Rules
GE: S
3 units

CCS 170. Hollywood's Image of Chicanos/Chicanas

Analysis of Hollywood's contribution, through cinema, to shaping the socio-political relations between Chicanas/os and the dominant society, plus the use of traditional ideological concepts in promoting stereotyped images of Chicanas/os.

Prerequisite: ENGL 1A and ENGL 2 or instructor consent.

Normal Grade Rules
3 units

CCS 175. Human Migrations: Global Reach

Examines Mexican immigration to the United States within the context of global movements as both historical and contemporary phenomena. Considers social, political, cultural, and economic forces that influence immigration.

Prerequisite: Upper division standing.

Normal Grade Rules
3 units

CCS 180. Individual Studies

Individual research projects and field activities.

Prerequisite: Upper division standing and instructor consent.

Repeatable for credit
Credit / No Credit
1-4 units

CCS 185. Teaching in a Diverse Society

This course will provide future teachers with an understanding of the ways in which diversity in the classroom influences the learning process and how specific teaching strategies can enhance student learning.

Normal Grade Rules
3 units

CCS 192. Int'l Program Studies

Repeatable for credit
Mixed Grading
1-6 units

GRADUATE

CCS 200. Ideology and the Chicana/o Experience

Seminar examining the ideological and philosophical forces that shape Chicana/o experiences and identities.

Note: This course satisfies graduate-level GWAR in this master's program.

Normal Grade Rules
GE: GWAR
3 units

CCS 205. Chicana/o History

Seminar exploring the historical experiences of Chicanas/os, from the indigenous past to the present. Integrates historiography, as it is grounded in an analysis of the development of and changes in the field of Chicana/o history.

Normal Grade Rules
3 units

CCS 210. Foundations in Chicana/o Studies

An analysis of the evolution of Chicana/o thought and intellectual production and the development of the field of Chicana/o Studies. Analyzes the basic constructs and theories underlying Chicana/o Studies, from early works to the present.

Normal Grade Rules
3 units

CCS 215. Chicanas/os and Education

Focus is on key educational issues facing Chicanas/os both historically and currently, including policy, curriculum, cultural conflict, and the different efforts to address them.

Normal Grade Rules
3 units

CCS 225. The Impact of American Institutions on the Chicana/o Community

Seminar analyzing the impact of social, political, economic, and cultural systems on Chicana/o communities.

Normal Grade Rules
3 units

CCS 230. Policy Analysis and the Chicana/o Community

Policy analysis focusing on a specific institution or institutions. Emphasis is on analyzing major issues and social policies that affect the Chicana/o community. Effective strategies to affect social change are examined.

Repeatable for credit
Normal Grade Rules
3 units

CCS 240. Applied Chicana/o Studies Seminar
Integrates major issues and theories from MAS core courses and applies them to current problems. Includes analyses of the latest research on: politics, economics, gender, immigration, education, community development, sexual orientation, and interethnic conflicts and collaborations.

Prerequisite: MAS core.

Repeatable for credit
Normal Grade Rules
3 units

CCS 252. Comparative Ethnic Studies
Interdisciplinary introduction to critical topics and debates in comparative ethnic studies, including race and representation, racialized and gendered labor and citizenship, indigeneity, feminism, nationalism, segregation and environmental injustices.

Normal Grade Rules
3 units

CCS 275. Research Methods
Seminar exploring the methodological challenges posed by Chicana/o Studies. The course helps students develop skills in specific research methods of their choice as well as research proposals for the project/thesis, or other areas of post-graduate work.

Prerequisite: Core courses.

Normal Grade Rules
3 units

CCS 298. Special Studies
Supervised project with advisor.

Prerequisite: Completion of core courses and written consent of the department's graduate advisor.

Repeatable for credit
Mandatory CR/NC/RP
1-6 units

CCS 299. Master's Thesis
Supervised thesis.

Prerequisite: Admission to candidacy for master's degree and written consent of the department's graduate advisor.

Repeatable for credit
Mandatory CR/NC/RP
3-6 units

UPPER DIVISION

CCS 1290R. Culminating Experience Supervsion
Continued work on dissertation, thesis, or project or in preparation for comprehensive exams beyond the minimum required units for cases in which final deliverables are still in progress and all other degree requirements except the culminating experience have been fulfilled.

Prerequisite: Graduate Student, RP recorded for thesis or project courses.

Corequisite: Enrollment in no other courses, all degree requirements completed except thesis or project.

Note: No Degree Credit.

No Degree Credit
1 unit

Child and Adolescent Development, Department of Courses

CHILD AND ADOLESCENT DEVELOPMENT

LOWER DIVISION

CHAD 060. Child Development

The child in the family and community from prenatal life throughout the adolescent years. Observation required. GE Area: E

Normal Grade Rules
GE: EE
3 units

CHAD 070. Lifespan Development in the 21st Century

Understanding life-long development in the 21st century is promoted through studying theories, research, and the role of culture in shaping physical, cognitive, social, and emotional development. We explore commonalities and differences in human development to understand ourselves as global citizens. GE Area: E

Normal Grade Rules
GE: EE
3 units

CHAD 075. Imagination, Play and Adult Creativity

Explores childhood play and imagination as well as adult creativity and the influence of value systems, economic structures, political institutions, social groups and natural environments on the development of play, imagination and creativity. GE Area: D1

Normal Grade Rules
GE: D1
3 units

UPPER DIVISION

CHAD 100W. Writing Workshop

Development of advanced skills in writing, particularly in the field of child development. Focus on development of a mature writing style and organization of persuasive and analytical prose. GE Area: Z

Prerequisite: A3 or equivalent second semester composition course (with a grade of C- or better); Completion of core GE, satisfaction of Writing Skills Test and upper division standing.

Note: All SJSU Studies courses require completion of the WST and upper division standing. Must be passed with C or better to satisfy the CSU Graduation Writing Assessment requirement (GWAR).

Normal Grade Rules
GE: Z
3 units

CHAD 101. Research Methods in Child Development

Study of various techniques and methods used in child development research. Development of proposal writing skills.

Prerequisite: CHAD 060 or instructor consent.

Normal Grade Rules
3 units

CHAD 102. Development of Self in a Culturally Diverse Society

Examines the influence of various institutions and society on the psychosocial development of children and adolescents from culturally diverse backgrounds in the United States. GE Area: S

Prerequisite: Passage of the Writing Skills Test (WST) or ENGL/LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

Note: Lecture and field observations. All SJSU Studies courses require completion of the WST and upper division standing.

Normal Grade Rules
GE: S
3 units

CHAD 104. Program Evaluation and Assessment in Community-Based Programs

Optimizing services for children and families requires knowledge and skills in program evaluation and assessment. Through lecture, discussion and case studies, students are introduced to the principles and varied methods of evaluation, and to underlying ethical issues and cultural competencies.

Pre-requisite: CHAD 060

Normal Grade Rules
3 units

CHAD 106. Concepts of Childhood

Explores the historical diversity in the ways in which childhood has been defined; investigates diverse cultural definitions of childhood; examines the impacts of those beliefs and definitions on human development. GE Area: V

Prerequisite: Passage of the Writing Skills Test (WST) or ENGL/LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

Note: All SJSU Studies courses require completion of the WST and upper division standing.

Normal Grade Rules
GE: V
3 units

CHAD 130. Coding for Scientific Discovery

The physical universe and its life forms are studied through scientific investigations (via computer modeling/coding) that reflect the epistemology and reasoning of scientific practices. These investigations are contextualized with issues related to diversity, equity, ethics, and the teaching/learning of science. SJSU Studies Area: R

Prerequisite: Passage of the Writing Skills Test (WST) or ENGL/LLD 100A with a C or better (C- not accepted), completion of Core General Education.

Normal Grade Rules
GE: R
3 units

CHAD 131. Equity,Resilience,Risk in Public Schools

Students study the interrelationship of individuals, racial groups, and cultural groups to understand and appreciate issues of diversity, equality, and structured inequality in the U.S., its institutions, and its cultures. Specifically, students explore micro and macro influences that place children's educational trajectory and achievement at risk. Students examine protective factors, at both micro and macro levels, that can help achieve educational equality for all children. SJSU Studies Area: S

Prerequisite: Passage of the Writing Skills Test (WST) or ENGL/LLD 100A with a C or better (C- not accepted), completion of Core General Education.

Normal Grade Rules
GE: S
3 units

CHAD 132. Education from a Global Perspective

Explores the meaing of education as a concept, or philosophy, both within the US and around the globe. Concepts of education, such as education as empowerment or education as meeting national goals, are examined. Explores how educational traditions outside the US have influenced American education systems (with respect to culture and societal norms), how cultures develop distinctive education systems and how those education systems interact with education systems in other cultures. Provides a foundation for understanding K-8 visual and performing arts standards as well as standards for K-8 history and social studies. SJSU Studies Area: V

Prerequisite: Passage of the Writing Skills Test (WST) or ENGL/LLD 100A with a C or better (C- not accepted), completion of Core General Education.

Normal Grade Rules
GE: V
3 units

CHAD 133. Introduction to K-8 Math/Science Instruction

Introduction to effective instruction and assessment in K-8 math/science. Reviews learning and pedagogical theories and methods for adapting curriculum for all learners. Reviews developmental processes related to achievement in math/science. Students develop knowledge of Common Core Standards for math/science.

Prerequisite: Upper division standing; probationary admission to the ChAD credential program; and passing the CBEST.

Normal Grade Rules
3 units

CHAD 134. K-8 Math & Science Practicum

Prepares teachers to teach mathematics and science in culturally, ethnically, and linguistically diverse K-8 classrooms. Examines the rationale for interdisciplinary curriculum design and enables students to make informed decisions about creating and implementing interdisciplinary curriculum that strengthens the teaching/learning process.

Prerequisite: Upper division standing; admission to the ChAD credential program; passing the CSET; ChAD 133; Certificate of Clearance from the CTC; and current (last 3 years) TB tests (negative results).

Normal Grade Rules
6 units

CHAD 135. Development of Language & Literacy in Children

An overview of the development of children's communicative competence as well as the foundations of language and literacy in the context of a diverse, technologically complex society. Course content covers theories, contexts for development; linguistic diversity, and information/media literacy.

Prerequisite: Completion of Core General Education, completion of A3 with a grade of C or better, passage of the Writing Skills Test (WST), passage of 100w, upper division standing, and acceptance into the ChAD BA Credential Program.

Normal Grade Rules
3 units

CHAD 136. Foundations of K-8 Language Arts & Social Studies

Introduction to effective instruction and assessment in reading/language arts/social studies. Reviews learning/pedagogical theories, methods for adapting curriculum for all learners, and developmental processes underlying achievement in these areas. Students develop knowledge of Common Core Standards for language arts/social science. Prerequisite: Upper division standing, Admission to the ChAD credential program and a passing score on the CBEST and CSET.

Normal Grade Rules
3 units

CHAD 137. K-8 Language Arts & Social Studies Practicum

Prepares educators to teach language arts/social science in culturally, ethnically, and linguistically diverse K-8 classrooms. Discusses methods/strategies and development of a balanced, comprehensive, evidence-based program that addresses the needs of all learners. Technology use and curricular integration are explored. Prerequisite: Admission to the ChAD credential program, ChAD 136, and a passing score on the CBEST and CSET.

Normal Grade Rules
6 units

CHAD 149. Child Health and Physical Activity

An integrative approach to understanding the multiple factors that impact children's health and physical fitness and that influence the development of lifelong habits. Emphasis is on the inter-relationships between health and fitness and cognitive, social, and emotional well-being.

Prerequisite: CHAD 060 or instructor consent.

Normal Grade Rules
3 units

CHAD 150. Development of Communicative Competence

Survey of major topics in the development of communicative competence (theoretical approaches to understanding language acquisition, contexts for development, language diversity, relationship between language and cognition). Attention given to language acquisition, media influences and language assessment.

Prerequisite: CHAD 060 or instructor consent.

Normal Grade Rules
3 units

CHAD 151. Developing Literacy in a Diverse Society

Knowledge of a balanced literacy approach, including an understanding and use of the major descriptors of developing literacy, appropriate assessment methods and instruments, and a developmental and analytical appreciation for writing strategies, conventions, and applications.

Prerequisite: CHAD 060 or instructor consent.

Normal Grade Rules
3 units

CHAD 152. Foundations for Early Childhood Curriculum

Examines the foundation for implementing integrated ECE curricula. Addresses historical and theoretical issues of curriculum models; assessment of children's learning; research and standards applicable to curriculum in language, literacy, and STEAM (science, technology, engineering, arts, and math) content areas.

Prerequisite: CHAD 60 or Instructor Consent

Normal Grade Rules
3 units

CHAD 157. Adult Supervision for Programs Serving Children, Youth, and Families

The course is designed to provide students with the practical knowledge necessary to meet criteria for adult supervision in programs that serve children and youths.

Pre-Requisite: CHAD 060

Normal Grade Rules
3 units

CHAD 158. Practicum in Community-Based Organizations Serving Children and Youth

This course provides for a practical application of the theoretical information acquired across the ChAD major coursework. Students will participate in the context of a community service organization serving youth and families.

Pre-requisite: CHAD 060

Misc/Lab: Lecture 3 hours/Lab 3 hours

Normal Grade Rules
3 units

CHAD 159. Child Development K-8 Practicum

Principles, techniques, observation and participation in the guidance of elementary and middle school children.

Prerequisite: CHAD 060 or instructor consent.

Misc/Lab: Lecture 1 hours/lab 6 hours.

Normal Grade Rules
3 units

CHAD 160. Child Development Practicum

Principles, techniques, observation and participation in the guidance of children.

Prerequisite: CHAD 060 or instructor consent.

Misc/Lab: Lecture 1 hour/activity 4 hours.

Normal Grade Rules
3 units

CHAD 161. Administration of Early Childhood Progs

Survey of practices and procedures integral to designing, administrating, and assessing high quality early learning environments. Focus is on parent involvement, staff development, curriculum design, and program development and administration.

Prerequisite: CHAD 152

Normal Grade Rules
3 units

CHAD 162. Childhood and Adolescence in a Multicultural Society

Exploration of the agents and processes by which cultural values and social attitudes are transmitted. Interactions of individuals from four groups in the U.S. examined from culturally monolithic and pluralistic perspectives.

Prerequisite: CHAD 060 or instructor consent.

Normal Grade Rules
3 units

CHAD 163. Critical Issues in Adolescent Development

Relationships among major socialization agents (family, peers, school, media). Ethnicity, primary language and socioeconomic status as they affect adolescents.

Prerequisite: CHAD 60 or instructor consent.

Normal Grade Rules
3 units

CHAD 164. Contemporary Parenting

Philosophies and theories of parent-child relationships in a multicultural society.

Prerequisite: CHAD 060 or instructor consent.

Normal Grade Rules
3 units

CHAD 165. Risk and Resilience in a Community Context

This course provides students with an understanding of theories, concepts and research that explain risk and resilience. Students will explore community-based organizations that promote resilience and apply their knowledge of risk and resilience to a variety of settings and contexts.

Pre-requisite: CHAD 060

Normal Grade Rules
3 units

CHAD 168. Social and Emotional Development in Childhood and Adolescence

Understanding issues in social and emotional development and processes of development underlying the emergence of self, social behavior, and emotional competence. Study coping and models of resiliency as related to familial and extrafamilial contexts of social and emotional development.

Prerequisite: CHAD 060 or instructor consent.

Normal Grade Rules
3 units

CHAD 169. Motivating Children and Adolescents in Educational Settings

Perspectives of psychoanalysis, individual psychology, behaviorism and cognitive psychology as applied to the motivation of children and adolescents in educational settings.

Prerequisite: CHAD 060 and PSYC 001 (or equivalent) or instructor consent.

Normal Grade Rules
3 units

CHAD 170. Contextual Influences on Cognitive Development

Survey of major topics and issues in cognitive development and the acquisition of communication skills. The influence of family, school and cultural environment on these developmental changes.

Prerequisite: CHAD 060 or instructor consent.

Normal Grade Rules
3 units

CHAD 173. Crit. Issues in Infant/Toddler Develop.

Surveys infant and toddler development in five domains (i.e. social, emotional, cognitive, language, physical) as well as relevant contexts (e.g. culture). Attention given to best practices in infant and toddler care and factors that place infants and toddlers at risk.

Prerequisite: CHAD 060 (or equivalent) and PSYC 001.

Normal Grade Rules
3 units

CHAD 180. Individual Studies

Individual work on special topics by arrangement.

Prerequisite: Program director consent.

Repeatable for credit
Credit / No Credit
1-4 units

CHAD 195. Senior Seminar in Child Development

Advanced study of recent and seminal research and writing in the area of child and adolescent development.

Prerequisite: CHAD major, 12 units completed in CHAD, senior standing, and completion of CHAD or LLD 100W with a grade of 'C' or better ('C-' not accepted).

Normal Grade Rules
3 units

CHAD 199. Senior Honors Thesis

Supervised thesis. Enrollment limited to qualified senior child and Adolescent development majors.

Prerequisite: Senior or graduate standing and instructor consent.

Repeatable for credit
Credit / No Credit
1-3 units

GRADUATE

CHAD 260A. Seminar in Child and Adolescent Development: Research

Advanced study of recent child and adolescent development research. Examination of quantitative and qualitative research methodologies used in the field.

Prerequisite: Graduate standing; 12 units in CHAD or related disciplines; CHAD 101 (or equivalent); CHAD majors.

Note: This course satisfies graduate-level GWAR in this master's program.

Normal Grade Rules
GE: GWAR
3 units

CHAD 260B. Seminar in Child and Adolescent Development

Capstone course with advanced study of recent research and writings in the area of child and adolescent development. Course includes completion of the cumulative experience project.

Prerequisite: Graduate standing; 9 units in CHAD MA core courses, co-registration in CHAD 298; CHAD majors.

Normal Grade Rules
3 units

CHAD 262. Multicultural Issues in Child and Adolescent Development

Examination of factors influencing the psychosocial development of children and adolescents in a multicultural society. Theoretical and methodological issues affecting the understanding of diversity in child development are also explored.

Prerequisite: 9 units in CHAD or related disciplines.

Normal Grade Rules
3 units

CHAD 266. Social Policy Issues in American Childhood and Youth

Survey of issues in child and adolescent development which are the topics of national debate in the United States. Research background and social policy implications of these topics are addressed.

Prerequisite: 9 units in CHAD or related disciplines.

Normal Grade Rules
3 units

CHAD 268. Seminar in Social and Emotional Development

Examination of current issues in childhood and adolescent social and emotional development: processes underlying self-esteem and self-control and emergence of the self. Contributions of family, school and society are considered.

Prerequisite: 9 units in CHAD or related disciplines.

Normal Grade Rules
3 units

CHAD 270. Seminar in Cognitive and Language Development

Examination of major topics in cognitive and language development: stages of development, nature/nurture controversy, stability of behavior over time. Individual differences in cognition and cognitive styles are also explored.

Prerequisite: 9 units in CHAD or related disciplines.

Normal Grade Rules
3 units

CHAD 298. Special Studies in Child and Adolescent Development

Supervised study in the field of child development.

Prerequisite: Admission to candidacy for the master's degree.

Repeatable for credit
Mandatory CR/NC/RP
3-6 units

CHAD 299. Master's Thesis

Supervised thesis in the field of child development.

Prerequisite: Admission to candidacy for the master's degree.

Repeatable for credit
Mandatory CR/NC/RP
3-6 units

Civil and Environmental Engineering Department Courses

CIVIL ENGINEERING

LOWER DIVISION

CE 008. Plane Surveying
Theory and practice of engineering measurements. Techniques and instruments used establishing horizontal and vertical control. Topographic methods.

Prerequisite: MATH 019 (or eligibility for MATH 30, 30P or 30PL)

Misc/Lab: Lecture 2 hours/lab 3 hours.

Normal Grade Rules
3 units

CE 020. Engineering Graphics, CAD and Programming
Develop visualization skills by using technical sketching, AutoCAD and manual drafting to solve civil engineering graphical problems. Subjects include: isometric sketching, orthographic projection, descriptive geometry, and plan reading. Writing computer programming code and logic flow.

Prerequisites: MATH 019 (or eligibility for MATH 30, 30P or 30PL)

Misc/Lab: Lecture 2 hours/lab 3 hours.

Normal Grade Rules
3 units

CE 095. Theory and Application of Statics
Detailed study of bodies in equilibrium to provide background for advanced study of engineering mechanics. Applications to general three-dimensional bodies and structural systems. Topics include free body diagrams, centroids, internal forces, distributed loads, moments of inertia and friction.

Prerequisites: MATH 031, PHYS 050

Normal Grade Rules
3 units

CE 099. Introductory Statics
Introduction to the study of two-dimensional bodies in equilibrium. Applications to two-dimensional particles and structural systems. Topics include free body diagrams, centroids, and moments of inertia.

Prerequisite: MATH 031, PHYS 050.

Normal Grade Rules
2 units

UPPER DIVISION

CE 112. Mechanics of Materials
Stress distributions, strain, stresses and deformations in machines and structures subject to axial, bending and torsional loads, including combined loads. Stability of columns.

Prerequisite: CE 95 or CE 99, Math 133A. Allowed Declared Majors: Any Engineering

Normal Grade Rules
3 units

CE 113. Mechanics of Materials Laboratory
Experimental stress analysis. Verification of theoretical models through testing. Deflection of beams, inelastic bending and column instability.

Prerequisite: CE 112. Allowed Declared Majors: Any Engineering.

Normal Grade Rules
1 unit

CE 120. Construction Materials Laboratory
Properties, testing and design of civil engineering construction materials, including aggregates for concrete and bituminous mixes. Theory and design of bituminous and portland cement-aggregate mixes.

Prerequisite: CE 112. Allowed Declared Major: Civil Engineering.

Misc/Lab: Lab 3 hours.

Normal Grade Rules
1 unit

CE 121. Transportation Engineering
Principles, theories, practices in transportation engineering design; planning surveys and data analysis; traffic flow characteristics; location and geometric design of systems to include highways, rail, airports, waterways and pipelines. Problems in planning, design and operations.

Prerequisite: CE 008, CE 020, MATH 032, PHYS 050. Allowed Declared Major: Civil Engineering.

Misc/Lab: Lecture 2 hours/lab 3 hours.

Normal Grade Rules
3 units

CE 122. Traffic Engineering
Design of traffic control systems to include traffic signals and other traffic control devices for safe and efficient vehicular flow; traffic surveys; traffic operations.

Prerequisite: MATH 032 or graduate standing. Junior standing. Allowed Declared Major: Civil Engineering.

Normal Grade Rules
3 units

CE 123. Highway and Street Design
Geometric design of highways and streets. Discussion of design policy. Safety and operational features as well as the evaluation of improvements.

Prerequisite: CE 121 or graduate standing

Normal Grade Rules
3 units

CE 130. Civil Engineering Economic Analysis
Marginal theoretic procedures for identifying optimal investment alternatives. Algorithmic approaches to one-dimensional deterministic benefit-cost analysis. Multidimensional and probabilistic decision problems.

Prerequisite: MATH 032. Allowed Declared Major: Civil Engineering

Normal Grade Rules
2 units

CE 131. Introduction to Construction Engineering
Introduction to construction engineering, construction contract types, contracting documents, project delivery methods, owner-engineer-contractor relationships, professional liability, engineering ethics, construction cost estimates, construction planning, basic concepts and techniques of scheduling, creating CPM scheduling, updating and reporting a schedule.

Prerequisite: CE 130.

Normal Grade Rules
3 units

CE 132. Construction Methods and Equipment
Construction earthmoving, excavating, loading, compacting; safety; equipment productivity; construction methods and materials.

Prerequisite: CE 130, CE 140 or graduate standing

Normal Grade Rules
3 units

CE 134. Project Management for Construction
Methods of planning and controlling construction including the participants, processes and techniques required to maintain the life cycle of a construction project. Planning construction operations, estimating, analyzing the bid process, jobsite operations and functions, safety, quality and scheduling.

Prerequisite: CE 131 or Graduate standing. Junior Standing in Engineering.

Normal Grade Rules
3 units

CE 140. Geotechnical Engineering
Soil as an engineering material; Classification, compaction, consolidation, shear strength, and permeability of soils; Basic design concepts for bearing capacity of shallow foundations, lateral earth pressures and slope stability.

Prerequisite: CE 20, CE 112, ME 111, ENGR 100W. Allowed Declared Majors: Civil Engineering, Geology.

Misc/Lab: Lecture 2 hours/lab 3 hours.

Normal Grade Rules
3 units

CE 144. Transport in Porous Media
Flow of groundwater through soil; Unsaturated flow; Groundwater and Geologic Processes; Flow nets for structures; Groundwater Contaminant Remediation; Seepage.

Prerequisite: CE 140, CE 150 or graduate standing.

Normal Grade Rules
3 units

CE 145. Foundation Engineering

Use of field data in Geotechnical design; Design of shallow foundations for bearing capacity and settlement; Design of deep foundations for shear and tip resistance; Analysis of mat foundations. Design of retaining walls.

Prerequisite: CE 140 or graduate standing

Normal Grade Rules
3 units

CE 150. Introduction to Hydrology and Hydraulics

Analysis and design of open channels and pipe networks. Introduction to hydraulic structures, machinery, basic hydrology, and computer modeling. Social impacts of Civil Engineering.

Prerequisite: CE 20, ME 111, ENGR 100W.

Misc/Lab: Lecture 2 hours/lab 3 hours.

Normal Grade Rules
3 units

CE 152. Engineering Hydrology

Hydrologic processes; streamflow, hydrographs and flood routing; groundwater hydraulics; flood frequency analysis.

Prerequisite: CE 150 or graduate standing

Normal Grade Rules
3 units

CE 154. Hydraulic Design

Design of hydraulic structures-reservoirs, dams, spillways, energy dissipators, outlet works, hydroelectric systems and flood control.

Prerequisite: CE 150 and graduate standing

Normal Grade Rules
3 units

CE 160. Structural Analysis

Analysis of statically determinate beams, frames, and plane trusses. Force method of analysis of statically indeterminate structures. Applications to building design. Introduction to computer analysis.

Prerequisite: CE 20, CE 112, and ME 101. Allowed Declared Major: Civil Engineering.

Misc/Lab: Lecture 2 hours/computation period 3 hours.

Normal Grade Rules
3 units

CE 162. Structural Concrete Design

Strength design and alternative load and strength reduction factor theories of reinforced concrete. Design of beams, Slabs, compression members, foundations and building frames. Design project required. Social impacts of Civil Engineering.

Prerequisite: CE 160 and ENGR 100W. Allowed Declared Major: Civil Engineering.

Misc/Lab: Lecture 2 hours/design period 3 hours.

Normal Grade Rules
3 units

CE 163. Design of Steel Structures

Structural steel design elements for buildings and bridges, tension members, beams, columns, bolted and welded connections. Design project.

Prerequisite: CE 160 or graduate standing. Allowed Declared Major: Civil Engineering.

Normal Grade Rules
3 units

CE 164. Design of Wood Structures

Design of structural elements for wood buildings. Horizontal and vertical plywood diaphragms for seismic and wind loads. Tension members, beams, columns and connections. Design project using the National Design Specifications and the Uniform Building Code.

Prerequisite: CE 160 and graduate standing

Normal Grade Rules
3 units

CE 165. Earthquake Resistant Design

Seismic resistant design according to the provisions of the Uniform Building Code. Elements of seismic hazard analysis.

Prerequisite: CE 160 or graduate standing

Normal Grade Rules
3 units

CE 170. Principles of Environmental Engineering

Introduction to environmental (water, air and land) pollution problem, surface water and groundwater quality, water and wastewater treatment processes, drinking water and wastewater treatment flowsheets, design of drinking water treatment processes, contemporary environmental issues, and environmental sustainability.

Prerequisite: CE 20, ME 111, CHEM 1A, and ENGR 100W

Misc/Lab: Lecture 2 hours; lab/design 3 hours.

Normal Grade Rules
3 units

CE 171. Environmental Engineering Analysis and Design

Fundamentals of environmental systems and design: Pollution flow and concentration, pollution materials balance, reaction kinetics for destruction of pollutants, pollution control reactor analysis and design, application in the design of water and wastewater treatment processes.

Prerequisite: CE 170 and graduate standing

Normal Grade Rules
3 units

CE 172. Solid Waste Management Engineering

Introduction to engineering analysis, planning and design problems associated with storage, collection, processing, treatment and disposal of solid waste.

Prerequisite: CE 170 or graduate standing.

Normal Grade Rules
3 units

CE 173. Engineering for Sustainable Environment

Introduction to environmentally conscious engineering and pollution prevention for sustainable environment, and a review of impact of engineering projects, processes and products on the environment.

Prerequisite: CE 170 or graduate standing

Normal Grade Rules
3 units

CE 174. Design of Water Distribution and Wastewater Collection Systems

Application of environmental engineering and fluid mechanics to the design of water distribution systems, wastewater collection systems, water/wastewater storage systems, and appurtenances.

Prerequisite: CE 150 and CE 170

Normal Grade Rules
3 units

CE 180. Individual Studies

Individual work on special topics by arrangement.

Prerequisite: Upper division standing. Allowed Declared Major: Civil Engineering. Not available to Open University Students.

Repeatable for credit
Credit / No Credit
1-3 units

CE 181. Civil Engineering Systems

Principles of systems design for civil engineers, including formulation of project objectives, constraints, problem statements, alternatives generation, alternatives evaluation and decision analysis. Principles demonstrated through case studies.

Prerequisite: CE121, CE 130, CE131, CE140, CE150, CE160, CE170, CE192

Normal Grade Rules
3 units

CE 190. Numerical Solutions of Civil Engineering Problems

Reformulating linear and non-linear, static and dynamic civil engineering problems for numerical solution by computers.

Prerequisite: MATH 133A, ENGR 10. Allowed Declared Majors: Any Engineering

Normal Grade Rules
2 units

CE 192. Probabilistic Models for Civil Engineering Decisions

Elementary concepts of probability theory, statistics and decision theory. Applications to modeling and decision-making.

Prerequisite: MATH 032

Normal Grade Rules
2 units

GRADUATE

CE 210. Advanced Mechanics

Beams on elastic foundations, curved beams, torsion of non-circular sections, introduction to the theory of elasticity, three dimensional stress and strain, failure theories, deep beams.

Prerequisite: CE 161 and MATH 133A (or equivalent).

Normal Grade Rules
3 units

CE 212. Structural Dynamics

Analysis of lumped and distributed parameter systems subject to dynamic loading; matrix analysis and orthogonal functions applied to beams, frames and complex structures. Introduction to earthquake response spectrum analysis.

Prerequisite: CE 161 (or equivalent).

Normal Grade Rules
3 units

CE 220. Rigid and Flexible Pavement Design

Advanced study of the theories and practices in the structural design of flexible and rigid pavements for highways and airports; magnitude and arrangement of wheel loads; stresses in flexible and rigid pavements; pavement behavior under moving loads; design of bases and subbases; methods of structural design of flexible and rigid pavements; pavement evaluation, strengthening and selection criteria; accelerated traffic and loading tests.

Prerequisite: CE 120 and CE 140 (or equivalent).

Normal Grade Rules
3 units

CE 221. Advanced Highway Design

Advanced study of highway location and design principles; advanced analysis of criteria controlling geometric design of highways including design speed, design volume, vehicle requirements and capacity; advanced theory and practice in the design of alignment, grade and cross-section; design of intersections and interchanges; access control, frontage roads.

Prerequisite: CE 121 (or equivalent).

Normal Grade Rules
3 units

CE 222. Transportation Engineering Planning

Technical and economic evaluation of transportation improvements; capacity restraints; geometric design factors, location and relocation principles; optimization theory in transportation system design; user costs and benefits; transport equipment; operation and safety; economic impact, construction and maintenance practices; intergovernmental coordination, cooperation, responsibility and financial participation.

Prerequisite: CE 121 and CE 130.

Note: This course satisfies graduate-level GWAR in this master's program.

Normal Grade Rules
GE: GWAR
3 units

CE 224. Traffic Operations

Flow, density and speed characteristics. Capacity and level of service analysis of transportation facilities with emphasis on highways and streets. Analysis of strategies and tactics, including traffic control, related to optimal use of facilities.

Prerequisite: Instructor consent.

Note: This course satisfies graduate-level GWAR in this master's program.

Normal Grade Rules
GE: GWAR
3 units

CE 225. Public Transportation Systems

Performance characteristics of public transportation systems. Planning, design and operational issues related to public transportation systems. Emerging technologies.

Prerequisite: CE 121 or instructor consent.

Note: This course satisfies graduate-level GWAR in this master's program.

Normal Grade Rules
GE: GWAR
3 units

CE 226. Topics in Transportation Engineering

Presentation and discussion of special topics in transportation engineering. Topics may vary each semester. Course may be repeated with instructor consent.

Prerequisite: Graduate standing or instructor consent.

Repeatable for credit
Normal Grade Rules
3 units

CE 232. Construction Estimating and Cost Analysis

Estimating and bid preparation in the construction industry including cost analysis techniques for labor, materials, equipment and overhead costs on a construction project. Development of schedules and networks for construction.

Prerequisite: CE 130 and CE 131.

Repeatable for credit
Normal Grade Rules
3 units

CE 234. Construction Law

Construction contracts and specifications, bid documents, sources of law, agency relationships, contract formation, breach of contract, tort law, contract interpretation, changes, mechanics liens, claims and disputes.

Prerequisite: CE 131 (or equivalent).

Normal Grade Rules
3 units

CE 236. Construction Operations Analysis

Overall aspects of productivity improvement for construction operations. Quantitative methods for measuring, analyzing and improving productivity at job sites. Concepts of computer simulation to study, plan and optimize construction operations.

Prerequisite: CE 132 or instructor consent.

Normal Grade Rules
3 units

CE 237. Sustainable Construction

Green construction processes, sustainable construction materials, material recycling and reuse in construction, green construction policy, green building case study, economic analysis of green buildings, and LEED rating systems and certification.

Prerequisite: CE 130 and CE 131, or instructor consent.

Note: This course satisfies graduate-level GWAR in this master's program.

Normal Grade Rules
GE: GWAR
3 units

CE 238. Advanced Construction Project Management

Provides the principles and techniques of construction project management and develops the engineering project management skills necessary o successfully participate in the management of the project delivery process.

Prerequisite: CE 131 or instructor consent.

Normal Grade Rules
3 units

CE 239. Information Technology in Construction

Provides information technology applications in construction, from traditional computer applications to emerging web-based and mobile technologies. Design, development, and implementation of decision support systems for construction management applications.

Prerequisite: CE 131 or instructor consent.

Normal Grade Rules
3 units

CE 240. Advanced Soil Mechanics

Advanced study of classical and modern soil mechanics theories, including: consolidation, stress and deformation, shear strength. In-depth discussion of stress paths, flow nets and stress variants.

Prerequisite: CE 140 (or equivalent).

Note: This course satisfies graduate-level GWAR in this master's program.

Normal Grade Rules
GE: GWAR
3 units

CE 243. Advanced Foundation Design

Advanced analysis of foundation design for atypical soil conditions. Seismic design of foundations. Laterally loaded foundations. Structural design of shallow foundations.

Prerequisite: CE 141 (or equivalent).

Normal Grade Rules
3 units

CE 245. Geotechnical/Structural Seminar

Meetings for the presentation and discussion of special topics and case histories of significant engineering projects by the faculty, guest lecturers and graduate students. Topics will vary each semester. May be repeated for credit when content changes.

Prerequisite: CE 140 (or equivalent).

Note: This course satisfies graduate-level GWAR in this master's program.

Repeatable for credit
Normal Grade Rules
GE: GWAR
3 units

CE 246. Geotechnical Earthquake Engineering

Wave propagation in soils, seismology, fundamentals of dynamic soil behavior, seismic hazard analysis, site effects, liquefaction, and seismic design.

Prerequisite: CE 140 (or equivalent).

Normal Grade Rules
3 units

CE 247. Earth Retention and Stability

Design of classic retaining walls using lateral earth pressure theory; Slope stability of earthen embankments, cut slopes and natural slopes; Design of modern earth-retention systems, including soil nails, mechanically-stabilized earth walls, soil anchors, etc.

Prerequisite: CE 140 or instructor consent

Normal Grade Rules
3 units

CE 248. Forensic Engineering and Failure Analysis

Analysis of civil engineering failures. Investigation into causes of failure, implications of failure and lessons learned from failure. Legal obligations and responsibilities of ethical engineers.

Prerequisite: Graduate Standing

Normal Grade Rules
3 units

CE 250. Modeling in Water Resources Engineering

Technical, economic, legal, political, environmental and social factors in decision-making in water project planning and water resources development and management.

Prerequisite: Instructor consent.

Note: This course satisfies graduate-level GWAR in this master's program.

Normal Grade Rules
GE: GWAR
3 units

CE 251. Hydraulics of Open Channels

Conveyance curves, the varied flow equation, specific energy, channel transitions, waves, routing of floods and super-critical flow.

Prerequisite: ME 111; Math 133A or instructor consent.

Normal Grade Rules
3 units

CE 252. Advanced Hydrology

Advanced topics in hydrograph analysis, flood routing, statistical methods and groundwater flow.

Prerequisite: CE 150 and CE 152.

Normal Grade Rules
3 units

CE 254. Water Resources Systems Management

Various modeling techniques for optimal planning and operation of water resources systems, which involve many random variables.

Prerequisite: CE 150 or instructor's consent.

Note: This course satisfies graduate-level GWAR in this master's program.

Normal Grade Rules
GE: GWAR
3 units

CE 255. Sediment Transport

Introduction to sediment transport; concepts of bedload, suspended load, bed formation, stable channels and regime theory; environmental issues.

Prerequisite: CE 150.

Normal Grade Rules
3 units

CE 256. Sustainable Water Resources Engineering

Water use, water-energy nexus, water excess management, environmental impact assessment, risk-based analysis, and water resources management.

Prerequisite: CE 150 or instructor's consent.

Normal Grade Rules
3 units

CE 258. GIS Applications in Water Resources Engineering

Geographic Information Systems (GIS) Applications in hydrology and water supply, spatial analysis, Digital Elevation Model (DEM), pre and post processing of hydrologic model

Prerequisites: CE 150 or instructor consent

Normal Grade Rules
3 units

CE 260. Matrix Analysis of Structures

Linear static and dynamic analysis of structures by matrix methods, including sidesway of frames and multistory buildings. Introduction to finite element analysis of structural systems. Discussion of computer-aided design of structures.

Prerequisite: CE 161 (or equivalent).

Normal Grade Rules
3 units

CE 261. Advanced Structural Concrete Design

Design of beams, columns, slabs, walls and connections according to provisions of the American Concrete Institute. Advanced topics in compression elements, shear torsion and development. Elements of bridge and building systems.

Prerequisite: CE 161 and CE 162 (or equivalent).

Normal Grade Rules
3 units

CE 264. Prestressed Concrete Design

Basic concepts and history; pretensioned and post-tensioned systems; prestress losses; cracking and ultimate moments; design of simple spans, continuous spans and slabs; composite beams; tanks.

Prerequisite: CE 161 and CE 162 (or equivalent).

Normal Grade Rules
3 units

CE 265. Advanced Seismic Design

Design of frames, shear walls and other building systems to resist earthquake accelerations. Applications of dynamic analysis. Introduction to performance-based engineering.

Corequisite: CE 212 or instructor consent.

Normal Grade Rules
3 units

CE 267. Advanced Steel Design

LRFD (Load Resistant Design) of steel structures, including buildings and bridges. Detailing of steel frames for seismic resistance. Structural details of connections.

Prerequisite: CE 163 or instructor consent.

Note: This course satisfies graduate-level GWAR in this master's program.

Normal Grade Rules
GE: GWAR
3 units

CE 269. Advanced Topics in Structural Design

Concepts in reinforced masonry, seismic isolation, structural retrofitting, computer aided design and modern construction materials. Topics to be specified at beginning of semester. May be repeated for credit when content changes.

Repeatable for credit
Normal Grade Rules
3 units

CE 270. Environmental Engineering Process Kinetics

Process kinetics in drinking water and wastewater treatment.

Prerequisite: CE 170

Normal Grade Rules
3 units

CE 271. Physical/Chemical Processes in Environmental Pollution Control

Theory, analysis and engineering design of physical and chemical systems in environmental pollution control. Topics include mechanisms involved in physical/chemical destruction of pollutants, clarification, softening, coagulation and others.

Prerequisite: CE 170 or instructor consent.

Repeatable for credit
Normal Grade Rules
3 units

CE 272. Biological Processes in Environmental Pollution Control

Theory, analysis and engineering design of biological systems in environmental pollution control. Topics include mechanism of biological destruction of pollutants, aerobic and anaerobic processes, nutrient removals and others.

Prerequisite: CE 170 or instructor consent.

Repeatable for credit
Normal Grade Rules
3 units

CE 273. Water Treatment and Plant Design

Studies in the theory, design and operation of water treatment facilities. Water quality standards and water quality control.

Prerequisite: CE 170 or instructor consent.

Repeatable for credit
Normal Grade Rules
3 units

CE 274. Wastewater Treatment and Plant Design

Studies in the theory, design and operation of traditional primary and secondary sewage treatment facilities. Review of water pollution control laws and regulations.

Prerequisite: CE 170 or instructor consent.

Repeatable for credit
Normal Grade Rules
3 units

CE 275. Industrial and Hazardous Waste Management and Treatment

Study of industrial and hazardous wastes. Sources, characteristics, management, treatment and disposal. Effects on the environment.

Prerequisite: CE 170 or instructor consent.

Repeatable for credit
Normal Grade Rules
3 units

CE 276. Management and Reuse of Process Solids

Solids production at water and wastewater treatment plants, types, characteristics, processing, management and reuse including biofuel production from wastewater biosolids, and disposal of residual matter.

Prerequisite: CE 271 and CE 272.

Repeatable for credit
Normal Grade Rules
3 units

CE 277. Environmental Sustainability

Studies of various engineering design and practices for sustainable environment.

Prerequisite: CE 170 or Instructor Consent

Normal Grade Rules
3 units

CE 279. Special Topics in Environmental Engineering

Current problems in environmental engineering. Course is repeatable for credit with instructor consent.

Prerequisite: Instructor consent.

Note: This course satisfies graduate-level GWAR in this master's program.

Repeatable for credit
Normal Grade Rules
GE: GWAR
3 units

CE 297. Special Topics in Civil Engineering

Special topics to augment regularly-scheduled graduate courses.

Normal Grade Rules
1-4 units

CE 298. Special Problems

Advanced individual research and projects.

Prerequisites: Not available to Open University Students.

Repeatable for credit
Mandatory CR/NC/RP
1-6 units

CE 299. Master's Thesis or Project

Prerequisite: Admission to candidacy for the MS degree. Not available to Open University Students

Repeatable for credit
Mandatory CR/NC/RP
1-6 units

College of Health and Human Sciences Courses

APPLIED SCIENCE AND ARTS

UPPER DIVISION

APSC 198ITL. International Experience Seminar
Seminar for students participating in an approved international experience activity. Students will analyze and reflect upon their international experience in relation to discipline-specific knowledge acquired through academic study, their intended career, and their identity as a global citizen.

Credit / No Credit
1-6 units

College of Humanities and Arts Courses

HUMANITIES AND ARTS

UPPER DIVISION

HA 157SL. Community Action/Community Service

See COMM 157SL.

Normal Grade Rules
GE: S
3 units

HA 187. Creative Team Practicum

Collaborative hands-on practical application of concepts and skills for written and visual communications solutions in a fast-paced client-driven environment supported by an interdisciplinary team of instructors of technical writing, graphic design, videography and photography. Enrollment requirements are based on section topic. Prerequisites: Departmental consent required.

Repeatable for credit
Normal Grade Rules
3 units

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College of Science Courses

SCIENCE

LOWER DIVISION

SCI 001. Academic Excellence Workshop
Cooperative learning activity to accompany selected College of Science courses and sections.

Corequisite: Enrollment in course and section accompanying workshop.

Notes: No credit toward requirements of the major or requirements of the minor for any science major or minor. May be used for university electives.

Misc/Lab: Activity 4 hours.

Repeatable for credit
Credit / No Credit
1-2 units

SCI 002. Success in Science
Emphasis on development of study skills, time management, and personal growth needed to transition from high school to university. Orientation to SJSU policies and procedures; and degree and career options in science. Guest lecturers, peer advisors, and community building. GE Area: E

Misc/Lab: Lecture 2 hour/activity 2 hours.

GE: E

Normal Grade Rules
GE: EE
3 units

SCI 075. Fundamentals of Leadership and Career Accelerator
This course is a foundational course designed to begin preparing students in their sophomore year or first year of transfer to SJSU to practice the leadership habits of mind and workplace skills needed to thrive in 21st century workplaces once they graduate from school. Given the increasingly competitive, and globalized job marketplace, this course enables participants to cycle through rounds of interactive experiences and practice to acquire "hard" and "soft" skills needed to succeed. Students will apply these skills in real-life leadership situations and build meaningful networks of peers and adults, all while activating their personal assets and deepening their sense of self and community.

Prerequisite: ENGL 1A

Misc/Lab: 2 hours lecture/ 2 hours lab

Normal Grade Rules
3 units

SCI 090. Success as Transfer Students
Emphasis on development of study skills, time management, and personal growth needed to transition from community college to university. Orientation to SJSU policies and procedures; and degree and career options. Guest lecturers, peer advisors, and community building.

Misc/Lab: Lecture 1 hour/activity 2 hours/recitation 1 hour.

Normal Grade Rules
2-3 units

UPPER DIVISION

SCI 101. Leadership and Career Accelerator
This is course is designed to prepare students for the increasingly competitive, globalized job marketplace. It is aimed at students in their junior year or first year of transfer, though all upper division students of all majors can participate. Through online, peer learning, interactive experiences, and reflection, students will build meaningful networks, discover their innate leadership, and cultivate the "hard" and "soft" skills and habits of mind needed to thrive in twenty-first century workplaces and make positive impact through their careers upon graduation. The course's primary text will serve as the foundation to the course, but will include additional articles and videos each week that are curated from a wide range of fields and that includes perspectives of both researchers and practitioners. Sci 75 and Sci 125 can not both be taken for credit.

Prerequisite: Upper division standing.

Misc/Lab: 2 hours lecture/ 2 hours lab

Normal Grade Rules
3 units

SCI 105. Integrated Science Teacher Enhancement
A thematic approach to the study of relevant topics and concepts in integrated science. Development of inquiry-based, hands-on classroom activities in integrated science.

Prerequisite: Teacher credential and/or instructor consent.

Repeatable for credit
Credit / No Credit
1-3 units

SCI 110. Global Themes of Science
The themes of energy, evolution, and systems & interactions are used to examine conceptual connections between biological, earth and physical sciences. Emphasis on strategies best suited to teach these unifying global themes of science. Prerequisite: BIOL 21; GEOL 103 or Instructor consent.

Normal Grade Rules
3 units

SCI 157SL. Community Action/Community Service
See COMM 157SL.

Normal Grade Rules
GE: S
3 units

SCI 180. Individual Studies
Work, under guidance, in special fields.

Prerequisite: Instructor consent.

Repeatable for credit
Credit / No Credit
1-4 units

SCI 184. Directed Reading
Assigned readings of selected books, journals and special papers chosen to fill gaps in training or to introduce new fields. Evaluation through weekly reports and conferences.

Prerequisite: Instructor consent.

Repeatable for credit
Credit / No Credit
1-4 units

GRADUATE

SCI 299. Master's Thesis
Thesis development for Plan A MA Natural Science students, to be carried out under direct supervision of a faculty member and committee. Seminar presentation required upon final completion of thesis.

Prerequisite: Admission to candidacy for the master's degree and selection of a thesis committee.

Repeatable for credit
Mandatory CR/NC/RP
1-6 units

UPPER DIVISION

SCI 1003. Workshop Facilitator Training
Practical collaborative education theory and techniques for academic excellence workshop facilitators.

Prerequisite: Current appointment as AEW Facilitator.

Notes: No Degree Credit.

Repeatable for credit
No Degree Credit
1 unit

College of Social Sciences Courses

COLLEGE SOCIAL SCIENCES

LOWER DIVISION

SSCI 090. Successfully Negotiating Social Science

Course designed to help students in the College of Social Sciences, enabling them to learn the skills and knowledge necessary to become successful students. Students will explore the ways in which different social scientists see, research, analyze, understand and communicate.

Normal Grade Rules
1 unit

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Communication Studies Department Courses

COMMUNICATION STUDIES

LOWER DIVISION

COMM 010. Communication and Human Relationships
Course examines role of communication in developing/maintaining human relationships. Discussion focuses on relational communication processes as they occur in various settings, such as the intercultural, the family, the intimate, the organizational, the public and between/within genders. GE Area: D1

Normal Grade Rules
GE: D1
3 units

COMM 020. Public Speaking
Principles of rhetoric applied to oral communication; selecting, analyzing, adapting, organizing and delivering ideas effectively. GE Area: A1

Normal Grade Rules
GE: A1
3 units

COMM 020N. Public Speaking for Nonnative Speakers
Public speaking for the nonnative speaker. Course content identical to COMM 20 with intercultural emphasis. GE Area: A1

Prerequisite: English Language Learners/nonnative speakers

Normal Grade Rules
GE: A1
3 units

COMM 021. Performing Culture and Society
Live performance used as a method for exploring human behavior as it occurs within contemporary cultures and societies. Performance assignments will draw from among the following: performance of texts, street performance, personal narrative, oral history, everyday life, and social justice. GE Area: D1

Normal Grade Rules
GE: D1
3 units

COMM 040. Argumentation and Advocacy
Principles of inquiry and advocacy in public discussion and necessary basic skills for intelligent participation in discussion and debate. GE Area: A1

Normal Grade Rules
GE: A1
3 units

COMM 041. Critical Decision Making
Critical reasoning and problem solving in group discussion. Examination of the relationship between critical decision-making and group communication. Practice in-group problem solving as a means for developing critical thinking skills. GE Area: A3

Prerequisite: Completion of GE Areas A1 and A2 each with grades of C- or better

Normal Grade Rules
GE: A3
3 units

COMM 045. Media and Culture
Application of critical thinking, writing, and oral communication skills in the analysis of media representations of culture. Practice in reasoning, advocating ideas, researching and evaluating arguments, developing well supported factual conclusions, and engaging in meaningful dialogue on diverse issues. GE Area: A3

Prerequisite: GE Areas A1 (Oral Communication) and A2 (Written Communication I, English 1A) with grades of "C" or better (C- not accepted).

Normal Grade Rules
GE: A3
3 units

COMM 074. Fundamentals of Intercultural Communication
Emphasis on direct experience and the development of skill in intercultural communication. Provides opportunity for discussion of variations within and among cultures. Encourages students to examine their own cultural heritage. GE Area: E

Note: All courses with a 'Q' suffix are designated as First Year Experience courses.

Normal Grade Rules
GE: EE
3 units

COMM 074Q. Fundamentals of Intercultural Communication
Emphasis on direct experience and the development of skill in intercultural communication. Provides opportunity for discussion of variations within and among cultures. Encourages students to examine their own cultural heritage. GE Area: E

Note: All courses with a 'Q' suffix are designated as First Year Experience courses.

Normal Grade Rules
GE: EE
3 units

COMM 080. Communication Workshop
Designed to enhance students' personal and professional communication and public speaking skills. Flexible student-directed course requires completion of instructional modules and workshops.

Repeatable for credit
Credit / No Credit
1 unit

COMM 091A. Activity Project in Forensics: Intramural Debate
Supervised activity in the forensics program. A: Intramural competition in debate. A total of 3 units applicable to the major may be repeated.

Repeatable for credit
Credit / No Credit
1 unit

COMM 091B. Activity Projects in Forensics: Intramural Platform Speaking
Supervised activity in the forensics program. B: Intramural Individual events-Platform Speaking including persuasive speaking and communication analysis. A total of 3 units applicable to the major may be repeated.

Repeatable for credit
Normal Grade Rules
1 unit

COMM 091J. Judge Training
Community service course designed to train students to judge high school speech and debate tournaments. Students are taught the rules and given criteria for judging each event in oral interpretation of prose poetry, and drama; platform speaking; debate; and Student Congress. Students are required to write cogent ballots that help competitors.

Credit / No Credit
1 unit

UPPER DIVISION

COMM 100W. Writing Workshop: Writing for Influence
Current conventions and forms of exposition, argument and persuasion. Writing for the general and specialized audience from the thesis statement approach. GE Area: Z

Prerequisite: A3 or equivalent second semester composition course (with a grade of C- or better); Completion of core GE, satisfaction of Writing Skills Test and upper division standing.

Note: All SJSU Studies courses require completion of the WST and upper division standing. Must be passed with C or better to satisfy the CSU Graduation Writing Assessment requirement (GWAR).

Normal Grade Rules
GE: Z
3 units

COMM 101C. Junior Seminar: Theorizing Communication
Overview of the contemporary field of communication studies based on survey of theoretical and practical responses to communication problems arising from changing social contexts. Discussion of communication literature, resources and methods of inquiry. Students will begin their major portfolios.

Prerequisite: Completion of GE oral communication.

Normal Grade Rules
4 units

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COMM 105P. Communication, Self and Society

Examines the role of communication in the development of the self and the creation of social worlds. Students develop an appreciation for and practical skills in negotiating self-society tensions inherent in a diverse, global, and mediated environment.

Prerequisite: Completion of A1 Core GE requirement or instructor consent.

Normal Grade Rules
4 units

COMM 110F. Interpersonal Communication

Integration of theory and practice to facilitate student understanding and skills in evaluating and participating in interpersonal relationships across contexts and the lifespan.

Prerequisite: Upper division standing or instructor consent.

Normal Grade Rules
4 units

COMM 111P. Interviewing

Setting and achieving communicative goals essential in preparing for and conducting interviews. Special attention on developing effective questions and responses. Participation in a variety of interviews, including employment, appraisal, journalistic, research, survey, health care, and persuasive.

Prerequisite: Completion of the GE oral communication.

Normal Grade Rules
4 units

COMM 113P. Games in Everyday Life

Games serve key communicative functions in promoting fun, play, collaboration, competition, and learning. Explores games and the use of game elements across communication contexts, including interpersonal, small group, organizational/business, health, and education.

Prerequisite: Completion of GE Area A1

Normal Grade Rules
4 units

COMM 114P. Business and Professional Speaking

Application of current theory and research to develop communications skills within larger global and ethical issues across a range of professional and workplace contexts, including interviews, oral reports, persuasive presentations, group meetings, and mediated public speaking.

Prerequisite: Completion of A1 Core GE requirement or instructor consent.

Normal Grade Rules
4 units

COMM 115P. Communication and Conflict

Focus on theories of communication as related to interpersonal and group conflict. Development of communication skills in conflict management, and applied activity in interpersonal conflict management.

Prerequisite: Completion of A1 Core GE requirement or instructor consent.

Normal Grade Rules
4 units

COMM 116P. Mediation: Theory and Practice

Theoretical background and communication skills training in Mediation Practice. Basic 40 hours of training includes readings, analysis and role plays as well as some observation.

Prerequisite: Completion of A1 Core GE requirement or instructor consent.

Normal Grade Rules
4 units

COMM 117F. Understanding Play & Games

Examines play and games as fundamental social experiences central to developing cultural norms and structures. Explores topics such as gameplay, identity, narrative, and serious games. Special attention to communication theories that provide insight into the nature of play and games.

Prerequisite: Upper Division Standing

Normal Grade Rules
4 units

COMM 119I. Researching Games

Introduction to research methods commonly used to study games and human communication, such as observation, textual analysis, interviewing, and surveys. Students develop and apply analytical skills and ethical practices for understanding, conducting, and evaluating research in games and communication.

Prerequisite: Upper Division Standing

Normal Grade Rules
4 units

COMM 120P. Persuasive & Presentation Skills

Applies theories, concepts, and research associated with persuasive communication to develop effective presentation skills. Considers broader issues of persuasion and influence at societal and global levels, examining how those issues provide a context for everyday persuasion.

Prerequisite: Completion of A1 Core GE requirement or instructor consent.

Normal Grade Rules
4 units

COMM 121P. Performance as Practice

Exploration of performance as a site of communication and embodied practice. Will examine the many ways in which performance exists and operates in our culture with a focus on literature, ethnographic fieldwork, personal narrative, and everyday rituals.

Prerequisite: Completion of A1 Core GE requirement or instructor consent.

Normal Grade Rules
4 units

COMM 122F. Performance Studies

Examines the constitutive effects of performance, broadly understood, across a variety of communication contexts. Special attention paid to how performances construct experiences of culture, everyday life, ritual, political protest, social belonging, and identity.

Prerequisite: Upper division standing or instructor consent.

Normal Grade Rules
4 units

COMM 123I. Performance of Ethnodrama

Explores how live performance can be used to create, interpret, and present arts-based scholarship. Students will read ethnodramatic texts and engage in original research, script writing, rehearsal, and performance. Emphasis is on cross-cultural performances.

Prerequisite: Upper division standing or instructor consent.

Normal Grade Rules
4 units

COMM 124P. Communication Training and Development

Principles of designing and delivering ethical and socially responsible communication training programs including needs assessment, setting objectives, program design, selection and development of training materials, presentation skills, facilitation skills, and training evaluation.

Prerequisite: Completion of A1 Core GE requirement or instructor consent.

Normal Grade Rules
4 units

COMM 125P. Ensemble Performance

Students collaborate to conceive, write, rehearse, and produce an ensemble project culminating in a public performance. Readings and written work focus on performance as a community-building process as well as dramaturgical research for the production.

Prerequisites: Completion of A1 of Core GE requirement or instructor consent.

Repeatable for credit
Normal Grade Rules
4 units

COMM 126F. Race and Performance

Examination of the various ways in which racial identities are performed across a variety of communication contexts, including daily life, popular entertainment, ritualized behavior, cultural practice, and the public sphere.

Prerequiste: Completion of GE Area A1.

Normal Grade Rules
4 units

COMM 130F. Activism, Action, and Resistance

Examines national and global historical and contemporary social movements in the context of communication practices ranging from street protests to use of media and the internet. Resistance is explored using variety of theoretical and cultural perspectives.

Prerequisite: Upper division standing.

Normal Grade Rules
4 units

COMM 131P. New Media/You Media

Practical application of current communication theories and research to facilitate skill development in the use and critique of new media tools, such as social networking sites, blogs, microblogs, wikis, personal webpages, video sharing sites, and similar digital communication venues.

Prerequisite: Upper division standing.

Normal Grade Rules
4 units

COMM 132F. Dis/Ability Communication

Theoretical foundations in dis/ability communication facilitate student understanding of the social construct of disabilities and provide means to deconstruct communications surrounding difference.

Prerequisite: Upper Division Standing

Normal Grade Rules
4 units

COMM 133F. Ethical Problems in Communication

Examines current and historical theoretical approaches to ethical problems across communication contexts, including workplace, interpersonal, and mediated settings. Explores the role of cultural and societal practices in ethical communication.

Prerequisite: Upper division standing.

Normal Grade Rules
4 units

COMM 140P. Argumentation and Debate

Principles of argumentation including analysis of propositions, issues, evidence and reasoning. Training and experience in debate forms.

Prerequisite: Completion of A1 of Core GE requirement or instructor consent..

Normal Grade Rules
4 units

COMM 141P. Small Group Communication

An applied approach to small groups and teamwork that links theory and practice across a variety of contexts. Emphasis on the relationships between group communication and larger cultural issues, such as diversity and democracy.

Prerequisite: Completion of GE oral communication.

Normal Grade Rules
4 units

COMM 144F. Organizational Communication

Application of organizational communication theories and concepts to communication processes and functions in organizational life. Examines topics such as ethics, leadership, teams, culture, networks, power, diversity, identity, and assessment of communication practices.

Prerequisite: Upper division standing or instructor consent.

Normal Grade Rules
4 units

COMM 145I. Rhetorical and Cultural Criticism

Survey of leading theorists, critics and movements in the area of rhetoric and cultural studies. Examines interpretations of speech and discourse as an approach to understanding both real life issues and advanced work in communication studies.

Prerequisite: Upper division standing or instructor consent.

Normal Grade Rules
4 units

COMM 146F. Communication and the Environment

Examination of communication in environmental issues, especially conflicting values and modes of discourse that assume different meanings of human-nature relationship. Emphasis on environmentalism as popular movement, rhetoric of radical ecology and the technical discourse of environmental policy administration.

Prerequisite: Upper division standing or instructor consent.

Normal Grade Rules
4 units

COMM 147P. Argumentation and Persuasion in Courts of Law

Principles of legal argumentation, cross-examination, jury selection and strategy. Selected trial transcripts studied to explore differing uses of the trial forum.

Prerequisite: Completion of GE oral communication.

Normal Grade Rules
4 units

COMM 148P. Environmental Advocacy

Applies theories and research of message framing, social marketing and community engagement to environmental communication. Considers broader issues of persuasion and influence surrounding sustainability to develop environmental advocacy campaigns.

Prerequisite: Upper Division Standing

Normal Grade Rules
4 units

COMM 149F. Rhetoric and Public Life

Knowledge of rhetorical theory and practice as they relate to public life, democratic governance and social conflict and consensus from the classical era to contemporary times.

Prerequisite: Upper division standing or instructor consent.

Normal Grade Rules
4 units

COMM 150I. Inquiry in Organizational Communication

Introduction to research methods commonly used in studies of organizational communication, such as focus group, interviewing, survey, ethnography, appreciative inquiry, and textual analysis.

Prerequisite: Upper division standing.

Normal Grade Rules
4 units

COMM 151I. New Media/New Methods

Examines the internet and related digital communication systems as both a site of and a tool for communication research. Special attention to legal and ethical concerns associated with communication research in digital environments.

Prerequisite: Upper division standing

Normal Grade Rules
4 units

COMM 152I. Communication in World Cultures

Origins of human communication studies in early societies, including those of China, Egypt, Greece, India, Mesopotamia and Rome. Special attention to the cultural origins of classic texts and significant patterns of communication which continue to inform our contemporary experiences.

Prerequisite: Upper division standing.

Normal Grade Rules
4 units

COMM 153I. Discourse Analysis

Introduction to discourse analytic approach to studying situated communication practices, including research design, data collection, data analysis, and ethical issues pertaining to conducting discourse analyses.

Normal Grade Rules
4 units

COMM 154I. Ethnography for Communication Studies

Introduction to ethnography from a communication studies perspective, i.e. ethnographic approaches to studying situated communication practices in particular cultural milieus, such as ethnography of communication, critical ethnography, digital ethnography, autoethnography, and/or other types relevant to communication studies.

Normal Grade Rules
4 units

COMM 155I. Quantitative Communication Inquiry

Quantitative social scientific approaches to communication facilitate students understanding of the philosophical foundations of quantitative methods and skills in hypothesis testing, research design, data collection, analysis, and interpretation. Methods to be covered include experimental design, survey research and content analysis.

Prerequisite: Upper division standing.

Normal Grade Rules
4 units

COMM 156I. Observation and Interviewing Methods

Observation and interviewing methods, or qualitative approaches to communication, facilitate student understanding of the philosophical foundations of developing research questions, research design, data collection, analysis and interpretation. Methods covered include ethnography and participant observation, interviewing, focus groups, and action research.

Prerequisite: Upper division standing or instructor consent.

Normal Grade Rules
4 units

COMM 157SL. Community Action/Community Service

A campus-wide service learning program with opportunities for direct involvement with local community services, both off campus and on campus. Weekly seminars held on campus or at the field site, plus four to six hours of community service work per week at the field site.

Prerequisite: Passage of the Writing Skills Test (WST) or ENGL/LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

Note: All SJSU Studies courses require completion of the WST and upper division standing.

Normal Grade Rules
GE: S
3 units

COMM 160F. Language, Meaning and Culture

Course addresses the question of how language, symbols and society work together. Students will learn about the nature of language and how language and symbols shape individual and collective actions.

Prerequisite: Upper division standing or instructor consent.

Normal Grade Rules
4 units

COMM 161F. Communication and Culture

Human communication explored as a mechanism of control and as a vehicle of cultural change. Applies theoretical principles of communication to social issues and communication settings in different cultures.

Prerequisite: Upper division standing or instructor consent.

Normal Grade Rules
4 units

COMM 164F. Communication and Global Organizations

Examines the relationships among culture, communication, technology, and ways of organizing in various types of global organizations (e.g. nongovernmental organizations, not-for-profits, corporations). Explores the unique communicative processes and ethical issues that arise in international organizing.

Pre/Corequisite: upper division standing.

Normal Grade Rules
4 units

COMM 165P. Communication and Organizational Philanthropy

A broad look at the history of Philanthropy, fundraising, legal and compliance issues, messaging and marketing, recruitment and managing of volunteers, technology, evaluating non-profits and philanthropy as a career choice.

Prerequisite: Completion of Area A1 of core GE or instructor consent

Normal Grade Rules
4 units

COMM 168A. Global Climate Change I

Scientific and social scientific approaches to the process and effects of global climate change: Climate changes in the Earth's past, interactions between climate and life, anthropogenic climate change, socioeconomic contexts of environmental effects, cultural influences on climate change mitigation strategies.

Prerequisite: Passage of the Writing Skills Test (WST) or ENGL/LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

Normal Grade Rules
6 units

COMM 168B. Global Climate Change II

Scientific and social scientific approaches to the process and effects of global climate change: Climate changes in the Earth's past, interactions between climate and life, anthropogenic climate change, socioeconomic contexts of environmental effects, cultural influences on climate change mitigation strategies. GE Area: RSV with completion of sequence (COMM 168A).

Prerequisites: COMM/ENVS/GEOL/HUM/METR 168A, with a grade of "C" or better ("C-" not accepted); Passage of the Writing Skills Test (WST) or ENGL/LLD 100A with a "C or better" (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

Normal Grade Rules
GE: RSV
3 units

COMM 169I. The Media: Response and Criticism

Examination of media as a locus of meaning making. Critical analysis of communication practices and content in a variety of venues, such as television, film, radio, social networking, and other sites of web-based communication.

Prerequisite: Upper division standing or instructor consent.

Normal Grade Rules
4 units

COMM 170F. Persuasion

Explores theories, concepts, and research associated with persuasive communication. Considers broader issues of persuasion and ethics at societal and global levels, examining how those issues provide a context for the kinds and contexts of persuasion encountered in everyday life.

Prerequisite: Upper division standing.

Normal Grade Rules
4 units

COMM 172F. Multicultural Communication in the United States

Analysis of the communication process between and among people in a culturally diverse domestic population (United States). Topics cover speech communication principles, conflict management, language, script analysis, attitudes and values. Includes both theory and activity-based exercises.

Prerequisite: Upper division standing.

Normal Grade Rules
4 units

COMM 173F. Intercultural Communication and Global Understanding

Analysis of communication among persons from different U.S. and world cultures. Experiences and research in intercultural communication. The influence of varying values, norms, belief structures and roles. Prejudice, ethnocentrism, nationalism and racism in communication.

Prerequisite: Upper division standing

Normal Grade Rules
4 units

COMM 174. Intercultural Comm & Struct Inequality

Analysis of intercultural communication in the U.S. as it relates to social inequalities, power differences, and diversity. Examines identities and interactions between people of different racial/ethnic backgrounds. Investigates influence of sociocultural forces on intercultural communication encounters and relationships. GE Area: S

Prerequisite: Passage of the Writing Skills Test (WST) or ENGL/LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

Note: All SJSU Studies courses require completion of the WST and upper division standing.

Normal Grade Rules
GE: S
3 units

COMM 175F. Nonverbal Communication

A look at differences between and the interdependency of verbal and nonverbal messages. Students will study the role of nonverbal communication in everyday life.

Prerequisite: Upper division standing or instructor consent.

Normal Grade Rules
4 units

COMM 176P. Communication and Gender

An analysis of issues and problems related to communication and gender. The course will consider theoretical and practical perspectives on male-female and same-sex interactions in a variety of situations and cultures.

Prerequisite: Completion of A1 of Core GE requirement or instructor consent.

Normal Grade Rules
4 units

COMM 178F. Critical Intercultural Communication Studies

An overview of the critical paradigmatic perspective in intercultural communication. Such a perspective proffers an exploration of power dimensions and macro structures that frame and shape micro-intercultural communication encounters, episodes, and contexts.

Normal Grade Rules
4 units

COMM 179. Global Media and Resistance

Study of communication issues facing global resistance movements, particularly the role of new technology and social media in public dissent. Covers the application of social movements and resistance theories and concepts. GE Area: V

Prerequisites: Completion of core GE, satisfaction of Writing Skills Test and upper division standing.

Note: All SJSU Studies courses require completion of the WST and upper division standing.

Normal Grade Rules
GE: V
3 units

COMM 180. Individual Studies

Supervised study in specific fields of speech not covered by offered courses.

Prerequisite: Department chair consent.

Repeatable for credit
Credit / No Credit
1-3 units

COMM 181F. New Media/New World

Explores the impact of the internet, mobile devices, and other information and communication technologies on social interaction, self-representation, business, politics, and cultural production. Covers the application of mediated communication theories and concepts.

Prerequisite: Upper division standing.

Normal Grade Rules
4 units

COMM 182P. Communication in the Classroom

Analysis of the classroom as a communication system. Application of communication principles to the facilitation of educational dialogue.

Prerequisite: Completion of GE oral communication.

Normal Grade Rules
4 units

COMM 184. Directed Reading

Prerequisite: Upper division or graduate standing and department chair approval. A total of 3 units may be repeated.

Repeatable for credit
Credit / No Credit
1-2 units

COMM 190. Activity Projects in Speech

Supervised activity in communication studies. Application of principles and theories of communication in business, community and professional settings.

Prerequisite: Upper division or graduate standing and department chair approval.

Repeatable for credit
Credit / No Credit
1-6 units

COMM 190I. Activity Proj in Speech International

Supervised activity in communication studies for international students. Application of principles and theory of communication in business, community, and professional settings with specific attention to needs of visiting international students.

Prerequisite: Upper division or graduate standing, or department chair approval.

Repeatable for credit
Normal Grade Rules
1-6 units

COMM 191A. Activity Projects in Forensics

Supervised activity in the forensics program. A: Competition in debate. B: Individual events-Platform Speaking including persuasive speaking and communication analysis. C: Individual events oral interpretation (field trips required). J: Preparation for and judging competitive speaking activities (debates, individual events in college and high school forensics tournaments, community-sponsored speech contests). M: Research and oral presentation of appellate court arguments from simulated cases before law judges or in intercollegiate tournaments. A total of 6 units applicable to the major may be repeated.

Repeatable for credit
Credit / No Credit
1-3 units

COMM 191B. Activity Projects in Forensics

Supervised activity in the forensics program. A: Competition in debate. B: Individual events-Platform Speaking including persuasive speaking and communication analysis. C: Individual events oral interpretation (field trips required). J: Preparation for and judging competitive speaking activities (debates, individual events in college and high school forensics tournaments, community-sponsored speech contests). M: Research and oral presentation of appellate court arguments from simulated cases before law judges or in intercollegiate tournaments. A total of 6 units applicable to the major may be repeated.

Repeatable for credit
Credit / No Credit
1-3 units

COMM 191C. Activity Projects in Forensics

Supervised activity in the forensics program. A: Competition in debate. B: Individual events-Platform Speaking including persuasive speaking and communication analysis. C: Individual events oral interpretation (field trips required). J: Preparation for and judging competitive speaking activities (debates, individual events in college and high school forensics tournaments, community-sponsored speech contests). M: Research and oral presentation of appellate court arguments from simulated cases before law judges or in intercollegiate tournaments. A total of 6 units applicable to the major may be repeated.

Repeatable for credit
Credit / No Credit
1-3 units

COMM 191J. Activity Projects in Forensics

Supervised activity in the forensics program. A: Competition in debate. B: Individual events-Platform Speaking including persuasive speaking and communication analysis. C: Individual events oral interpretation (field trips required). J: Preparation for and judging competitive speaking activities (debates, individual events in college and high school forensics tournaments, community-sponsored speech contests). M: Research and oral presentation of appellate court arguments from simulated cases before law judges or in intercollegiate tournaments. A total of 6 units applicable to the major may be repeated.

Repeatable for credit
Credit / No Credit
1 unit

COMM 191M. Activity Projects in Forensics

Supervised activity in the forensics program. A: Competition in debate. B: Individual events-Platform Speaking including persuasive speaking and communication analysis. C: Individual events oral interpretation (field trips required). J: Preparation for and judging competitive speaking activities (debates, individual events in college and high school forensics tournaments, community-sponsored speech contests). M: Research and oral presentation of appellate court arguments from simulated cases before law judges or in intercollegiate tournaments. A total of 6 units applicable to the major may be repeated.

Repeatable for credit
Credit / No Credit
1 unit

COMM 193. Activity Projects in Intercultural/ International Communication

Supervised activity in communication studies for students participating in immersive experiences in different cultural environments. Students demonstrate proficiency in evaluating and applying core communication concepts relevant to the experience of living, studying, and/or working in a different cultural environment.

Repeatable for credit
Normal Grade Rules
1-3 units

COMM 194. Specialized Projects for International Immersion

Supervised activity in communication studies for students participating in immersive direct enrollment programs abroad. Students demonstrate proficiency in evaluating and applying core communication concepts relevant to the experience of living, studying, and/or working in a different cultural environment.

Repeatable for credit
Credit / No Credit
1 unit

COMM 195. Special Topics in Communication Studies

Investigation of topics not included in regular departmental offerings. Topics range from corporate training to communication in health settings to teaching speech in the high school. Focus varies each semester and is announced in the schedule of classes. Course is repeatable with department chair consent no more than 3 times.

Repeatable for credit
Normal Grade Rules
1-3 units

COMM 198. Applied Activity in Communication

Practical application of communication theory to real world settings to provide meaningful applied capstone experiences. Students demonstrate proficiency in the critical application of core communication requirements to speech acts and contexts outside the traditional classroom.

Prerequisite: COMM 101 or COMM 101C; upper division standing.

Repeatable for credit
Credit / No Credit
1-2 units

COMM 199C. Senior Seminar: Synthesis & Application

Capstone overview of the contemporary field of communication studies that builds on theory, concepts, and skills learned in COMM 101C and upper-division major courses. Synthesis and application of communication literature, resources and methods of inquiry. Students complete their major portfolios.

Prerequisite: COMM 101 or COMM 101C; upper division standing

Normal Grade Rules
4 units

GRADUATE

COMM 200R. Graduate Study in Communication

History of and current research in the communication field; introduction to humanistic and social science methods and computer applications; theory-building and metatheoretical issues; reviewing and critiquing studies; preparing research questions/hypotheses and prospectus.

Prerequisite: Admission into the Graduate Program, Graduate standing.

Note: This course satisfies graduate-level GWAR in this master's program.

Normal Grade Rules
GE: GWAR
4 units

COMM 201. Communication Methodologies

Introduction to the methodologies and methodological considerations pertinent to the field of communication studies, including social scientific, humanist and critical approaches to quantitative, qualitative and rhetorical methods.

Prerequisites: Graduate standing or instructor consent

Corequisites: COMM 200R

Normal Grade Rules
3 units

COMM 210R. Seminar in Interpersonal Communication

Examination of the role of communication in creating and maintaining social relationships. Draws on interpretive, critical, and/or quantitative theories and methods for investigating relationships in different cultural contexts and across the life span.

Prerequisite: Graduate standing.

Normal Grade Rules
4 units

COMM 231R. Performing Presentational Aesthetics

Explores the practice and theory of presentational aesthetics through performance. Students will acquire the skills of writing, adapting, directing, and presenting performances of literary texts, ethnographic interviews, and social activism. Required of graduate students who wish to do thesis performances.

Prerequisite: Graduate standing, or instructor consent.

Normal Grade Rules
4 units

COMM 232R. Seminar in Performance and Culture

Explores cultural identity as constructed, contested, and displayed through acts of performance such as theatre, dance, storytelling, performance art, film, literature, and everyday behavior. Focuses on performance as a site of cultural manifestation and transformation.

Repeatable for credit
Normal Grade Rules
4 units

COMM 240R. Seminar in Argument and Debate

Advanced study of patterns, techniques, and theory of argumentation and advocacy as reflected in debates on significant issues in a variety of contemporary and historical settings.

Prerequisite: Graduate standing.

Normal Grade Rules
4 units

COMM 241R. Seminar in Small Group Communication

Exploration of group process and structure. Special attention given to democratic process, effective group decision-making, team-building concerns, group leadership, the distinctive place of communication research in small group studies.

Prerequisite: Graduate standing.

Normal Grade Rules
4 units

COMM 244R. Seminar in Organizational Communication

Examination of internal communication processes in large organizations. Emphasis on information flow, communication networks, communication relations and the design and management of communication systems. Experience in gathering and analyzing data to monitor and assess a communication system.

Prerequisite: Graduate standing.

Notes: MBA recommended elective.

Normal Grade Rules
4 units

COMM 245R. Seminar in Communication Criticism

Theories guiding critical evaluation of messages communicated in a variety of media, from oral to digital. Emphasis on the historical, political, and social contexts where such messages are designed, transmitted, interpreted, and used.

Prerequisite: Graduate standing.

Repeatable for credit
Normal Grade Rules
4 units

COMM 249R. Seminar in the Philosophy of Communication

Study of philosophical models of communication, their foundations, insights, and implications for social practice.

Prerequisite: Graduate standing, or instructor consent.

Normal Grade Rules
4 units

COMM 250R. Seminar in Communication Theory: Critical and Interpretive

Major theorists and theories of communication in the rhetorical, historical, critical, empirical, and philosophical traditions.

Prerequisite: Graduate standing.

Pre/Corequisite: COMM 200R.

Normal Grade Rules
4 units

COMM 255R. Seminar in Communication Theory

Review and evaluation of communication theories and research, past and present. Examination of methods of theory construction and scholarly inquiry. Experience in applying theory to designing and conducting communication research.

Prerequisite: Graduate standing, or instructor consent.

Normal Grade Rules
4 units

COMM 265. Seminar in Crisis Communication

Role of public communication in crisis situations; types of crisis; pre- and post-crisis planning; crisis communication management; risk communication; crisis narratives and rhetoric; ethical obligations of crisis communication; dealing with media; image restoration. Independent research project required.

Prerequisite: Classified Graduate Standing or instructor consent.

Normal Grade Rules
3 units

COMM 269R. Seminar in Contemporary Communication

Advanced analysis of recent developments and trends in communication. Topics include globalization, symbolic power and creativity, media and information technology, and formation of cultural styles and identities.

Prerequisite: Admission into the Graduate Program, Graduate standing.

Normal Grade Rules
4 units

COMM 274R. Seminar in Intercultural Communication

Advanced study of the theories, perspectives, and processes that affect intercultural communication among diverse cultural groups in the world.

Prerequisite: Graduate standing.

Pre/Corequisite: COMM 200R.

Normal Grade Rules
4 units

COMM 280. Independent Study

Supervised and specialized study in specific fields of communication not covered by offered courses or that extends beyond what can be covered in an offered course.

Prerequisite: Department Chair consent

Repeatable for credit
Mandatory CR/NC/RP
1-3 units

COMM 282R. Seminar in Communication Pedagogy

Investigation and analysis of the intersections of communication and instruction, including communication education, instructional communication, and critical communication pedagogy.

Prerequisite: Graduate standing, or instructor consent.

Normal Grade Rules
4 units

COMM 285A. Teaching Associate Practicum I

Instruction and supervised experience in teaching university level courses in Communication Studies. Topics include curriculum design, instructional objectives and activities and assessment.

Prerequisite: Appointment as Departmental Teaching Associate, or instructor consent.

Credit / No Credit
2 units

COMM 285B. Teaching Associate Practicum II

Instruction and supervised experience in teaching university level courses in Communication Studies. In addition to advanced discussion of topics from 285A, topics will include theories of teaching and learning, identity, culture and power.

Prerequisites: Appointment as Departmental Teaching Associate and COMM 285A, or instructor consent.

Repeatable for credit
Credit / No Credit
1-3 units

COMM 291. Communication Studies Graduate Internship Program

Practical application of communication theory and research methods to real world settings to provide applied capstone experiences. Students demonstrate proficiency in the critical application of core communication requirements to speech acts in engaged and applied settings outside the traditional classroom.

Prerequisite: Graduate Standing, Permission of Director

Repeatable for credit
Credit / No Credit
1-4 units

COMM 295R. Special Topics in Communication

Advanced consideration of selected topics in communication research and theory with emphasis on current literature. The topic will vary from term to term. Course may be repeated with instructor and advisor consent.

Repeatable for credit
Normal Grade Rules
4 units

COMM 297. Advanced Writing Workshop

Advanced graduate level writing instruction in preparation for the culminating experience.

Prerequisite: Graduate standing or instructor consent.

Pre/Corequisite: COMM 200R.

Repeatable for credit
Normal Grade Rules
2 units

COMM 298. Master's Project

Supervised project work in the field of Communication Studies.

Prerequisites: Admission to candidacy for the master's degree, completion of core requirements and instructor consent.

Repeatable for credit
Mandatory CR/NC/RP
1-4 units

COMM 299. Master's Thesis
Supervised thesis work in the field of Communication Studies.

Prerequisites: Admission to candidacy for the master's degree, completion of core requirements and instructor consent.

Repeatable for credit
Mandatory CR/NC/RP
1-6 units

SPEECH EDUCATION

UPPER DIVISION

SPED 184Y. Student Teaching II - Classroom Teaching
Minimum 80-120 class periods of classroom, teaching laboratory or field teaching in appropriate single subjects, grades K-12 and related teaching activities/seminar.

Prerequisite: Joint approval of major and Education departments.

Repeatable for credit
Credit / No Credit
4-6 units

SPED 184Z. Student Teaching III - Classroom Teaching
Notes: May be in different subject/school and will be at a different grade level.

See SPED 184Y.

Repeatable for credit
Credit / No Credit
4-6 units

GRADUATE

SPED 242C. Educational Internship in Teaching
Designed to provide opportunity for supervised teaching on either the elementary or secondary school level on the basis of a special provisional credential.

Prerequisite: Matriculation as a Graduate student

Repeatable for credit
Credit / No Credit
4-6 units

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DESCRIPTION CONTENTS

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DESCRIPTION CONTENTS

Computer Engineering Courses

COMPUTER ENGINEERING

LOWER DIVISION

CMPE 030. Programming Concepts and Methodology

Introduction to programming; overview of computer organization and introduction to software engineering. Topics include methodologies for program design, development, style, testing, and documentation; algorithms, control structures, functions, and elementary data structures.

Corequisites: MATH 030 or equivalent.

Misc/Lab: Lecture 2 hours/lab 3 hours.

Normal Grade Rules
3 units

CMPE 050. Object-Oriented Concepts and Methodology

Application of object-oriented software engineering techniques to the design and development of larger programs; data abstraction, structures, classes and associated algorithms.

Prerequisite: CMPE 030 with a minimum grade of "C-". Computer Engineering and Software Engineering Majors only.

Misc/Lab: Lecture 2 hours/lab 3 hours.

Normal Grade Rules
3 units

UPPER DIVISION

CMPE 102. Assembly Language Programming

Assembly programming; assembly-C interface; CPU and memory organization; addressing modes; arithmetic, logic and branch instructions; arrays, pointers, subroutines, stack and procedure calls; software interrupts; multiplication, division and floating point arithmetic.

Prerequisite: CMPE 050 or CS 046B (with grade of "C-" or better) Sophomore or upper division standing. Allowed Declared Majors: Computer Engineering, Software Engineering.

Normal Grade Rules
3 units

CMPE 110. Electronics for Computing Systems

RC, RL and RLC circuit analysis, diodes and diode circuits, MOSFET and bipolar transistor I-V characteristics and circuits, CMOS logic circuits, CMOS-TTL interface, sensors and signal conditioning circuits using operational amplifiers, A/D and D/A converters, electromechanical device control.

Prerequisites EE 97, EE 98, Math 123 all with a C or better

Misc/Lab: Lecture 2 hours/lab 3 hours.

Normal Grade Rules
3 units

CMPE 120. Computer Organization and Architecture

Introduction to computer organization and architecture, system buses, internal memory and external memory, input/output, central processing unit CPU, instruction sets, CPU structure and function, RISC, control unit.

Prerequisite: CMPE 050 or CS 046B (with a grade of "C-" or better). Computer Engineering and Software Engineering Majors Only.

Normal Grade Rules
3 units

CMPE 124. Digital Design I

Combinational and sequential logic theory and circuits. Emphasis on mixed logic and algorithmic state machines. Design projects using standard integrated circuit packages.

Prerequisite: EE 97 and EE 98 (both with C or better). Computer Engineering or Software Engineering Majors Only.

Misc/Lab: Lecture 2 hours/lab 3 hours.

Normal Grade Rules
3 units

CMPE 125. Digital Design II

Digital system building blocks, data path and control units, system-level RTL design, Verilog HDL for design and verification, contemporary design flow and methodology, lab experiments using industry standard CAD tools and field programmable gate array (FPGA) devices.

Prerequisite: CMPE 124 (with grade of "C-" or better). Computer Engineering or Software Engineering Majors Only.

Misc/Lab: Lecture 2 hours/lab 3 hours.

Normal Grade Rules
3 units

CMPE 126. Algorithms and Data Structure Design

Object-oriented data organization and representation as strings, arrays, stacks, queues, dequeues, lists, sets, trees, tables, and graphs. Sorting and searching and algorithm design and performance analysis.

Prerequisite: ENGR 010, CMPE 050 and MATH 42 both with a C- or better. Computer Engineering or Software Engineering Majors Only.

Misc/Lab: Lecture 2 hours/Lab 2 hours.

Normal Grade Rules
3 units

CMPE 127. Microprocessor Design I

Microprocessor architecture and assembly language. Design of peripheral blocks and their interfaces to the microprocessor. Design projects using standard integrated circuit packages.

Prerequisite: CMPE 124 with a grade of "C-" or better; Computer Engineering or Software Engineering Majors Only.

Misc/Lab: Lecture 2 hours/lab 3 hours.

Normal Grade Rules
3 units

CMPE 130. Advanced Algorithm Design

Design and analysis of data structures and algorithms. Advanced tree structures, hashing, searching and sorting. Divide-and-conquer, greedy and dynamic programming algorithm design techniques.

Prerequisite: CMPE 126, ISE 130 (with grades of "C-" or better). Computer Engineering or Software Engineering Majors Only.

Normal Grade Rules
3 units

CMPE 131. Software Engineering I

Why software engineering? What is software engineering? Software development lifecycle activities: project planning and management requirements analysis, requirement specification. Software design, software testing, verification, validation, and documentation. Software quality assurance and review techniques, software maintenance, team-based projects.

Prerequisite: CMPE major: CMPE 126 (C- or better), SE major: CS 46B (C- or better), other majors: CMPE 30 and MATH 32 (C- or better)

Normal Grade Rules
3 units

CMPE 132. Information Security

A study of computer and network security from centralized systems to distributed networks. Cryptology, vulnerabilities and controls. Firewalls, privacy enhanced e-mail, viruses and worms. Case studies will be featured.

Prerequisite: CMPE 126. Computer Engineering or Software Engineering Majors Only.

Normal Grade Rules
3 units

CMPE 133. Software Engineering II

Software Architecture, Software Technical Metrics, evaluating products, processes, and resources, improving predictions, products, processes, and resources. Advanced topics such as: Formal Methods, Software Reuse, Reengineering, Client/Server Software Engineering, Computer-Aided Software Engineering, Team-Based Projects.

Prerequisite: CMPE 131 with a grade of "C-" or better

Normal Grade Rules
3 units

CMPE 135. Object-Oriented Analysis and Design

Feasibility analysis and system requirements determination, object-oriented design methodology, and information systems design using object-oriented modeling techniques. Emphasis on both theoretical and practical aspects of object-oriented systems analysis and design. Team-based design project.

Prerequisite: For SE Majors: CS 046B or for others CMPE 126. See SJSU Catalog for detail list of prerequisites

Normal Grade Rules
3 units

CMPE 137. Wireless Mobile Software Engineering

Mobility analysis, design principles, techniques, and methods for software systems on a variety of wireless and mobile Internet based computing and communication platforms, such as advanced pocket/tablet PCs, GPS, Bluetooth, Infrared, Wi-Fi, and RFID. Design multi-disciplined mobile project.

Prerequisite: CMPE 131. Computer Engineering or Software Engineering Majors Only.

Normal Grade Rules
3 units

CMPE 138. Database Systems I

File organization and storage structure, database system architecture, entity relationship model, normalization techniques, SQL, relational algebra, storage organization, query processing, and concurrency control.

Prerequisite: CMPE 126 (with a grade of "C-" or better). Computer Engineering or Software Engineering Majors Only.

Normal Grade Rules
3 units

CMPE 139. Fundamentals of Data Mining

Introduction to data management and data mining, data preprocessing, OLAP and data warehousing, frequent pattern mining and association rules, clustering, classification, web mining, web search, recommender systems, social network analysis.

Pre-requisites: CMPE 126 or CS 146 (with C- or better). Computer Engineering or Software Engineering Majors Only.

Normal Grade Rules
3 units

CMPE 140. Computer Architecture and Design

Pipelining and timing issues in CPU data-paths. Principles of RISC-type CPU instruction set and architecture. Structural, data and control hazards in a RISC processor, forwarding loops, branch mechanisms. Memory architectures in CPUs such as register files and caches.

Prerequisite: CMPE 125 (with grade of "C-" or better), Computer Engineering or Software Engineering Majors Only.

Misc/Lab: Lecture 2 hours/lab 3 hours.

Normal Grade Rules
3 units

CMPE 142. Operating Systems Design

Overview: history, concepts, system calls and structures. Management of major components: processes, memory, input/output and files. Design of system calls and device drivers for hardware dependence. Concepts of kernel and shell, file protection and interactive computation.

Prerequisite: CMPE 102, CMPE 126 (all with grades of "C-" or better). Computer Engineering or Software Engineering Majors Only.

Corequisite: CMPE 130 (with grades of "C-" or better).

Normal Grade Rules
3 units

CMPE 146. Real-Time Embedded System Co-Design

Embedded system architecture with real-time operating system including microcontrollers, interfacing techniques for industrial applications using transducers, sensors, and A/D-D/A converters. Hardware/software integration and codesign.

Prerequisite: CMPE 110 and CMPE 127 with grade of "C-" or better. Computer Engineering or Software Engineering Majors Only.

Misc/Lab: Lecture 2 hrs/lab 3 hrs.

Normal Grade Rules
3 units

CMPE 147. Fundamentals of System on Chip (SoC) Design

System on Chip implementation of a computing system. Implementation of parallel and serial bus architectures. SRAM, SDRAM and Flash memory interfaces. Direct Memory Access (DMA), interrupt controller, transceiver, timers and data converters. Verilog skills are required.

Prerequisite: CMPE 125 (with "C-" or better). Computer Engineering or Software Engineering Majors Only.

Normal Grade Rules
3 units

CMPE 148. Computer Networks I

Comparative evaluation of network architecture, layering model, standards, protocol examples for ISO and TCP/IP layers. Network applications, transport layer protocols, Internet routing, data link and physical transmissions. Applications in world wide web, file transfer, electronic mail, peer-to-peer and other areas.

Prerequisite: For CMPE major: CMPE 124 and CMPE 126; for SE major: CMPE 120 and CS 146; Computer Engineering or Software Engineering Majors Only.

Normal Grade Rules
3 units

CMPE 150. System Architecture and Electronic Design for Robotics

Design and architecture for generating autonomous and human-reliant robots, algorithm development for object perception, electronic design and system integration for cognitive and sensory capabilities of robots, mechanisms for actuation and mobility, fault diagnosis and self-calibration.

Prerequisite: CMPE 110, CMPE 124

Normal Grade Rules
3 units

CMPE 152. Compiler Design

Principles of lexical analysis, finite state automata and parsing; issues of variable declarations, variable types, control statements, function calls, nested scopes and efficient assembler target code.

Prerequisite: CMPE 126 and CMPE 102 both with a "C-" or better

Normal Grade Rules
3 units

CMPE 163. Introduction to Computer Graphics and Augmented Reality

Introduction to 2D and 3D vector and pixel graphics, 2D and 3D transformations, world to viewer transformation pipeline, perspective projection, hidden line and surface removal, decoration algorithm and texture mapping, integration of pixel graphics and augmented reality, and hands-on laboratories.

Prerequisite: CMPE 127; ENGR 100W; MATH 123 or MATH 129A or EE 112.

Corequisite: ENGR 100W

Normal Grade Rules
3 units

CMPE 165. Software Engineering Process Management

Integrated approach to managing development within small teams; including mission statement, synthesis of design concepts, tradeoff studies, risk assessment and the interactions encountered in the optimal design, development, manufacture and test of systems.

Prerequisite: CMPE 131 with a "C-" or better

Normal Grade Rules
3 units

CMPE 172. Enterprise Software Platforms

Introduction to enterprise software systems. Covers network operating systems, DBMS, transaction monitors, groupware, distributed objects, system management and the Web. Covers standards such as J2EE, CORBA, SQL, JDBC, and HTTP; and emerging software technologies.

Prerequisite: CMPE 142 or CS 149 with grade of 'C-' or better. Computer Engineering or Software Engineering Majors Only.

Normal Grade Rules
3 units

CMPE 180. Individual Studies

Individual work in computer engineering.

Prerequisite: Upper division standing and instructor consent. Not available to Open University Students.

Repeatable for credit
Credit / No Credit
1-3 units

CMPE 180A. Data Structures and Algorithms in C++

Data representation and preprocessing, proximity, finding nearest neighbors, dimensionality reduction, exploratory analysis, association Object-oriented data organization and representation as strings, arrays, stacks, queues, dequeues, lists, sets, trees, tables, and graphs. Sorting and searching and algorithm design and performance analysis. Testing methods and data are discussed.

Prerequisite: Admission into MS Computer Engineering or MS Software Engineering

Credit / No Credit
3 units

CMPE 180B. Database Systems

File organization and storage structure, database system architecture, entity relationship model, normalization techniques, SQL, relational algebra, storage organization, query processing, and concurrency control.

Prerequisite: Admission into MS Computer Engineering or MS Software Engineering

Credit / No Credit
3 units

CMPE 180C. Operating Systems Design

History, concepts, system calls and structures. Management of major components: processes, memory, input/output and files. Design of system calls and device drivers for hardware dependence. Concepts of kernel and shell, file protection and interactive computation.

Prerequisite: Admission into MS Computer Engineering or MS Software Engineering

Credit / No Credit
3 units

CMPE 180D. Digital Design and Microprocessors

Binary codes/number representations, binary arithmetic, combinatorial logic design with gates, logic minimization, decoders, encoders, adders; sequential logic design with latches, flip-flops, registers, counters, state machine design; basic microprocessor architectures (control/ data paths) and memory subsystems, asynchronous logic (racing, glitches, timing diagrams).

Prerequisite: Admission into MS Computer Engineering

Credit / No Credit
3 units

CMPE 181. Internet of Things Platforms

Internet of Things (IoT) landscape, fundamentals, architecture, standards and protocols, software and hardware systems, security, and data analytics. Investigate state-of-the-art IoT platforms. Develop hands-on expertise in IoT system development.

Prerequisites: For CMPE major: CMPE 124 and CMPE126; for SE major: CMPE 120 and CS 146.

Normal Grade Rules
3 units

CMPE 182. Internet of Things Security

Secure Internet of Things (IoT) system design, vulnerabilities, attacks, and countermeasures, principles of privacy-by-design, secure IoT system development and lifecycle. Blockchains, distributed consensus, and identity management systems for connected devices. Prerequisites: CMPE 126 or CS 146.

Normal Grade Rules
3 units

CMPE 187. Software Quality Engineering

Software testing and quality assurance engineering concepts, processes, models, criteria, and methods. Software unit testing, integration, function validation, system performance and reliability evaluation; Software security testing methods and tools; software quality management, control systems, standards, and evaluation metrics.

Prerequisite: CMPE 131. Computer Engineering or Software Engineering Majors Only.

Normal Grade Rules
3 units

CMPE 188. Machine Learning for Big Data

Introduction to machine learning and pattern recognition for big data analytics; machine learning concepts, theories, approaches, algorithms, and big data analytic applications; supervised learning unsupervised learning and learning theory.

Pre-requisite: CMPE 126 or CS 146

Normal Grade Rules
3 units

CMPE 189. Special Topics in Computer Engineering

Advanced topics in Computer Engineering. Content varies from semester to semester.

Prerequisite: Instructor consent.

Normal Grade Rules
3 units

CMPE 195A. Senior Design Project I

Comprehensive plan and preliminary design of a group computer/software engineering project; integration of knowledge in science, technologies and team processes; group written report and oral presentation; global and social issues in engineering; individual professional development plans. GE Area: S when taken as part of CMPE major sequence

Corequisite: ENGR 195A

Prerequisite:

For CMPE Majors: CMPE 125, CMPE 127, CMPE 130, CMPE 131 (all with a C- or better); ENGR 100W (with a grade of "C" or better); in good academic and major standings and graduation application on file.

For SE Majors: CMPE 133, ISE 130 or MATH 161A (with a grade of "C-" or better), ENGR 100W (all with a grade of "C" or better); in good standing academic and major standings and graduation application on file.

Note: Meets GE Areas S and V when course is taken in combination with: CMPE 195B, ENGR 195A and ENGR 195B. All SJSU Studies courses require completion of the WST and upper division standing.

Misc/Lab: 6 lab hours

Normal Grade Rules
GE: S
2 units

CMPE 195B. Senior Design Project II

Implementation of group design project initiated in CMPE 195A; group oral presentation and written report; integrated global and social issues in engineering. GE Area: V when taken as part of CMPE major sequence

Prerequisite: CMPE 195A (with grade of "C" or better). junior and senior only. Allowed Declared Majors: Computer Engineering, Engineering, Software Engineering.

Corequisite: ENGR 195B

Note: Meets GE Areas S and V when course is taken in combination with: CMPE 195A, ENGR 195A and ENGR 195B. All SJSU Studies courses require completion of the WST and upper division standing.

Misc/Lab: Lab 9 hours.

Normal Grade Rules
GE: V
3 units

CMPE 195E. Senior Design Project I

Comprehensive plan and preliminary design of a group computer/software engineering project; integration of knowledge in science, technologies and team processes; group written report and oral presentation; individual professional development plans.

Prerequisite:

For CMPE Majors: CMPE 125, CMPE 127, CMPE 130, CMPE 131; ISE 130 (all with a C- or better); ENGR 100W (with a grade of "C" or better); in good academic and major standings and graduation application on file.

For SE Majors: CMPE 133, ISE 130 or MATH 161A (with a grade of "C-" or better), ENGR 100W (all with a grade of "C" or better); in good standing in the major, graduation application on file.

Normal Grade Rules
1 unit

CMPE 195F. Senior Design Project II

Implementation of group design project initiated in CMPE 195A; group oral presentation and written report.

Prerequisite: CMPE 195A (grade of C or better); in good academic and major standings

Misc/Lab: 9 hours of Lab

Normal Grade Rules
3 units

CMPE 197. Cooperative Education Project

See ENGR 197.

Normal Grade Rules
3 units

CMPE 198. Technology and Civilization

See TECH 198.

Normal Grade Rules
GE: V
3 units

GRADUATE

CMPE 200. Computer Architecture

Computer design overview, processor instruction set architecture and microarchitecture, instruction-level parallelism, memory hierarchy, storage and I/O systems, multicore/multiprocessor and data/thread-level parallelism, introduction to parallel programming. Prerequisite: CMPE 180D or instructor consent. Computer Engineering or Software Engineering majors only.

Normal Grade Rules
3 units

CMPE 202. Software Systems Engineering

Integrated approach to software design and development including requirements elicitation and analysis, system design and construction through studying multiple facets of software development processes, design methodologies, modeling approaches, and implementation techniques.

Prerequisite: Classified graduate standing or instructor consent. Computer Engineering and Software Engineering majors only.

Misc/Lab: Lecture 3 hours.

Normal Grade Rules
3 units

CMPE 203. Software Engineering Management

Development of software systems from the perspective of project management within the dynamic and complex nature of software technologies and environments; development lifecycle, communications, team dynamics, planning, estimation, scheduling, risk analysis, metrics tracking, problem management, and configuration management.

Prerequisite: Graduate standing or instructor consent. Computer Engineering or Software Engineering Majors only.

Normal Grade Rules
3 units

CMPE 206. Computer Network Design

Network topology and queuing theory. The seven layers of the ISO reference model: physical, data link, network, transport, session, presentation and application. Example networks. Network design project. Prerequisite: CMPE 180A, classified standing, or instructor consent

Normal Grade Rules
3 units

CMPE 207. Network Programming and Application

Development and implementation of networking software for building distributed applications. Application Programming Interfaces: BSD Sockets, Winsock, Remote Procedure Call and Middleware. Network programming project.

Prerequisite: CMPE 206, or instructor consent.

Normal Grade Rules
3 units

CMPE 208. Network Architecture and Protocols

In-depth study of the principles and architecture of Internet protocols in current practice. Analysis of protocols of network, transport, and application layers. Topics will also cover emerging network architecture and protocols. Network analysis project..

Prerequisite: CMPE 206 or instructor consent.

Normal Grade Rules
3 units

CMPE 209. Network Security

Network security protocols and applications, cryptography algorithms, authentication systems, intrusion detection, network attacks and defenses, system-level security issues, and building of secure systems. Prerequisite: CMPE 206 or EE 281 or instructor consent.

Normal Grade Rules
3 units

CMPE 210. Software-defined Networks and Network Functions Virtualization

The course covers development and implementation of Software-defined Networks and Network Functions Virtualization for building programmable network applications. It includes their concepts with various use cases. Students conduct a network programming project related to SDN/NFV by using open source projects.

Prerequisite: CMPE 206 (or equivalent graduate network courses) or instructor consent.

Normal Grade Rules
3 units

CMPE 211. Advanced Network Security in IoT

Advanced security topics in the Internet of things (IoT). SDN/NFV(Software Defined Networking and Network Function Virtualization) and blockchain to defend against IoT attacks and protect IoT infrastructure. Network security protocols and applications, intrusion detection, network attacks and defenses, and system-level security issues.

Prerequisite: CMPE 206 or Instructor Consent

Normal Grade Rules
3 units

CMPE 212. System Verification

Introduction to SoC system configuration and integration; on chip protocols; assertion based verification; code and functional coverage metrics; methodologies, tools, and environments for functional verification of special function blocks (IPs) and integrated SoC-based computer systems.

Prerequisite: CMPE 200 and CMPE 264 or instructor consent.

Normal Grade Rules
3 units

CMPE 213. Parallel Computing

How to effectively program parallel computers, from smartphones to large clusters. Types of parallel architectures, routing, communication operations, parallel programming models, performance analysis, parallel algorithms for sparse matrix and graph problems, load balancing, advanced topics. Applications to Big Data Analytics.

Prerequisite: Classified graduate standing or instructor consent

Normal Grade Rules
3 units

CMPE 214. GPU Architecture and Programming

Explores state-of-the-art parallel architecture and various parallel programming techniques. Investigate the architectural difference between CPU and various parallel architectures including GPU, programming basics of parallel platforms such as CUDA, optimization and debugging techniques.

Prerequisite: CMPE 140 or CMPE 200

Normal Grade Rules
3 units

CMPE 217. Human Computer Interaction

See ISE 217.

Normal Grade Rules
3 units

CMPE 219. HCI for Cyber Security

See ISE 219.

Normal Grade Rules
3 units

CMPE 220. System Software

System software overview, assemblers, macro-assemblers, loaders and linkers, compilers and operating systems. Design project. Prerequisite: CMPE 180A and 180C, or classified standing. Computer Engineering and Software Engineering majors only.

Normal Grade Rules
3 units

CMPE 226. Database Systems

Database architectures, technologies, and practices for enterprise systems that use structured, semi-structured, and unstructured data. Provides opportunities to research and acquire experience using modern and emerging concepts in relational and non-relational database theory and technologies.

Prerequisite: CMPE 272 or instructor consent. Computer Engineering or Software Engineering majors only.

Normal Grade Rules
3 units

CMPE 235. Mobile Software System Design

Study of wireless-based software systems in design and engineering, underlying networks, infrastructures and frameworks, wireless security, mobile user security & privacy (i.e. biometric security), emergent mobile programming platforms and technologies (such as RFID/Barcode/NFC), mobile commerce and service application systems.

Prerequisite: CMPE 220 or CMPE 202 or instructor consent. Computer Engineering and Software Engineering majors only.

Normal Grade Rules
3 units

CMPE 236. Mobile Web Application Systems

Mobile web system concepts, technology, architectures, security, design methods, validation techniques; mobile platforms and enabled technologies, mobile cloud, database and access services; mobile app development and platform solutions.

Prerequisite: CMPE 202 or instructor consent.

Normal Grade Rules
3 units

CMPE 240. Advanced Computer Design

Architecture of a computing system including system bus, memory subsystems and peripherals. Unidirectional and bidirectional bus architectures. SRAM, SDRAM and FLASH memories. Design of DMA, interrupt controller, transmitter/receiver, timer, display adapter, A/D and D/A converters and other system peripherals. Design of memory and peripheral bus interfaces. Prerequisite: CMPE 180D or instructor consent. Computer Engineering and Software Engineering majors only.

Normal Grade Rules
3 units

CMPE 242. Embedded Hardware Design

Advanced topics dealing with microprocessor and microcontroller hardware and firmware including processor architecture, advanced memory and I/O systems design, multilevel bus architecture, interrupt systems. Design project.

Prerequisite: CMPE 180A and 180D, classified standing, or instructor consent.

Computer Engineering or Software Engineering majors only.

Normal Grade Rules
3 units

CMPE 243. Embedded Systems Applications

Embedded system interfacing techniques; peripheral devices; discussion of industrial, telecommunication, automotive, medical, and consumer applications of embedded systems. Design project.

Prerequisite: CMPE 180A and 180D, classified standing, or instructor consent.

Computer Engineering or Software Engineering majors only.

Normal Grade Rules
3 units

CMPE 244. Embedded Software

Experiments dealing with advanced embedded software programming concepts, interfacing techniques, hardware organization, and software development using embedded systems. Individual projects.

Prerequisite: CMPE 180A and 180D, classified standing, or instructor consent.

Computer Engineering or Software Engineering majors only.

Normal Grade Rules
3 units

CMPE 245. Embedded Wireless Architecture

Embedded wireless architecture with basic communication protocols and hands-on labs with state of the art embedded system development tools.

Prerequisites: CMPE 180A and 180D, classified standing, or instructor consent.

Computer Engineering or Software Engineering majors only.

Normal Grade Rules
3 units

CMPE 246. Interface Design in Embedded Systems

Oscillator configuration, parallel and serial I/O port initialization and interface building techniques with Microchip DSP microcontrollers. Integration of external memory blocks, MEMS sensors, MEMS microphone, ADC, DAC and image recognition camera to achieve a specific system functionality. Servo motor, stepper motor and brushless motor interface designs and control. Design specification and development with Microchip MPLABX design tools. Prerequisite: CMPE 180A and 180D, classified standing, or instructor consent.

Normal Grade Rules
3 units

CMPE 255. Data Mining

Data representation and preprocessing, proximity, finding nearest neighbors, dimensionality reduction, exploratory analysis, association analysis and sequential patterns, supervised inference and prediction, classification, regression, model selection and evaluation, overfitting, clustering, and advanced topics.

Prerequisite: CMPE 180A, classified standing, or instructor consent.

Computer Engineering or Software Engineering majors only.

Normal Grade Rules
3 units

CMPE 256. Large Scale Analytics

Data mining and machine learning algorithms and applications for large amounts of data. Information retrieval and search engines, social network analysis, link analysis, and ranking. Web personalization, recommender systems, opinion mining and sentiment analysis, and advanced topics.

Prerequisite: CMPE 180A, classified standing, or instructor consent.

Computer Engineering or Software Engineering majors only.

Normal Grade Rules
3 units

CMPE 257. Machine Learning

Machine learning concepts, feasibility and learning types, theory of generalization, bias and variance, linear models for classification and regression, nonlinear transformation, regularization and validation, kernel methods, radial basis functions, support vector machines, ensemble methods, neural networks, and hands-on projects.

Prerequisite: CMPE 180A, classified standing, or instructor consent. Computer Engineering and Software Engineering Majors only.

Normal Grade Rules
3 units

CMPE 258. Deep Learning

Deep neural networks and their applications to various problems, e.g., speech recognition, image segmentation, and natural language processing. Covers underlying theory, the range of applications to which it has been applied, and learning from very large data sets.

Prerequisite: CMPE 255 or CMPE 257 or instructor consent. Computer Engineering and Software Engineering majors only.

Normal Grade Rules
3 units

CMPE 264. Advanced Digital and Computing System Design

Advanced topics in register-transfer-level design of complex digital functional blocks, application-specific instruction set processors, and system-level integration/validation using Verilog/VHDL/C-level hardware description languages.

Prerequisite: CMPE 200 or instructor consent.

Normal Grade Rules
3 units

CMPE 265. High Speed Digital System Design

Introduction to high speed interface design techniques and analyzing high speed circuits utilizing latest modeling and simulation tools to provide necessary knowledge for the printed circuit board layout.

Prerequisite: CMPE 200 or instructor consent.

Normal Grade Rules
3 units

CMPE 266. Big Data Engineering and Analytics

New big data related technologies, architecture, tool, algorithms and analytics to manage and extract values and hidden knowledge from data whose scale, diversity, speed and complexity are big.

Prerequisite: CMPE 272 or Instructor Consent

Normal Grade Rules
3 units

CMPE 270. Information Engineering

See ISE 270.

Normal Grade Rules
GE: GWAR
3 units

CMPE 272. Enterprise Software Platforms

Enterprise software, system and virtualized platforms. OSs, NOS, security, databases (OLTP, big data, analytics), transactions, groupware, components, web services, web, systems management, and app development. Standards and emerging technologies. Prerequisite: MSSE graduate student or instructor consent.

Normal Grade Rules
3 units

CMPE 273. Enterprise Distributed Systems

Introduction to application protocols for large scale distributed systems including object request brokers, asynchronous messaging, and Web services. Lab is based on using protocols to build distributed systems.

Prerequisites: Java programming or instructor consent. Computer Engineering and Software Engineering majors only.

Corequisites: CMPE 272

Normal Grade Rules
3 units

CMPE 274. Business Intelligence Technologies

This course covers technologies that are key to delivering business intelligence to an enterprise. The goal of business intelligence is to analyze and mine business data to understand and improve business performance by transforming business data into information into knowledge.

Prerequisite: CMPE 272 or instructor consent. Computer Engineering and Software Engineering majors only.

Normal Grade Rules
3 units

CMPE 275. Enterprise Application Development

Distributed component design, scalability, messaging, and integration practices for modern and emerging architectures and technologies.

Prerequisite: CMPE 273 or instructor consent. Computer Engineering and Software Engineering majors only.

Normal Grade Rules
3 units

CMPE 277. Smartphone Application Development

Architectures, technologies, and programming concepts for developing smartphone applications. Covers current smartphone/tablet OSs, application development, and deployment environments.

Prerequisites: Classified graduate standing or instructor consent. Computer Engineering and Software Engineering majors only.

Normal Grade Rules
3 units

CMPE 279. Software Security Technologies

Fundamental concepts, methods, and tools used to design and implement software security technologies for constructing trustworthy centralized, distributed, or enterprise-wide software systems.

Corequisite: CMPE 272 or 220 or instructor consent.

Normal Grade Rules
3 units

CMPE 280. Web UI Design and Development

Web User-interface (UI) design and development with contemporary web standards. Understand interaction and interface design principles and processes for rich web applications, mobile web, web graphics, web design fundamentals, tools, interaction using client side scripting and server side frameworks.

Pre-requisite: Classified graduate standing or instructor consent. Computer Engineering and Software Engineering majors only.

Normal Grade Rules
3 units

CMPE 281. Cloud Technologies

Cloud computing concepts, evolution, architectures, infrastructures, opportunities, risks, enterprise adoption strategies, standards and polices, Software-as-a-Service (SaaS), Platform-as-a-Service (PaaS), Infrastructure-as-a-Service (IaaS), modern cloud computing technologies and tools, case studies and team projects.

Corequisites: CMPE 272 or instructor consent. Computer Engineering and Software Engineering majors only.

Normal Grade Rules
3 units

CMPE 282. Cloud Services

Cloud service architecture and layering, administrative issues, resiliency and security considerations; business development, operations and business support service, case studies and team projects.

Prerequisites: CMPE 281 or instructor consent. Computer Engineering and Software Engineering majors only.

Normal Grade Rules
3 units

CMPE 283. Virtualization Technologies

Virtualization concepts, components and infrastructure, hardware and software virtualization, virtualization machine life cycle management, virtualization services, case studies, and team projects. Corequisite:CMPE 272 or instructor consent.

Normal Grade Rules
3 units

CMPE 284. Storage and Network Virtualization

Network and storage technologies, network virtualization and storage virtualization, including virtual local area networks, load balancers, firewalls, virtual private networks, network attached storage and storage area networks, case studies, and team projects.

Prerequisites: CMPE 283 or instructor consent. Computer Engineering and Software Engineering majors only.

Normal Grade Rules
3 units

CMPE 285. Software Engineering Processes

Software system development with emerging software engineering processes and technologies; planned and agile development processes, processes of Service-Oriented Architecture; component-based, Web-based, mobile based, event programming, wireless, user interface, and database access technologies.

Corequisite: CMPE 202 or CMPE 220 or instructor consent. Computer Engineering and Software Engineering majors only.

Normal Grade Rules
3 units

CMPE 287. Software Quality Assurance and Testing

Software testing concepts, processes, models, criteria, and methods; software unit testing, integration, function validation, system performance measurement, and reliability evaluation; software security testing methods, assurance criteria, and validation tools; software security assurance process, standards, techniques, and case study. Corequisite: CMPE 202 or 220 or instructor consent.

Normal Grade Rules
3 units

CMPE 289. Cloud Security Engineering

Cloud security engineering concepts, issues, infrastructures, risks, enterprise adoption concerns; cloud security management, standards, criteria, processes, polices, regulations, identity and access management; security as a service and emergent security solutions and tools in clouds, case studies and team projects.

Prerequisites: CMPE 272 or instructor consent

Normal Grade Rules
3 units

CMPE 292. Int'l Program Studies

Repeatable for credit
Mixed Grading
1-9 units

CMPE 294. Computer Engineering Seminar

Provides graduate students with a background to conduct research, write proposals and present results in oral and written form.

Prerequisite: Instructor consent.

Note: This course satisfies graduate-level GWAR in this master's program.

Normal Grade Rules
GE: GWAR
3 units

CMPE 294A. Cyber Security Seminar
Provides graduate students with the background and capability to conduct research and write technical reports in the area of cyber security

Prerequisites: Instructor consent

Note: This course satisfies graduate-level GWAR in this master's program.

Normal Grade Rules
GE: GWAR
3 units

CMPE 295A. Master Project I
Comprehensive plan and preliminary design of a computer/software engineering project; integration of knowledge in technologies, processes and management to support program outcomes.

Prerequisite: Classified status, good standing, completed 2 degree core courses, completed 2 courses in specialization, and graduate advisor consent.

Misc/Lab: Lab 9 hours.

Repeatable for credit
Normal Grade Rules
3 units

CMPE 295B. Master Project II
Completion of an in-depth project to achieve the program outcomes and satisfy the cumulating experience; write a detailed project report; make a comprehensive presentation and demonstration.

Prerequisite: CMPE 295A (with a B or better) or CMPE 295W (with a B or better), completed all degree core courses, admission to candidacy and graduate advisor consent.

Misc/Lab: Lab 9 hours.

Repeatable for credit
Normal Grade Rules
3 units

CMPE 295W. Master Project
In-depth developmental engineering work relating to problems of interest. Project includes proposal formulation, analysis, design, implementation, and testing.

Prerequisites: Completed degree and specialization core requirements, classified status, in good standing and graduate advisor consent.

Note: This course satisfies graduate-level GWAR in this master's program.

Normal Grade Rules
GE: GWAR
3 units

CMPE 296Y. High Level Synthesis
Purpose, methodologies, and techniques of high level synthesis (HLS), hands-on HLS practices starting from C/C++/SystemC description to FPGA device implementation.

Prerequisites: CMPE 200, CMPE 212, and CMPE 264.

Normal Grade Rules
3 units

CMPE 296Z. System Architecture
System-level description and verification, performance and power driven system optimization via microarchitecture exploration and hardware/software trade-offs, system integration and hardware/software co-validation.

Prerequisites: CMPE 200, CMPE 212, and CMPE 264

Normal Grade Rules
3 units

CMPE 297. Special Topics in Computer/ Software Engineering
Special topics to augment regularly-scheduled graduate courses. May be taken up to three times in different topic areas.

Prerequisite: Instructor consent.

Repeatable for credit
Normal Grade Rules
3 units

CMPE 298. Special Problems
Advanced individual work in computer engineering.

Prerequisite: Instructor consent. Not available to Open University Students.

Repeatable for credit
Mandatory CR/NC/RP
1-6 units

CMPE 298I. Computer/Software Engineering Internship
Field work for computer and software engineering graduate students. A report is required at the end of the semester addressing the goals set at the start of the assignment.

Prerequisite: Completed 6 units degree core plus six additional degree program units, classified status, in good standing and graduate advisor consent

Repeatable for credit
Mandatory CR/NC/RP
1-6 units

CMPE 299A. Master Thesis I
The first part of a thesis culminating the work for the master's degree in the specialization.

Prerequisite: Completed core courses and classified status. Not available to Open University students.

Mandatory CR/NC/RP
3 units

CMPE 299B. Master Thesis II
The second part of a thesis culminating the work for the master's degree in the specialization.

Prerequisite: Admission to Candidacy of Master Degree and CMPE 299A. Not available to Open University students.

Mandatory CR/NC/RP
3 units

SOFTWARE ENGINEERING

UPPER DIVISION

SE 116A. Introduction to Computer Graphics
See CS 116A.

Normal Grade Rules
3 units

SE 116B. Computer Graphics Algorithms
See CS 116B.

Normal Grade Rules
3 units

SE 123A. Bioinformatics I
See CS 123A.

Normal Grade Rules
3 units

SE 123B. Bioinformatics II
See CS 123B.

Normal Grade Rules
3 units

SE 134. Computer Game Design and Programming
See CS 134.

Normal Grade Rules
3 units

SE 135. Object-Oriented Analysis and Design
See CMPE 135.

Normal Grade Rules
3 units

SE 137. Wireless Mobile Software Engineering
See CMPE 137.

Normal Grade Rules
3 units

SE 139. Fundamentals of Data Mining
See CMPE 139.

Normal Grade Rules
3 units

SE 152. Programming Paradigms
See CS 152.

Normal Grade Rules
3 units

SE 153. Concepts of Compiler Design
See CS 153.

Normal Grade Rules
3 units

SE 154. Formal Languages and Computability
See CS 154.

Normal Grade Rules
3 units

SE 155. Introduction to the Design and Analysis of Algorithms
See CS 155.
Normal Grade Rules
3 units

SE 156. Introduction to Artificial Intelligence
See CS 156.
Normal Grade Rules
3 units

SE 157B. Database Management Systems II
See CS 157B.
Normal Grade Rules
3 units

SE 158B. Computer Network Management
See CS 158B.
Normal Grade Rules
3 units

SE 163. Introduction to Computer Graphics and Augmented Reality
See CMPE 163.
Normal Grade Rules
3 units

SE 174. Server-side Web Programming
See CS 174.
Normal Grade Rules
3 units

SE 180. Individual Studies
See CMPE 180.
Repeatable for credit
Credit / No Credit
1-3 units

SE 188. Machine Learning for Big Data
See CMPE 188.
Normal Grade Rules
3 units

Computer Science Department Courses

COMPUTER SCIENCE

LOWER DIVISION

CS 022A. Python Programming for Non Majors I

This course is an introduction to Python Programming. Programming in interesting, relevant, and practical contexts. Image and video manipulation, digital music, databases, web pages, data analysis in life sciences, other applications. Fundamental programming constructs: data structures and algorithms, iterations, functions.

Prerequisite: This course is intended for students who have no prior programming experience. This course is not open to computer science majors or minors or software engineering majors.

Normal Grade Rules
3 units

CS 022B. Python Programming for Non Majors II

Hands-on Python programming skills. Skills include casting a problem as an algorithm, translating an algorithm to executable code, and debugging and testing code. Applications focus on computational techniques to understand, analyze, and visualize data.

Prerequisite: CS 22A or consent of the instructor. This course is not open to computer science majors or minors or software engineering majors.

Normal Grade Rules
3 units

CS 025. The Digital World and Society

See ENGR 025.

Normal Grade Rules
GE: D1
3 units

CS 040. Introduction to Computers

For students with little or no computer experience. Topics include: history of computing, user interfaces, computer applications, programming, hardware and software, computer networks.

Normal Grade Rules
3 units

CS 042. Discrete Mathematics

See MATH 042.

Normal Grade Rules
3 units

CS 046A. Introduction to Programming

Basic skills and concepts of computer programming in an object-oriented approach using Java. Classes, methods and argument passing, control structures, iteration. Basic graphical user interface programming. Problem solving, class discovery and stepwise refinement. Programming and documentation style. Weekly hands-on activity.

Prerequisite: Eligibility for Math 019 and a major of Computer Science, Software Engineering, or Undeclared; or instructor consent.

Misc/Lab: Lecture 4 hour/lab 3 hours.

Normal Grade Rules
4 units

CS 046B. Introduction to Data Structures

Stacks and queues, recursion, lists, dynamic arrays, binary search trees. Iteration over collections. Hashing. Searching, elementary sorting. Big-O notation. Standard collection classes. Weekly hands-on activity.

Prerequisite: Knowledge of Java equivalent to CS 046A (in Java) or CS 049J (with grade of "C" or better). Eligibility for MATH 030 or MATH 030P, or instructor consent.

Pre/Corequisite: MATH 042.

Misc/Lab: 3 hours of lecture/ 3 hours lab

Normal Grade Rules
4 units

CS 047. Introduction to Computer Systems

Instruction sets, assembly language and assemblers, linkers and loaders, data representation and manipulation, interrupts, pointers, function calls, argument passing, and basic gate-level digital logic design.

Prerequisite: CS 46B (with a grade of "C-" or better)

Normal Grade Rules
3 units

CS 049C. Programming in C

Beginning course in the C language.

Prerequisite: Previous programming experience and completion of math GE.

Normal Grade Rules
3 units

CS 049J. Programming in Java

Introduction to the Java programming language and libraries. Topics include fundamental data types and control structures, object-oriented programming, string processing, input/output, and error handling. Use of Java libraries for mathematics, graphics, collections, and for user interfaces.

Prerequisite: Previous programming experience in a language other than Java.

Normal Grade Rules
3 units

CS 050. Scientific Computing I

See METR 050.

Normal Grade Rules
2 units

CS 085C. Practical Computing Topics

Computing topics of current interest in industrial practice. Emphasis on effective use and integration of software/hardware. Different topics may be offered at different times in a short-course lecture/lab format. Different versions of this course may be repeated for credit.

Pre/corequisite eligibility for MATH 19

Additional Prerequisite: Varies with topic

Repeatable for credit
Normal Grade Rules
3 units

UPPER DIVISION

CS 100W. Technical Writing Workshop

Advanced writing through preparation of technical reports and presentations. Improving skills for writing subject-related reports, project proposals and personal resumes through practice and evaluation. Course assignments will be related to issues concerning careers in computer science. GE Area: Z

Prerequisite: A3 or equivalent second semester composition course (with a grade of C- or better); Completion of core GE, satisfaction of Writing Skills Test and upper division standing.

Note: All SJSU Studies courses require completion of the WST and upper division standing. Must be passed with C or better to satisfy the CSU Graduation Writing Assessment requirement (GWAR).

Normal Grade Rules
GE: Z
3 units

CS 108. Introduction to Game Studies

See ART 108.

Normal Grade Rules
3 units

CS 116A. Introduction to Computer Graphics

Vector geometry, geometric transformations and the graphics pipeline. Basic raster graphics algorithms for drawing discrete lines, clipping, visible surface determination and shading. Display of curves and surfaces. Graphics data structures.

Prerequisite: MATH 31, MATH 129A, CS 146 (with a grade of "C-" or better in each) and previous programming experience in C/C++, or instructor consent.

Normal Grade Rules
3 units

CS 116B. Computer Graphics Algorithms

In-depth discussion of algorithms and techniques used in computer graphics and their implementation. Topics include: animation, fractals, anti-aliasing, fill algorithms, visible surface algorithms, color and shading, ray tracing, radiosity and texture maps. Substantial programming required.

Prerequisite: CS 116A (with a grade of "C-" or better) or instructor consent.

Notes: Offered only occasionally.

Normal Grade Rules
3 units

CS 122. Advanced Programming with Python

Advanced features of Python programming language, with emphasis on algorithmic theory and programming practice. Programming projects in linguistics, music, scientific computing, system administration, and bioinformatics.

Prerequisite: CS 146 (with a grade of "C-" or better) or instructor consent

Normal Grade Rules
3 units

CS 123A. Bioinformatics I

Introduction to the main public domain tools, databases and methods in bioinformatics. Analysis of algorithms behind the most successful tools, such as the local and global sequence alignment packages, and the underlying methods used in fragment assembly packages. Solution of complex biological questions requiring modification of standard code.

Prerequisite: BIOL 30 and BIOL 31, or CS 46A and CS 46B

Allowed Declared Majors: Biology, Chemistry, Computer Science

Normal Grade Rules
3 units

CS 123B. Bioinformatics II

Computational methods used for searching, classifying, analyzing, and modeling protein sequences. Tools for analyzing DNA and RNA sequences. More advanced topics, such as genetic algorithms and simulated annealing, which can be used to address folding problems.

Prerequisite: CS 123A.

Normal Grade Rules
3 units

CS 134. Computer Game Design and Programming

Architectures and object-oriented patterns for computer game design. Animation, simulation, user interfaces, graphics, and intelligent behaviors. Team projects using an existing game engine framework.

Prerequisite: CS 146 and either CS 151 or CMPE 135 (with a grade of "C-" or better in each); or instructor consent.

Normal Grade Rules
3 units

CS 143C. Numerical Analysis and Scientific Computing

See MATH 143C.

Normal Grade Rules
3 units

CS 143M. Numerical Analysis and Scientific Computing

See MATH 143M.

Normal Grade Rules
3 units

CS 144. Advanced C++ Programming

Advanced features of C++, including operator overloading, memory management, templates, exceptions, multiple inheritance, RTTI, namespaces, tools.

Prerequisite: CS 46B and CS 49C (with a grade of C- or better in each), or equivalent knowledge of object-oriented programming and C, or instructor consent.

Normal Grade Rules
3 units

CS 146. Data Structures and Algorithms

Implementations of advanced tree structures, priority queues, heaps, directed and undirected graphs. Advanced searching and sorting (radix sort, heapsort, mergesort, and quicksort). Design and analysis of data structures and algorithms. Divide-and-conquer, greedy, and dynamic programming algorithm design techniques.

Prerequisite: MATH 030, MATH 042, CS 049J (or equivalent knowledge of Java), and CS 046B (with a grade of "C-" or better in each); Computer Science, Applied and Computational Math or Software Engineering Majors only; or instructor consent.

Normal Grade Rules
3 units

CS 147. Computer Architecture

Introduction to the basic concepts of computer hardware structure and design, including processors and arithmetic logic units, pipelining, and memory hierarchy.

Prerequisite: CS 47 or CMPE 102 (with a grade of "C-" or better), Computer Science, Applied and Computational Math, or Software Engineering majors only; or instructor consent.

Normal Grade Rules
3 units

CS 149. Operating Systems

Fundamentals: Contiguous and non-contiguous memory management; processor scheduling and interrupts; concurrent, mutually exclusive, synchronized and deadlocked processes; files. Substantial programming project required.

Prerequisite: CS 146 or SE 146 (with a grade of "C-" or better). Computer Science, Applied and Computational Math or Software Engineering Majors only; or Instructor Consent

Normal Grade Rules
3 units

CS 151. Object-Oriented Design

Design of classes and interfaces. Object-oriented design methodologies and notations. Design patterns. Generics and reflection. Exception handling. Concurrent programming. Graphical user interface programming. Software engineering concepts and tools. Required team-based programming assignment.

Prerequisite: MATH 42, CS 46B, and CS 49J (or equivalent knowledge of Java) (with a grade of "C-" or better in each); Computer Science, Applied and Computational Math or Software Engineering majors only; or instructor consent.

Normal Grade Rules
3 units

CS 152. Programming Paradigms

Programming language syntax and semantics. Data types and type checking. Scope, bindings, and environments. Functional and logic programming paradigms, and comparison to other paradigms. Extensive coverage of a functional language.

Prerequisite: CS 151 or CMPE 135 (with a grade of "C-" or better); Computer Science, Applied and Computational Math or Software Engineering Majors only; or instructor consent.

Normal Grade Rules
3 units

CS 153. Concepts of Compiler Design

Theoretical aspects of compiler design, including parsing context free languages, lexical analysis, translation specification and machine-independent code generation. Programming projects to demonstrate design topics.

Prerequisite: CS 47 or CMPE 102, CS 146, and CS 154 (with a grade of "C-" or better in each); Computer Science, Applied and Computational Math or Software Engineering majors only; or instructor consent.

Normal Grade Rules
3 units

CS 154. Formal Languages and Computability

Finite automata, context-free languages, Turing machines, computability.

Prerequisite: MATH 42 and CS 46B (with a grade of "C-" or better in each); Computer Science, Applied and Computational Mathematics, or Software Engineering, majors only; or instructor consent.

Normal Grade Rules
3 units

CS 155. Introduction to the Design and Analysis of Algorithms

Algorithm design techniques: dynamic programming, greedy algorithms, Euclidean and extended Euclidean algorithms, Discrete and Fast Fourier transforms. Analysis of algorithms, intractable problems and NP-completeness. Additional topics selected from: selection algorithms and adversary arguments, approximation algorithms, parallel algorithms, and randomized algorithms.

Prerequisite: CS 146 (with a grade of "C-" or better) or instructor consent.

Normal Grade Rules
3 units

CS 156. Introduction to Artificial Intelligence

Basic concepts and techniques of artificial intelligence: problem solving, search, deduction, intelligent agents, knowledge representation. Topics chosen from logic programming, game playing, planning, machine learning, natural language, neural nets, robotics.

Prerequisite: CS 146 and either CS 151 or CMPE 135 (with a grade of "C-" or better in each); or instructor consent.

Normal Grade Rules
3 units

CS 157A. Introduction to Database Management Systems

Current, classical database systems. Entity-relationship and enhanced entity models. Relational model, algebra, calculus. Current, emerging SQL standard. Embedded, Dynamic SQL. Application perspective on transactions and security. Interactive and programmatic interfaces to database systems. Application programming project using commercial database system.

Prerequisite: CS 146 (with a grade of "C-" or better); Computer Science, Applied and Computational Math, or Software Engineering majors only; or instructor consent.

Normal Grade Rules
3 units

CS 157B. Database Management Systems II

Survey course. Object-oriented data model, definition language, query language. Object relational database systems. Database trends like active, temporal, multimedia, deductive databases. Web database topics, namely, architectures, introduction to interface languages. Team projects.

Prerequisite: CS 157A (with a grade of "C-" or better); Computer Science, Applied and Computational Math, or Software Engineering Majors only; or instructor consent.

Normal Grade Rules
3 units

CS 157C. NoSQL Database Systems

NoSQL Data Models: Key-Value, Wide Column, Document, and Graph Stores. CAP Theorem. Distribution Models. Current NoSQL Databases: Configuration and Deployment, CRUD operations, Indexing, Replication, and Sharding. Public Data Sets. API Coding and Application Development. NoSQL in the Cloud. Team Project.

Prerequisite: CS 157A with a "C- or better"

Normal Grade Rules
3 units

CS 158A. Computer Networks

Introduction to computer networks, including network layered architectures, local and wide area networks, mobile wireless networks, Internet TCP/IP protocol suite, network resource management, network programming, network performance, network security, network applications.

Prerequisite: CS 146, and CS 147 or CMPE 120, (with grades of "C-" or better in each); or instructor consent.

Normal Grade Rules
3 units

CS 158B. Computer Network Management

Principles and technologies of network management: reference models, functions (fault, configuration, performance, security and accounting management), management information, communication protocols, integration, and assessment. Network security and cyber defense: cryptography, key distribution, authentication protocols, network attacks, access control, and example systems.

Prerequisite: CS 158A or CMPE 148 (with a grade of "C-" or better), or instructor consent

Normal Grade Rules
3 units

CS 159. Introduction to Parallel Processing

Major parallel architectures: shared memory, distributed memory, SIMD, MIMD. Parallel algorithms: techniques for scientific applications, measures of performance. Parallel programming: principles and implementations in various languages. Assignments on available parallel and vector computers.

Prerequisite: CS 146 (with a grade of "C-" or better); Computer Science, Applied and Computational Math, or Software Engineering Majors only; or instructor consent.

Normal Grade Rules
3 units

CS 160. Software Engineering

Software engineering principles, software process and process models, requirements elicitation and analysis, design, configuration management, quality control, project planning, social and ethical issues. Required team-based software development, including written requirements specification and design documentation, oral presentation, and tool use.

Prerequisite: CS 146, CS 151 (with a grade of "C-" or better in each); CS 100W (with a grade of "C" or better) or instructor consent. Computer Science and Software Engineering Majors only.

Normal Grade Rules
3 units

CS 161. Software Project

A substantial project based on material from an advanced area of computer science. Includes lectures on the project topic and the design and testing of software systems. At least 50% of the course grade to be based on the project.

Prerequisites: CS 160 (with a grade of "C-" or better) or instructor consent. Computer Science and Software Engineering Majors only.

Normal Grade Rules
3 units

CS 166. Information Security

Fundamental security topics including cryptography, protocols, passwords, access control, software security, and network security. Additional topics selected from multilevel security, biometrics, tamper-resistant hardware, information warfare, e-commerce, system evaluation and assurance, and intrusion detection.

Prerequisite: CS 146 (with a grade of "C-" or better) and either CS 47 or CMPE 102 or CMPE 120 (with a grade of "C-" or better); Computer Science, Applied and Computational Math, or Software Engineering Majors only; or instructor consent.

Normal Grade Rules
3 units

CS 174. Server-side Web Programming

Development and deployment of multi-tier web-based applications. Introduction to HTML, XML, enterprise design patterns, web services and database access.

Prerequisite: CS 46B (with a grade of "C-" or better); Computer Science, Applied and Computational Math, or Software Engineering Majors only.

Normal Grade Rules
3 units

CS 175. Mobile Device Development

Mobile Platform APIs including those for networking, touch, graphics, data, location, and camera. Testing and profiling on devices and emulators/simulators.

Prerequisites: CS 047, and knowledge of Java equivalent to that of CS 046A or CS 049J

Normal Grade Rules
3 units

CS 180. Individual Studies

Individual study in a specific field.

Prerequisite: Department chair consent. Not available to Open University Students

Repeatable for credit
Credit / No Credit
1-3 units

CS 180H. Individual Studies for Honors

Senior project on advanced topics in computer science as determined by the instructor. Written paper or oral presentation of the project required. Intended for students graduating with departmental honors.

Prerequisite: At least junior standing as computer science major. GPA of 3.5 or higher in the major and department chair consent.

Credit / No Credit
3 units

CS 185C. Advanced Practical Computing Topics

Computing topics of current interest in industrial practice. Emphasis on effective use and integration of software/hardware. Different topics may be offered at different times in a short-course lecture/lab format and may be repeated for credit.

Prerequisite: Varies with topic.

Repeatable for credit
Normal Grade Rules
3 units

CS 190. Internship Project

Work on an approved semester-long paid project at an industrial site. Meet once per week on campus. Progress reports, oral presentations, final report, and evaluation by project supervisor will be used to demonstrate the acquisition of skills identified as goals prior to the start of the assignment.

Prerequisite: CS 146 (with a grade of "C-" or better) or graduate standing, selection by a company, and instructor consent

Repeatable for credit
Normal Grade Rules
1 unit

CS 190I. Internship Project

Work on an approved semester-long paid project at an industrial site. Meet once per week on campus. Progress reports, oral presentations, final report, and evaluation by project supervisor will be used to demonstrate the acquisition of skills identified as goals prior to the start of the assignment.

Prerequisite: CS 146 (with a grade of "C-" or better) or graduate standing, selection by a company, and instructor consent.

Normal Grade Rules
3 units

GRADUATE

CS 200W. Graduate Technical Writing

Graduate technical writing workshop to develop advanced communication skills that will meet the professional needs of computer scientists, along with research methodologies and proper documentation for the master's thesis project. (This course does NOT satisfy the undergraduate GE Area Z requirement.)

Prerequisite: Graduate standing.

Note: This course satisfies graduate-level GWAR in this master's program.

ABC/No Credit
GE: GWAR
3 units

CS 216. Geometric Modeling

Representation of curves and surfaces, basic differential geometry, solid modeling fundamentals, implementation considerations.

Prerequisite: CS 116A or instructor consent.

Normal Grade Rules
3 units

CS 218. Topics in Cloud Computing

Topics in cloud computing, including distributed system models, virtual machines, virtualization, cloud platform architectures (IaaS, PaaS, SaaS), service-oriented architectures, cloud programming and software environments, peer-to-peer computing, ubiquitous cloud, cloud security and trust management.

Prerequisite: CS 149

Normal Grade Rules
3 units

CS 223. Bioinformatics

The course investigates the main algorithms for solving computational problems in bioinformatics. Methods will include Hidden Markov Models for gene prediction and protein profiling, and Genetic Algorithms for biological sequence analysis and structure prediction. Students will be given programming projects.

Prerequisite: CS 123A or CS 155.

Normal Grade Rules
3 units

CS 235. User Interface Design

Human-computer interaction principles. Direct manipulation, focus plus context, interaction history; interfaces for websites and website collections; usability testing; role of metaphors; case studies; advanced topics include information visualization, interfaces for collaboration, intelligent interfaces, and software agents.

Prerequisite: CS 130 or CS 116A, or instructor consent.

Normal Grade Rules
3 units

CS 243A. Advanced Numerical Analysis

See MATH 243A.

Normal Grade Rules
3 units

CS 243B. Advanced Topics in Numerical Analysis

See MATH 243B.

Normal Grade Rules
3 units

CS 247. Advanced Computer Architecture

Advanced topics in vector architectures, including: pipelined architectures, dataflow computers, VLSI architectures, butterfly connections; bus and memory architectures; cache structures; hardware implementations of algorithms.

Prerequisite: CS 147 and CS 149 or instructor consent.

Normal Grade Rules
3 units

CS 249. Distributed Computing

Current issues in operating systems, including multiprocessor systems and distributed computing, networks, security and performance. Case studies of current operating systems.

Prerequisite: CS 149 or instructor consent.

Normal Grade Rules
3 units

CS 251A. Object-Oriented Analysis

Emphasizes the important concepts, activities, and artifacts of the analysis phase of object-oriented software development. CASE tools and UML are used to model application domain data, workflows, system requirements, deployment, and life cycles.

Prerequisite: CS 160 or instructor consent.

Normal Grade Rules
3 units

CS 251B. Object-Oriented Design

Course covers important concepts, activities, and artifacts of the design phase of object-oriented software development. Topics include design metrics, design patterns, refactoring, frameworks, and testing.

Prerequisite: CS 160 or instructor consent.

Normal Grade Rules
3 units

CS 252. Advanced Programming Language Principles

Language design and paradigms, including concepts underlying functional, logic, object-oriented and parallel paradigms. Theoretical foundations, including lambda calculus, denotational and axiomatic semantics. Proofs of program correctness. Programming projects emphasizing different aspects of language design.

Prerequisite: CS 152 or instructor consent.

Normal Grade Rules
3 units

CS 253. Advanced Compiler Design

Review of attribute analysis and static semantic evaluation. Runtime environments and code generation. Basic blocks and flow graphs. Register allocation and storage classes. Common subexpression elimination and constant propagation. Loop optimizations. Global data flow analysis. Completion of a code optimization project.

Prerequisite: CS 153 or instructor consent.

Normal Grade Rules
3 units

CS 254. Theory of Computation

Models of computation; decidability; complexity measures; hierarchies; P, NP and other complexity classes; intractable problems.

Prerequisite: CS 154 or instructor consent.

Normal Grade Rules
3 units

CS 255. Design and Analysis of Algorithms

Randomized algorithms. Parallel algorithms. Distributed algorithms. NP-completeness of particular problems. Approximation algorithms.

Prerequisite: CS 155 or instructor consent.

Normal Grade Rules
3 units

CS 256. Topics in Artificial Intelligence

Introduction to topics in artificial intelligence such as problem solving methods, game playing, understanding natural languages, pattern recognition, computer vision and the general problem of representing knowledge. Students will be expected to use LISP.

Prerequisite: CS 156 or instructor consent.

Normal Grade Rules
3 units

CS 257. Database System Principles

Design management and performance issues on: file organization and access methods, buffer management and storage management. Query processing and query optimization, transaction management, recovery, and concurrency control techniques. Reliability, protection and integrity techniques. Extensive programming project.

Prerequisite: CS 157B or instructor consent.

Normal Grade Rules
3 units

CS 258. Computer Communication Systems

Design, analysis and survey of the latest advancements in network and Internet technologies, such as supporting TCP/IP over various network media, software-defined networks, networks supporting cloud computing, network security, peer-to-peer and overlay networks, and quality of services.

Prerequisite: CS 158A or instructor consent.

Normal Grade Rules
3 units

CS 259. Advanced Parallel Processing

An advanced hardware architecture and software development class focused on multi-threaded, parallel processing algorithms and techniques. A study of high-performance parallel hardware architectures and parallel programming languages. Applications of parallel and GPU processing, including computer gaming.

Normal Grade Rules
3 units

CS 262. Randomized Algorithms and Applications

Design and analysis of algorithms which incorporate randomness in their design. Applications will be given in several of the following areas: data structures, pattern matching, cryptography, parallel computing, distributed computing, and interactive proof systems.

Prerequisite: CS 154 or CS 155.

Normal Grade Rules
3 units

CS 265. Cryptography and Computer Security

Security mechanisms for protecting information in computer systems and networks. Includes cryptography and its applications to security services in distributed systems, mathematics of cryptography, access control, protection models, security policies, design of secure systems, firewalls, and intrusion detection.

Prerequisite: CS 149 or instructor consent.

Normal Grade Rules
3 units

CS 266. Topics in Information Security

Advanced topics in the area of information security. Content differs with each offering. Possible topics include, but are not restricted to: Network Security, Software Reverse Engineering and Cryptanalysis.

Prerequisite: CS 166 or instructor consent.

Repeatable for credit
Normal Grade Rules
3 units

CS 267. Topics in Database Systems

Advanced topics in the area of database and information systems. Content differs in each offering. Possible topics include though not restricted to: Data Mining, Distributed Databases and Transaction Processing.

Prerequisite: CS 157B.

Repeatable for credit
Normal Grade Rules
3 units

CS 268. Topics in Wireless Mobile Networking

Advanced topics in the area of wireless mobile networking. Content may differ in each offering. Possible topics include though not restricted to: wireless local and metropolitan area networks, mobile Internet, sensor networks, mobile computing, wireless network security. Repeatable when topic changes.

Prerequisite: CS 158A.

Repeatable for credit
Normal Grade Rules
3 units

CS 271. Topics in Machine Learning

Variable topics in machine learning. Content may include hidden Markov models, principal component analysis, support vector machines, clustering, boosting, random forests, neural networks, and deep learning. Relevant applications will be covered.

Normal Grade Rules
3 units

CS 274. Topics in XML and Web Intelligence

XML: DTD, Schema, Namespace, XSLT, XPath, Xquery, Encryption, Signature in XML, applications in vertical industries; Semantic Web; RDF, RDFS, Ontology, Inferences; Web services, relevant tools for search, inference, data conversion in XML, Semantic web applications.

Prerequisites: CS 160 or instructor consent.

Normal Grade Rules
3 units

CS 280. Graduate Individual Studies

Individual study in specific field.

Prerequisite: Department chair consent. Not available to Open University Students

Repeatable for credit
Credit / No Credit
1-3 units

CS 286. Advanced Topics in Computer Science

Selected topics in computer science. Topics vary each semester and may be repeated for a maximum of 6 units.

Prerequisite: Suitable upper division background in mathematics and computer science as set by instructor.

Repeatable for credit
Normal Grade Rules
3 units

CS 297. Preparation for Writing Project or Thesis

Supervised individual research and project work to prepare for a master's writing project or thesis.

Prerequisite: Fully classified standing in the MSCS program, department chair consent. Not available to Open University Students.

Pre/Co-requisite: CS 200W

Credit / No Credit
3 units

CS 298. Master's Writing Project

Prerequisite: CS 297 or CS 240, and department chair consent and admission to candidacy for the MS degree. Not available to Open University Students.

Repeatable for credit
Mandatory CR/NC/RP
3 units

CS 298B. Bioinformatics Master's Project

Supervised individual research of an advanced character for the completion of the masters project.

Prerequisite: Fully classified standing in the MS in Bioinformatics program and department chair consent. Not available to Open University Students.

Repeatable for credit
Mandatory CR/NC/RP
3 units

CS 299. Master's Thesis

Prerequisite: CS 297 and department chair consent and admission to candidacy for the MS degree. Not available to Open University Students.

Repeatable for credit
Mandatory CR/NC/RP
3 units

Connie L. Lurie College of Education Courses

EDUCATION

LOWER DIVISION

EDUC 080. Independent Study
Supervised study related to the field of education appropriate to lower division undergraduate students. Individuals work on special topics by arrangement with a faculty member.

Credit / No Credit
1-3 units

UPPER DIVISION

EDUC 157SL. Community Action/Community Service
See COMM 157SL.

Normal Grade Rules
GE: S
3 units

EDUC 186. Using Instructional Media
Selection, utilization and evaluation of instructional media in adult learning configurations. Analysis of communication and learning theories. Design and production of teaching and learning materials.

Prerequisite: Upper division standing.

Normal Grade Rules
3 units

GRADUATE

EDUC 298. Individualized Studies in Education
Supervised study in school administrations for both the preliminary and professional services credential programs.

Prerequisite: Admission to Graduate department, EDAD 200, EDAD 270 or advisor consent.

Repeatable for credit
Mandatory CR/NC/RP
1-6 units

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Creative Arts Program Courses

CREATIVE ARTS

LOWER DIVISION

CA 060. Creativity Matters
Study why creativity matters to you from imagining possible career paths to improving communication, expressing ideas, and flourishing over the course of ones lifetime. Creativity is not just for artists and inventors! It is a human faculty that matters for life. GE Area: E

Normal Grade Rules
GE: EE
3 units

CA 070. Visual & Media Arts for K-8 Teachers
Introductory and interdisciplinary course in the Visual Arts and Media Arts designed for students interested in teaching in K-8 classrooms. Basic techniques and processes a prospective teacher needs in the Visual Arts and Media Arts to instruct students. Students actively engage in the art forms as well as explore standards-based instructional strategies, classroom management strategies, and aesthetic inquiry. Introduction to Arts Education research, advocacy, and community arts resources.

Normal Grade Rules
3 units

CA 075. Performing Arts for K-8 Teachers
Basic dance, theatre, and music techniques and processes a prospective teacher needs to create dance/movement, vocal and instrumental music, creative dramatics and formal theatre with K-8 students. Students actively engage in the three arts disciplines, as well as explore standards-based instructional strategies, classroom management strategies, and aesthetic inquiry. Students are introduced to Performing Arts Education research, advocacy, and community arts resources.

Normal Grade Rules
3 units

CA 095. Introduction to Queer Arts
Exploration of the ways that LGBTQ individuals and groups have used the arts, in various times and places, to make their lives, communities, and selves meaningful and to resist the domination of non-queer cultures. GE Area: C1

Normal Grade Rules
GE: C1
3 units

UPPER DIVISION

CA 124. Literature and Religious Experience
See RELS 124.

Repeatable for credit
Normal Grade Rules
3 units

CA 134. Religion Film & Media
See RELS 134.

Normal Grade Rules
3 units

CA 139. Teaching Diversity through Art
See ART 139.

Normal Grade Rules
3 units

CA 150. Field Experience in the Arts
See ARED 150.

Normal Grade Rules
3 units

CA 172. The Arts in U.S. Society
Study of American arts and artists in their aesthetic, social, and political contexts, focusing on 20th and 21st centuries. Arts examined include architecture, poetry, music, visual arts, dance, theatre, performance art, and fiction. Special emphasis on issues of cultural diversity. GE Area: S

Prerequisite: Passage of the Writing Skills Test (WST) or ENGL/LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

Note: All SJSU Studies courses require completion of the WST and upper division standing.

Normal Grade Rules
GE: S
3 units

CA 173. Thinking About Contemporary World Arts
An interdisciplinary course on contemporary arts and culture which investigates connections between arts disciplines and world cultures. The course uses critical and creative thinking as the lens to focus on issues in the arts, especially personal and cultural identities. GE Area: V

Prerequisite: Passage of the Writing Skills Test (WST) or ENGL/LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

Note: All SJSU Studies courses require completion of the WST and upper division standing.

Normal Grade Rules
GE: V
3 units

CA 174. Special Topics Seminar
In-depth study of historical and/or contemporary topics in the interdisciplinary creative arts. Content changes each semester.

Course repeatable when content changes

Prerequisite: Upper division standing

Repeatable for credit
Normal Grade Rules
3 units

CA 175. Seminar in Creative Process
An exploration of the creative process across the creative domains and of the use of practice-based research in the humanities and creativity studies.

Prerequisite: CA60 or upper division standing

Repeatable for credit
Normal Grade Rules
3 units

CA 176. Creativity and Creative Leadership
A course focusing on mastering current theories about creativity, adapting theoretical knowledge for an individual/personal strategy, and embodying both the knowledge and strategy in a collaborative project.

Prerequisite: Instructor consent.

Normal Grade Rules
3 units

CA 177. Interdisciplinary Arts for Teaching
Creativity in teaching and learning-a course designed for prospective teachers; connections between the various arts disciplines, integrating other core subjects taught in California's classrooms.

Normal Grade Rules
3 units

CA 178. Senior Seminar in Creative Arts
A capstone seminar in two sections. First, students present and facilitate discussion of a major book or topic in creative arts or, when appropriate, humanities. Second, students devote themselves to senior projects (a written thesis or work in other media).

Prerequisite: CA 172 or CA 173.

Normal Grade Rules
3 units

CA 180. Individual Studies
Individual work on special topics, by arrangement.

Prerequisite: Coordinator approval.

Notes: Mixed grading.

Repeatable for credit
Credit / No Credit
1-4 units

CA 190. Field Work/Internship
Pre-professional experience in arts management/program design/implementation in a public setting.

Prerequisite: Coordinator approval.

Repeatable for credit
Credit / No Credit
1-3 units

CA 194. Community Building through Arts Orgs
In-depth study of strategies and methods for building community through creative arts organizations, both for-profit and non-profit.

Prerequisite: Upper Division Standing

Normal Grade Rules
3 units

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Dance Courses

DANCE

LOWER DIVISION

DANC 010. Dance Appreciation
A survey of dance as art in the Western world. The course examines the diversity of people, cultures and events that led to the development of Ballet, Modern, Jazz, Tap and Musical Theatre Dance. GE Area: C1
Normal Grade Rules
GE: C1
3 units

DANC 012. Ensemble Dance Rehearsal and Performance
ENS: Training and performance experience in the field of dance. Fully-staged productions of original professional choreographic works.
Pre-requisite: Audition and Instructor Consent
Repeatable for credit
Normal Grade Rules
2 units

DANC 040A. Topics in Modern Dance I
Training experience in the field of beginning modern dance with varied topics. Can be repeated when topic changes.
Misc/Lab: Activity 4 hours.
Repeatable for credit
Normal Grade Rules
GE: PE
2 units

DANC 041A. Topics in Ballet I
Training experience in the field of beginning ballet dance with varied topics. Can be repeated when topic changes.
Misc/Lab: Activity 4 hours.
Repeatable for credit
Normal Grade Rules
GE: PE
2 units

DANC 042A. Topics in Jazz Dance I
Training experience in the field of beginning Jazz dance with varied topics. Can be repeated when topic changes.
Misc/Lab: Activity 4 hours.
Repeatable for credit
Normal Grade Rules
GE: PE
2 units

DANC 043. Dance Improvisation
Introduction to dance improvisation, developing skills in creativity in preparation for DANC 145A.
Prerequisite: Intermediate technique standing and permission of instructor.
Normal Grade Rules
1 unit

DANC 045A. Beginning Lindy Hop and Night Club Swing
See KIN 045A.
Normal Grade Rules
GE: PE
1 unit

DANC 046A. Beginning Social Dance
See KIN 046A.
Normal Grade Rules
GE: PE
1 unit

DANC 046B. Intermediate Social Dance
See KIN 046B.
Normal Grade Rules
GE: PE
1 unit

DANC 048A. Beginning Latin Dance
See KIN 048A.
Normal Grade Rules
GE: PE
1 unit

DANC 048B. Intermediate Latin Dance
See KIN 048B.
Normal Grade Rules
GE: PE
1 unit

DANC 049A. Topics in Tap Dance I
Training and experience in the field of beginning tap dance with varied topics. Can be repeated when topic changes.
Misc/Lab: Activity 3 hours.
Repeatable for credit
Normal Grade Rules
1 unit

DANC 049B. Topics in Tap Dance II
Training and experience in the field of intermediate tap dance with varied topics. Can be repeated for up to 2 units of credit when topic changes.
Prerequisite: DANC 49A (or equivalent).
Misc/Lab: Activity 3 hours
Repeatable for credit
Normal Grade Rules
1 unit

DANC 051A. Dance Production
Practical experience in technical aspects of producing a dance concert.
Prerequisite: Instructor consent.
Misc/Lab: Lecture 1 hour/activity 3 hours.
Repeatable for credit
Normal Grade Rules
3 units

DANC 051B. Topics in Dance Crewing
The purpose of this course is to apply practical application of skills in dance production.
Repeatable for credit
Credit / No Credit
0.5 units

DANC 053. Techniques in World Dance
Traditional or theatrical dance forms selected from one or at the most two specific cultures. Classical ballet, modern, jazz, and tap dance are excluded.
Prerequisite: Level II technique standing.
Misc/Lab: Activity 3 hours.
Repeatable for credit
Normal Grade Rules
1 unit

DANC 054. Topics in Dance Technique II
Beginning/Intermediate Dance with varied topics.
Prerequisite: Audition or Instructor Consent
Repeatable for credit
Normal Grade Rules
GE: PE
3 units

DANC 075. Rhythm and Dynamics in Dance
Basic music theory and the relationship of dance and music.
Misc/Lab: Activity 2 hours.
Normal Grade Rules
1 unit

UPPER DIVISION

DANC 102. Dance in World Cultures
Survey of dance in selected world cultures; the role of dance in society; consideration of style, historical background and religious/cultural influences. Included are: Caribbean, West African, Mexican, Balkan, European, Asian and American cultures. GE Area: V
Prerequisite: Passage of the Writing Skills Test (WST) or ENGL/LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.
Note: All SJSU Studies courses require completion of the WST and upper division standing.
Normal Grade Rules
GE: V
3 units

DANC 112. ENS: Dance Rehearsal and Performance
ENS: Training and performance experience in the field of dance. Fully-staged productions of original professional choreographic works of varying styles.
Prerequisite: Audition and instructor consent
Misc/Lab: Lab hours required.
Repeatable for credit
Credit / No Credit
2 units

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DANC 140B. Topics in Modern Dance IV

Training experience in the field of advanced modern dance with varied topics. Can be repeated for credit when topic changes.

Prerequisite: DANC 140A and permission of instructor.

Misc/Lab: Activity 6 hours.

Repeatable for credit
Normal Grade Rules
2 units

DANC 141B. Topics in Ballet IV

Training experience in the field of advanced ballet with varied topics. Can be repeated for credit when topic changes.

Prerequisite: DANC 141A and permission of instructor.

Misc/Lab: Activity 6 hours.

Repeatable for credit
Normal Grade Rules
2 units

DANC 142B. Topics in Jazz Dance IV

Training experience in the field of advanced Jazz dance with varied topics. Can be repeated for credit when topic changes.

Prerequisite: DANC 142A and permission of instructor.

Misc/Lab: Activity 6 hours.

Repeatable for credit
Normal Grade Rules
2 units

DANC 144A. Dance History and Repertory

History of dance and dances from ancient time to the court of King Louis XIV. Selected repertory works.

Prerequisite: Upper division standing.

Misc/Lab: Lecture 2 hours/activity 3 hours.

Normal Grade Rules
3 units

DANC 144B. Dance History and Repertory

History of dance and dances from the court of King Louis XIV through the twentieth century. Selected repertory works.

Prerequisite: Upper division standing.

Misc/Lab: Lecture 2 hours/activity 3 hours.

Normal Grade Rules
3 units

DANC 145A. Choreography I

Presentation and criticism of solo choreography; introduction to improvisational techniques.

Prerequisite: DANC 043 and Audition.

Misc/Lab: Activity 4 hours.

Normal Grade Rules
3 units

DANC 145B. Choreography II

Styles; forms; use of improvisation; presentation and criticism of small group dance.

Prerequisite: DANC 145A and Audition.

Misc/Lab: Activity 4 hours.

Normal Grade Rules
3 units

DANC 145C. Choreography III

Practical application of external style in relationship with art from tribal to contemporary times. Concepts, styles and forms of modern dance in the twentieth century.

Prerequisite: DANC 145B and Audition.

Misc/Lab: Activity 4 hours.

Repeatable for credit
Normal Grade Rules
3 units

DANC 147A. Dance Seminar

Course geared toward the understanding of a broader perspective of the Art of Dance with emphasis on current trends, development of personal artistic statement and introductory teaching techniques.

Prerequisite: Senior standing and completion or concurrent enrollment in DANC 144A and/or DANC 144B.

Normal Grade Rules
3 units

DANC 148. Children's Dance

Study of dance for children as personal expression through movement. Use of creative dance as a tool for the enrichment of learning. Experiencing dance in a variety of cultures.

Prerequisite: Upper division standing.

Misc/Lab: Lecture 2 hours/activity 2 hours.

Normal Grade Rules
3 units

DANC 150A. Kinesiology I

This course is designed to help provide the dancer with essential information about structure and function of the human body and the achievement of optimal performance through the science of human motion.

Misc/Lab: Lecture 2 hours/lab 2 hours.

Normal Grade Rules
3 units

DANC 150B. Kinesiology II

This course is designed to help provide the dancer with essential information about injury prevention and introduce active somatic techniques to increase muscular efficiency, balance and overall awareness of the body.

Prerequisite: DANC 150A.

Misc/Lab: Lecture 2 hours/activity 2 hours.

Normal Grade Rules
3 units

DANC 151. Introduction to Dance Pedagogy

Examines methods and modes of teaching dance as an art form, and embodied practice for producing and constructing knowledge and as movement research. Course investigates both theory and practice with concentrated focus on experiential, relational and holistic learning modes.

Prerequisite: Danc 54 and instructor approval

Misc/Lab: 1 hour lecture/ 2 hours activity

Normal Grade Rules
2 units

DANC 154A. Topics in Dance Technique III

Intermediate/advanced dance with varied topics.

Prerequisite: Audition or Instructor Approval

Repeatable for credit
Normal Grade Rules
GE: PE
3 units

DANC 154B. Topics in Dance Technique IV

Advanced Dance with varied topics.

Prerequisite: Audition or Instructor Approval

Repeatable for credit
Normal Grade Rules
GE: PE
3 units

DANC 186. Choreographing the Musical

Study and practice of staging and choreographing musical comedy. Analysis of scripts and choreographic techniques.

Prerequisite: DANC 75, DANC 145A and permission of instructor.

Misc/Lab: Lecture/activity 3 hours.

Normal Grade Rules
3 units

DANC 194. Dance Repertory Activity

Training and performance experience in the field of dance. Fully-staged productions of original student choreographic works. Can be repeated up to 12 times when repertory changes.

Prerequisite: DANC 51A or instructor consent.

Repeatable for credit
Mandatory CR/NC/RP
1 unit

DANC 198. Internship in Dance

Supervised internship with approved dance organization. Written evaluation submitted by organizations and student after field work.

Prerequisite: Instructor consent.

Repeatable for credit
Credit / No Credit
1-3 units

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Design Department Courses

ANIMATION AND ILLUSTRATION

LOWER DIVISION

ANI 010. Light and Optics
An investigation into the physical properties of light and optics relevant to the visualization of artwork for the screen arts industry.

Prerequisite: BFA Animation/Illustration majors only
Normal Grade Rules
3 units

ANI 011. Illustration Fundamentals I
Basic principles of animation and illustration stressing composition, sequential visual storytelling, value drawing and other visual art techniques utilized by professionals in the screen arts industry.

Prerequisite: BA Design Studies or BFA Animation/Illustration majors only
Normal Grade Rules
3 units

ANI 013. Drawing for Animation/Illustration I
Principles of drawing for illustration and animation: gesture, construction, anatomy and technique. An intensive study of the human figure from life, and its use in working in animation and the screen arts industry.
Prerequisite: ANI 011, and BFA Animation/Illustration
Normal Grade Rules
3 units

ANI 021. Color Principles for Screen Arts
Exploration of basic illustration problems involving studies in color, light, painting technique, and their application to color scripting in the screen arts industry. Prerequisites: Allowed declared Animation major only Note: ANI 21 (formerly ANI 14) is treated as a repeat for students who have taken ART 14. Misc/Activity: 6 hours activity
Normal Grade Rules
3 units

ANI 031. 2D Animation I
Introduction to the basic elements of animation and representation. Included are motion and animation exercises to understand mass movement through space, and reaction to external forces.
Prerequisite: BA Design Studies or BFA Animation/Illustration majors only
Normal Grade Rules
3 units

ANI 041. Introduction to 3D Modeling
Emphasis is on generating an in-depth understanding of digital media using commercial 2-D and 3-D software. Students are introduced to the underlying mathematical and conceptual processes of computer graphics.
Prerequisite: ANI 011 and BFA Animation/Illustration major only
Normal Grade Rules
3 units

ANI 061. Introduction to 3D Animation
Basic concepts and professional practices used in 3D computer animation. Application of traditional principles of animation to the 3D digital environment.
Prerequisite: BFA Animation/Illustration majors only
Normal Grade Rules
3 units

ANI 071. Visual Principles
Presents concepts of 2D design as they apply to the creation of sequential narrative imagery for the screen arts.
Prerequisite: BFA Animation/Illustration Majors only
Normal Grade Rules
3 units

UPPER DIVISION

ANI 101. Visual Storytelling
Basic principles of animation and illustration stressing composition, sequential visual storytelling, value drawing and other visual art techniques utilized by professionals in the screen arts industry.
Prerequisite: ANI 010 and ANI 011
Normal Grade Rules
3 units

ANI 111. Drawing for Animation/Illustration II
Principles of drawing for illustration and animation: gesture, construction, anatomy and technique. An intensive study of the human figure from life, and its use in working in animation and the screen arts industry. Prerequisite: ANI 013
Normal Grade Rules
3 units

ANI 112. Conceptual Illustration
Advanced course in illustration professionalism, stressing individual responses to assignments that typify those expected of freelance illustration providers. Emphasis on individual expression and development of personal direction.
Prerequisite: ANI 122, passage of Mid-Program Review
Normal Grade Rules
3 units

ANI 121. Illustration Fundamentals II
Exploration of basic illustration problems involving studies in color, light, painting technique, and their application to the screen arts industry.
Prerequisite: ANI 021, BFA Animation/Illustration Major
Normal Grade Rules
3 units

ANI 122. Illustration Fundamentals III
Completion of a complex painting incorporating knowledge of drawing principles, construction, composition, value and technique.
Prerequisite: ANI 121; Allowed declared Animation major only
Misc/Lab: Activity 6 hours.
Normal Grade Rules
3 units

ANI 123. Visual Development I
Narrative problems for illustrative assignments, professional processes and technical accomplishment. Studio course that examines advanced principles of illustration and their practical application in contemporary visual communication and design. Prerequisite: ANI 122; Allowed Declared Majors: Animation Misc/Lab: Activity 6 hours
Normal Grade Rules
3 units

ANI 124. Visual Development II
Advanced visual development projects with emphasis on attaining professional standards. Explores experimentation with the exaggeration and abstraction of realistic imagery to realize new, stylized imagery. Prerequisite: ANI 123; Allowed Declared Majors: Animation Misc/Activity: 6 hours activity
Normal Grade Rules
3 units

ANI 131. 2D Animation II
Fundamentals of 2D animation involving the completion of a series of basic exercises in motion, action analysis and kinetics.
Prerequisite: ANI 031, Passage of Mid-Program Portfolio Review; Allowed declared Animation major only
Misc/Lab: Activity 6 hours.
Normal Grade Rules
3 units

ANI 132. 2D Animation III
Demonstrate understanding of 2D animation principles through the completion of a series of advanced exercises in motion study, action analysis, pre-production, and narrative development; culminating in the completion of a short, animated film.
Prerequisite: ANI 131
Normal Grade Rules
3 units

ANI 133. Animation Production - Storyboarding
Special problems in animation studies: storyboarding, sequencial visual narrative, film making, professional practices and portfolio preparation.

Pre/Co-requisite: ANI 132

Normal Grade Rules
3 units

ANI 134. Animation Production II
Concepts of sound design, video editing, compositing, and post production; principles necessary to put advanced animation skills into practical application for film production.

Prerequisite: Passage of Mid-Program Portfolio Review, Instructor Consent

Normal Grade Rules
3 units

ANI 141. Digital Modeling I
Intermediate level 3D digital modeling techniques using current industry standard software for the creation of 3D digital models. Introduction to the concept of production pipelines, with focus on modeling.

Prerequisite: ANI 041

Normal Grade Rules
3 units

ANI 142. Digital Modeling II
Advanced level 3D digital modeling techniques using current industry standard software for the creation of 3D digital models. Students re-investigate the character pipeline with focus on human characters with complicated costuming and accessories.

Prerequisite: ANI 141

Normal Grade Rules
3 units

ANI 161. Digital Animation I
Creation of believable movement by applying the traditional principles of animation to 3D digital characters, focusing on body mechanics, with emphasis on the building blocks of an animated scene, and the work flow from planning phase to final animation.

Prerequisite: ANI 061 and Passage of Mid-Program Portfolio Review

Normal Grade Rules
3 units

ANI 162. Digital Animation II
Application of the traditional principles of animation for intermediate level 3D character animation, with focus on arcs, overlapping action, spacing, squash and stretch, strong posing and silhouette. In terms of workflow, the emphasis is on achieving a strong blocking more efficiently, and on techniques for polishing the animation.

Prerequisite: ANI 161

Normal Grade Rules
3 units

ANI 175. Professional Practices in Entertainment Design
Current professional practices in the field of Entertainment Design. Technically and conceptually sophisticated projects foster a deeper understanding of narrative, stylization, individual point of view, acting and character, through hands-on creative work, class critiques and discussions.

Prerequisite: Instructor Consent

Normal Grade Rules
3 units

ANI 178. Animation / Illustration Internship
Professional practice in a selected field relevant to current practices in the screen arts industry.

Prerequisite: Program and Supervisor Approval; Allowed declared Animation major only

Repeatable for credit
Credit / No Credit
1-6 units

ANI 179. Special Topics in Animation/ Illustration
Special Topics in Animation and Illustration. Repeatable when topic changes for up to 6 units.

Prerequisite: ANI 124, ANI 142 or ANI 162 AND Passage of Mid-Program Portfolio Review

Repeatable for credit
Normal Grade Rules
3 units

ANI 180. Individual Studies
Special topics or projects by arrangement with instructor

Prerequisites: Upper-division standing in Animation/ Illustration; Allowed declared Animation major only

Repeatable for credit
Credit / No Credit
3-6 units

ANI 198. Senior Seminar Animation/Illustration
The first in a two-course sequence that constitutes the capstone for the BFA degree in Animation/Illustration.In ANI 198, students will undertake the necessary research to successfully complete the second course in the sequence.

Prerequisite: ANI 115 or ANI 117; Allowed declared Animation major only

Misc/Activity: 6 hours activity

Normal Grade Rules
3 units

ANI 199. Senior Project Animation/Illustration
A project demonstrating professional competence in area of concentration. A gallery exhibition with the approval of the student's advisory committee is required.

Prerequisite: ANI 198; Allowed declared Animation major only

Misc/Activity: 6 hours activity

Normal Grade Rules
3 units

DESIGN STUDIES

UPPER DIVISION

DSGN 100W. Writing Workshop: Design
Advanced writing course for design majors, based upon philosophical issues and current professional practices in design. Clear analytical and critical writing in examination of these topics. GE Area: Z

Prerequisites: A3 or equivalent second semester composition course (with a grade of C- or better); Completion of core GE, satisfaction of Writing Skills Test and upper division standing.

Note: All SJSU Studies courses require completion of WST and upper division standing. Must be passed with C or better to satisfy the CSU Graduation Writing Assessment requirement (GWAR).

Normal Grade Rules
GE: Z
3 units

DSGN 127. Internship
Experience in the methods and procedures employed by professional designers in consulting offices and corporate design departments. Professional responsibilities in local design offices on a weekly basis. Course is repeatable for a total of 6 units.

Prerequisite: Completion of 3 units of DSIT 104, DSGD 106, or DSID 123, with GPA in major of at least 3.0, or instructor consent.

Repeatable for credit
Credit / No Credit
1-4 units

DSGN 148. Intro Spatial Vis Tech in Urb Plan
See URBP 148.

Normal Grade Rules
1-4 units

DSGN 180. Individual Studies
Special topics or projects by arrangement with faculty.

Prerequisite: Art and design majors with upper division standing.

Repeatable for credit
Credit / No Credit
1-3 units

DSGN 183. Special Topics in Design
In-depth study of cultural and/or contemporary topics in the interdisciplnary design. Content changes each semester. Course repeatable when content changes. Prerequisite: Upper division standing.

Repeatable for credit
Normal Grade Rules
3 units

DSGN 197. BA Senior Project
In-depth study of current issues in the design fields. Utilizes interdisciplinary approaches and concepts to provide a capstone experience for the design studies student.

Prerequisite: DSGD 99 and DSGD 100

Misc/Lab: Activity 6 hours.

Normal Grade Rules
3 units

GRADUATE

DSGN 248. Spatial Visualization Tech in Urb Plan
See URBP 248.

Normal Grade Rules
1-4 units

GRAPHIC DESIGN

LOWER DIVISION

DSGD 063. Fundamental Graphic Visualization
Critical examination and theories on how to work with two-dimensional compositional space and the interrelated basic principles, attributes, and elements of graphic design, includes the relationships between some production methods and materials.

Normal Grade Rules
3 units

DSGD 083. Digital Applications: Basics
The fundamental use of features and functions inherent within graphic software programs for graphic design.

Normal Grade Rules
3 units

DSGD 099. Introduction to Typography
Study and demonstration of letterforms and fundamental typographic principles. Emphasis on the vocabulary of typographic form and its relationship to message/purpose.

Prerequisite: GD majors: ANI 11 or ART 24, DSGD 83; ANI majors: ANI 11, ANI 71; IT majors: DSIT 33, DSIT 10, DSIT 83; ID majors: completion of DSID 22 or completion of DSGD 83 and concurrently enrolled in DSID 22

Misc/Lab: Activity 6 hours

Normal Grade Rules
3 units

UPPER DIVISION

DSGD 100. Visual Communication & Process
Problems explore methods of visual organization used in graphic communication. Course promotes the critical examination and development of ideas, two-dimensional spaces, and three-dimensional structures, including the relationship between some production methods and materials.

Prerequisite: ANI 11 (or ART 24 or DSID 21 or DSIT 10), DSGD 063, DSGD 083 (or ANI 50 or DSID 22, DSIT 83), DSGD 99

Normal Grade Rules
3 units

DSGD 102. Intermediate Typography
Application of typographic principles to a diverse series of graphic design problems utilizing text and display letterforms, organizational systems, fundamental design theories and conceptual innovation.

Prerequisite: Pass BFA portfolio review, DSGD 104

Normal Grade Rules
3 units

DSGD 103A. Advanced Typography I
Advanced conceptual investigations, verbal and visual problem solving utilizing typography and image.

Prerequisite: Pass BFA Portfolio Review, DSGD 105, DSGD 186

Normal Grade Rules
3 units

DSGD 103B. Advanced Typography II
Capstone conceptual investigations, verbal and visual problem solving utilizing typography and image.

Prerequisite: Pass BFA Portfolio Review, DSGD 105, DSGD 186

Normal Grade Rules
3 units

DSGD 104. Introduction to Graphic Design
Familiarization to form and message development. Emphasis on visual concepts and fundamental design theory. Course is repeatable for a total of 6 units.

Prerequisite: DSGD 100, DSGD 99

Repeatable for credit
Normal Grade Rules
3 units

DSGD 105. Intermediate Graphic Design
Development of concepts combining image/form, message, typography and function with fundamental design theory. Course is repeatable for a total of 6 units.

Prerequisite: Pass BFA Portfolio Review, DSGD 102, DSGD 110

Normal Grade Rules
3 units

DSGD 106. Advanced Graphic Design
Advanced and diverse series of topics confronting a wide variety of situations and needs emphasizing conceptual innovation, organization, planning and analysis.

Prerequisite: Pass BFA Portfolio Review

Normal Grade Rules
3 units

DSGD 107A. Special Topics in Graphic Design
Comprehensive design problems utilizing design theories, analysis, experimentation, innovation and conceptual development as systematic approaches to structuring various degrees of graphic design issues; database scientific visualization, graphic information system, publication design, and promotion & media graphics.

Prerequisite: Pass BFA Portfolio Review

Misc/Lab: Lab 6 hours.

Normal Grade Rules
3 units

DSGD 107B. Special Topics in Experience Design
Capstone design problems utilizing design methodologies, theories, and analysis in the area of time-base multi-media design; narrative filming, kinetic typography in motion, interaction design, and event design as related to visual information design.

Prerequisite: Pass BFA Portfolio Review

Misc/Lab: Lab 6 hours.

Normal Grade Rules
3 units

DSGD 108. Graphic Design Portfolio
Portfolio preparation using various media and methods for effective professional presentation.

Prerequisite: Pass BFA Portfolio Review, DSGD 105, DSGD 186

Normal Grade Rules
3 units

DSGD 110. Visual Literacy: Image Making
A course that defines the ability to assess and utilizes communications composed of various visual images (hybridization of manual, analog, and digital processes) for goal oriented projects. Students will develop tools needed to critically examine the visual world and strategies for creating unique visual forms and process of visual encoding and visual decoding for incorporating into graphic design projects.

Prerequisites: Pass BFA portfolio review; DSGD 104.

Normal Grade Rules
3 units

DSGD 111. Design Values and Professional Practices

Defines and investigates design practices, processes, materials, and vocation and their effects on society, environment, business, and intellectual property. Lectures, discussions, and group and individual projects explore applications of design thinking for positive local to global outcomes.

Prerequisite: ANI majors: ANI 50; GD majors: DSGD 63, DSGD 83; IT majors: DSIT 33, DSIT 83; ID majors: DSID 22 or DSGD 83.

Corequisite: DSID 22

Misc/Lab: Activity 6 hours.

Normal Grade Rules
3 units

DSGD 120. Exhibition Design & Info Graphics

Introducing principles, processes, and vocabularies of exhibition design. A substantial amount of student activity in the classroom will address acquiring and refining the two- and three-dimensional visualization of objects and spaces.

Prerequisites: Pass BFA Portfolio Review, DSGD 105, DSGD 186

Normal Grade Rules
3 units

DSGD 127. Design Practicum

Building a successful design career requires an understanding of best practices and the standards governing the ever-evolving business of graphic design. This course aims to explore the creative business processes, marketing, negotiation and pricing, ethical standards of design business, and professional relationships in design.

Prerequisite: Pass BFA Portfolio Review, DSGD 105, DSGD 186

Normal Grade Rules
3 units

DSGD 131. Motion Graphics

A capstone design problems course that exposes students to the principles, methodologies, and elements of motion graphics and narrative design. Students will develop techniques and skills for synthesizing the language of motion simultaneously with an emphasis on narrative structure, and text and image in relation to time-based media. The project will be examined in terms of its historical, cultural and conceptual implications.

Prerequisites: Pass BFA Portfolio Review, DSGD 105, DSGD 186

Normal Grade Rules
3 units

DSGD 132. User Interface & Interaction Design

An advanced course focusing on the fundamental theory and practice of computer user interface and interactive design with emphasis on: the 2D graphic digital user interfaces, the current interaction development technology, theory, process and methods, and its overall impact on culture and society.

Prerequisites: Pass BFA Portfolio Review, DSGD 105, DSGD 186

Normal Grade Rules
3 units

DSGD 141. 3D Branding & Promotion Design

Experimental problems and themes exploring theories, strategies, and methodologies in 3D branding and Promotion Design such as marketing communication tools, packaging and P.O.P design, emphasizing innovative expression. Projects also examine contextual and conceptual prototyping for point of purchase display.

Prerequisite: Pass BFA Portfolio Review, DSGD 105 and DSGD 186

Normal Grade Rules
3 units

DSGD 150. Degree Project: Senior Studio

This in-depth studies course focuses on research concerning current issues in visual communication/information/graphic design fields. This course is for procuring the undergraduate degree in BFA Graphic Design degree where the student will develop an individual design approach, process, and methodology for the application of graphic design solutions as the thesis project that will fulfill the criteria expected for graduation.

Prerequisites: Pass BFA Portfolio Review, DSGD 105, DSGD 186

Normal Grade Rules
4 units

DSGD 176A. Graphic Design History and Theory

See ARTH 176A.

Normal Grade Rules
3 units

DSGD 186. Digital Applications: Methodology

Exposes students to the tools, skill sets, and languages that are essential to understanding the fundamentals for web based information and interaction design principles and discovery of its practice in the profession.

Prerequisite: Pass BFA Portfolio Review

Misc/Lab: Activity 6 hours.

Normal Grade Rules
3 units

INDUSTRIAL DESIGN

LOWER DIVISION

DSID 021. Visualization I

Presenting design concepts in both preliminary and finished states. Appraisal and application of media used in industry. Includes elements of color theory.

Prerequisites: Declared BA Design Studies or BS Industrial Design Major

Corequisites: DSID 031

Normal Grade Rules
3 units

DSID 022. Visualization II

Sketching techniques commonly used by designers for communicating their concepts.

Prerequisites: DSID 021, BA Design Studies or BS Industrial Design majors only.

Corequisites: DSID 032

Repeatable for credit
Normal Grade Rules
3 units

DSID 031. Industrial Design Foundation I

Practical exploration of the basics of industrial design aesthetics. Introduction to the design process with special emphasis on 3D form development and presentation.

Prerequisites: Declared BS Industrial Design or BA Design Studies Major

Corequisite: DSID 021.

Repeatable for credit
Normal Grade Rules
3 units

DSID 032. Industrial Design Foundation II

Development and application of basic industrial design skills, methodology and aesthetics to elementary product design. Project assignments leading from abstract exercises to actual product design.

Prerequisite: DSID 31; BA Design Studies or BS Industrial Design Majors Only

Corequisites: DSID 022

Normal Grade Rules
3 units

DSID 032A. ID Portfolio Project I

ID portfolio project class combines 2D and 3D skills from previous ID classes, in the first complete product design application. Complete presentation for ID faculty review required.

Prerequisites: DSID 021, DSID 031; BA Design Studies and BS Industrial Design Majors only.

Corequisites: DSID 022, DSID 032

Misc/Lab: Activity 2 hours

Repeatable for credit
Normal Grade Rules
1 unit

DSID 041. Materials and Processes I

Introduction to materials and manufacturing processes as they relate to product development and the Industrial Design profession.

Prerequisites: DSID 022, DSID 032; BS Industrial Design majors only; BA Design Studies majors with department consent.

Misc/Lab: Activity 6 hours.

Normal Grade Rules
3 units

UPPER DIVISION

DSID 121. Industrial Design Process

Explores how a conscious and rational approach can enhance creativity. Techniques used include goalsetting, brainstorming, time-management, evaluation matrices and journal keeping.

Prerequisite: DSID 125A, BS Industrial Design or HFS Graduate Majors Only, or Instructor consent

Normal Grade Rules
3 units

DSID 122. Cont. & Crit. Studies: Industrial Design

This course thematically offers readings in Industrial Design theory, considers specific applications intended to highlight problems in contemporary practice, and is divided into five modules. Course content and examples will be selected to complement the studio projects in the program.

Prerequisite: DSGN 100w; BA Design Studies or BS Industrial Design Majors Only.

Misc/Lab: Lecture 3 hours/Lab 1 hours.

Normal Grade Rules
3 units

DSID 123. Intermediate Industrial Design

Design theories, methods and presentation techniques used by product designers in small scale product design. Stress application of knowledge of ergonomics, industrial materials and manufacturing processes.

Prerequisite: DSID 32A. BS Industrial Design Majors only

Repeatable for credit
Normal Grade Rules
3 units

DSID 123A. ID Portfolio Project 2

Provides instruction on integrating ergonomics (DSID 126), CAD (DSID 129), typography (DSGD 99 or equivalent), materials and processes (DSID 41), and at least two major design projects (DSID 123 and at least one Design Elective) into Intermediate Design Projects and Portfolio. Comprehensive presentation to ID faculty required.

Prerequisites: DSID 32A (Credit), BS Industrial Design Majors Only.

Credit / No Credit
3 units

DSID 124. Design for All

Designing for as broad a percentage of the population as possible. Course focuses on accessible design despite physical, cognitive and/or socioeconomic obstacles. Course is repeatable for a total of 6 units.

Prerequisite: DSID 32A (Credit), BS Industrial Design Majors Only or Instructor Consent.

Misc/Lab: Activity 6 hours.

Repeatable for credit
Normal Grade Rules
3 units

DSID 125. Advanced Industrial Design

Advanced exploration of industrial design theory and practice with projects involving high levels of complexity of technological, functional and aesthetic constraints.

Prerequisite: DSID 123A. BS Industrial Design Majors only

Repeatable for credit
Normal Grade Rules
3 units

DSID 125A. ID Portfolio Project 3

Development of design competition entry and cohesive portfolio using work created in prior and concurrent DSID courses by integrating advanced computer graphics and technology knowledge. Comprehensive presentation to ID faculty and invited professionals required.

Prerequisite: DSID 123A. BS Industrial Design Majors only

Credit / No Credit
2 units

DSID 126. Ergonomics for Design

Aspects of products affecting human performance, comfort and safety. Emphasis on design of computer interfaces, automobiles and furniture. Topics include visual displays, anthropometry, seating design and safety design.

Prerequisite: DSID 022, DSID 032; BS Industrial Design Majors only, BA Design Studies with Department consent.

Misc/Lab: Lab 6 hours.

Normal Grade Rules
3 units

DSID 128. Advanced Projects in Industrial Design

Comprehensive, in-depth analysis and design of faculty-assigned projects as well as a student-proposed project. Student proposed projects must meet with the approval of the Industrial Design faculty.

Prerequisite: DSID 125A, DSGN 127; BS Industrial Design Majors Only

Misc/Lab: Lab 6 hours.

Repeatable for credit
Normal Grade Rules
3 units

DSID 128A. ID Portfolio Project 4

Integration of business and advanced technologies into the special graduating project. Final show and presentation for ID faculty and invited professionals required.

Prerequisite: DSID 125A, DSID 128, DSGN 127; BS Industrial Design Majors Only.

Misc/Lab: Activity 2 hours.

Repeatable for credit
Credit / No Credit
1 unit

DSID 129. Visualization III

Principles of computer graphics, computer-aided technology and applications in industrial design. Emphasis on the transition from 2D applications to 3D applications.

Prerequisite: DSID 022, DSID 032; BS Industrial Design Majors only; BA Design Studies with Department consent.

Misc/Lab: Lab 6 hours.

Normal Grade Rules
3 units

DSID 130. Sustainable Design

Design products with a focus on minimizing their impact on the environment. The entire lifespan of designed and manufactured products will be explored. Course is repeatable for credit for a total of 6 units.

Prerequisite: DSID 32A (Credit); BS Industrial Design Majors only, or Instructor Consent

Notes: Offered only occasionally.

Repeatable for credit
Normal Grade Rules
3 units

DSID 131. Interaction Design

Advanced practical applications of interaction design theory, with an emphasis on strategies for software products including aspects of both UX (user-experience) and UI (user-interface) design.

Prerequisites: DSID 123A, DSID 126, BS Industrial Design or HFE Graduate Majors only.

Misc/Lab: Lab 6 hours.

Repeatable for credit
Normal Grade Rules
3 units

DSID 132. Softgoods

Design of products that incorporate soft materials and textiles in their construction. Products include furniture, clothing, shoes, and other products that contribute to current lifestyles.

Prerequisite: DSID 032A (Credit); BS Industrial Design Majors only; or Instructor's Consent

Repeatable for credit
Normal Grade Rules
3 units

DSID 133. Design Projects: Making It
Students take an idea from concept to actual product (and multiples of the product) in one semester. The course ends with the creation of a store and the sale of the products produced.

Prerequisite: DSID 032A credit or instructor permission.

Repeatable for credit
Normal Grade Rules
3 units

DSID 134. Design and Meaning
This course will focus on the formal properties of products to better understand how design addresses and projects meaning as it relates to designed and manufactured objects. Coursework will explore this via experiments in specification and fabrication.

Prerequisite: DSID 32A; BS Industrial Design Majors Only

Normal Grade Rules
3 units

DSID 135. Design, Entrepreneurship, Intellectual Property and Professional Practice
Strategies for entering the profession as a business owner or design entrepreneur. Course includes the exploration of past and future business models as well as issues of intellectual property protection.

Prerequisite: DSID 123A or Instructor Permission.

Repeatable for credit
Normal Grade Rules
3 units

DSID 136. Advanced Digital Workshop
Advanced Digital modeling and prototyping tools for Industrial Design.

Prerequisite: DSID 129; BA Design Studies or BS Industrial Design Majors only, or Instructor Consent

Repeatable for credit
Normal Grade Rules
3 units

DSID 137. Advanced Physical Prototyping
Advanced Prototyping techniques for Industrial Design including patternmaking, sewing and casting.

Prerequisite: DSID 032, DSID 041; BA Design Studies or BS Industrial Design Majors only.

Repeatable for credit
Normal Grade Rules
3 units

DSID 143. Advanced Materials,Process & Technology
Advanced Materials, Processes and Technology will enhance themes covered in Materials and Processes coursework with the addition of study of the relevance and implications of advanced materials and technologies on designed artifacts.

Prerequisite: DSID 32, DSID 041; BA Design Studies or BS Industrial Design Majors only, or instructor consent.

Repeatable for credit
Normal Grade Rules
3 units

DSID 144. Design for Healthcare
Introduction to unique theories and challenges associated with the design of objects, experiences and services related to healthcare. Focuses on the application of patient-centered design theories for the betterment of patient experiences and patient-provider relationships.

Prerequisites: DSID 123 or instructor consent

Misc/Lab: Activity 6 hours.

Normal Grade Rules
3 units

DSID 176B. Industrial Design in Society
See ARTH 176B.

Normal Grade Rules
3 units

GRADUATE

DSID 226. Ergonomics for Design
Aspects of products affecting human performance, comfort and safety. Emphasis on design of computer interfaces, automobiles and furniture. Topics include visual displays, anthropometry, seating design, and safety design.

Prerequisite: Graduate status in Human Factors/ Ergonomics (HFE) or instructor consent.

Normal Grade Rules
3 units

INTERIOR DESIGN

LOWER DIVISION

DSIT 005. Introduction of Interior Design and Architecture
A comprehensive introduction to the field of Interior Architecture. Focuses on social, psychological, economic and aesthetic challenges facing designers in the 21st century. Integration of design principles, creative expression and consumer information pertaining to living environments and public spaces.

Normal Grade Rules
3 units

DSIT 010. Sketching, Drawing + Modeling
Explore the processes of conceptual sketching and drawing. Utilize and teach architectural documentation techniques such as interior: floor plans, reflected ceiling plans, elevations, sections, details, perspectives and axonometric drawings. Demonstrate techniques in pencil, contemporary pens, markers, and artistic visualization techniques.

Corequisite: DSIT 005

Normal Grade Rules
3 units

DSIT 029. Design Process
Development of skills to work with point, line and plane to create volumes with spatial relationships.

Normal Grade Rules
3 units

DSIT 033. Architectural Presentation
Further study, exploration, and comprehensive development of the technical and conceptual aspects of architectural drawing and modelmaking used to visualize innovative and functional interior spaces.

Prerequisite: DSIT 29

Corequisite: DSIT 34

Normal Grade Rules
3 units

DSIT 034. Interior Architecture Foundation Studio
In-depth study exploration and comprehensive development of innovative and functional interior spaces using the technical and conceptual aspects of architectural drawing and architectural model making and the theoretical and conceptual methodologies used to formulate interior architectural space. Course emphasizes design theory, process, programming and human factors. Focus on residential and small-scale commercial building types.

Prerequisite: DSIT 29

Corequisite: DSIT 33

Misc/Activity: Activity 6 hours

Normal Grade Rules
3 units

DSIT 083. Visual Communication I
Principles of digital drawing and presentation tools essential to 2D architectural representation. Principle skills and disciplines of making 3D forms through the use of digital technology.

Prerequisites: DSIT 005, DSIT 010.

Corequisites: DSIT 015, DSIT 029.

Misc/Lab: Activity 6 hours

Normal Grade Rules
3 units

DSIT 088. Visual Communication II
Introduction to Building Information Modeling concepts, practices, and drafting techniques. Using parametric 3D modeling software, students will create a virtual architectural model that will aid in the creation of construction documents and design presentation materials.

Prerequisites: DSIT 005, DSIT 010.

Corequisites: DSIT 033, DSIT 034.

Normal Grade Rules
3 units

DSIT 098. Architectural Forum
Discussion and analysis of the processes of interior architecture; lectures and field trips emphasizing critical thinking, communication skills and professional ethics.

Prerequisite: ART 1.

Normal Grade Rules
3 units

UPPER DIVISION

DSIT 100. Building Codes

Introduction to building codes and legal regulations related to interior architecture design. Egress, occupancy levels, regulations for the handicapped, general accessibility requirements, finishes and material specifications and fire ratings are highlighted in the class.

Prerequisite: DSIT 034.

Misc/Lab: Activity 6 hours.

Normal Grade Rules
3 units

DSIT 101. Architectural Systems and Materials + Adv Modeling

This course covers the functional, aesthetic and environmental aspects of building materials and systems focusing on the documentation of design through BIM software.

Prerequisites: DSIT 033, DSIT 034

Misc/Lab: Lecture 3 hours/Activity 4 hours.

Normal Grade Rules
3 units

DSIT 102. Computer Graphics for Interior Architecture

Examination of programs related to the development of state of the art presentation methods and portfolios.

Prerequisite: DSIT 34.

Normal Grade Rules
3 units

DSIT 103. Interior Architecture Conceptual Design Studio

Organize programmatic adjacencies and allocate planned spaces based on a singular design concept or objective. Conceptualize and execute a design through the use of 3D modeling software, digital animation and analogue methods of fabrication. Site analysis, formal, thermal and material issues problem-solving, iterative and rigorous production, experimentation, and research. Presentation of work to a jury.

Prerequisite: DSIT 33, DSIT 34

Corequisite: DSIT 102

Misc/Lab: Activity 6 hours

Normal Grade Rules
3 units

DSIT 104. Interior Architecture Space Planning Studio

Further project-oriented study, examination and analysis of planning and designing innovative and functional interior spaces. Emphasis on the space planning of state of the art commercial environments. Additional emphasis on implementation and interpretation of laws, codes and regulations. Course is repeatable for a total of 6 units.

Prerequisite: DSIT 103 and pass portfolio review .

Repeatable for credit
Normal Grade Rules
3 units

DSIT 105. Interior Architecture Advanced Design Studio

In-depth project oriented study, examination and analysis of planning and designing innovative and functional interior spaces. Emphasis on the advanced design of state of art commercial environments. Additional emphasis on implementation and interpretation of laws, codes and regulations.

Prerequisite: DSIT 103, and pass portfolio review.

Normal Grade Rules
3 units

DSIT 106. Architectural Project Materials

Discussion and analysis of materials for interior architecture lectures and field trips emphasizing aesthetic sensibilities, human factors, manufacturing processes and specifications.

Prerequisite: DSIT 34.

Normal Grade Rules
3 units

DSIT 107. Furniture Design

Design and production of original furniture, including drawing, prototypes and materials selection. Prerequisite: DSIT 34 or instructor consent.

Normal Grade Rules
3 units

DSIT 108. Architectural Lighting Design

Theory and practice of architectural lighting emphasizing aesthetics, drawing, specifications, terminology, calculations and advances in technology. Course is repeatable for a total of 6 units.

Prerequisite: DSIT 103, DSIT 104 or upper division standing and instructor consent.

Repeatable for credit
Normal Grade Rules
3 units

DSIT 109. Object Design for Interiors

Advanced exploration of object design theory and practice with projects involving high levels of aesthetic and functional complexity.

Prerequisite: DSIT 105, DSIT 106 and DSIT 108.

Normal Grade Rules
3 units

DSIT 110. Capstone Thesis Studio

Students will select an appropriate project type, determine the site, prepare existing drawings, write a project statement and program, and develop a design solution. Work must be presented to a jury of professionals, and exhibited in a thesis exhibition.

Prerequisites: DSIT 104, DSIT 105.

Normal Grade Rules
3 units

DSIT 111. Interior Architecture Seminar

A capstone course for discussion of design work and professional values as a basis for portfolio and resume preparation.

Prerequisite: DSIT 105 and enrollment in graduation semester.

Normal Grade Rules
3 units

DSIT 112. Professional Practice of Interior Archit

Examination of the business, legal, financial, and managerial considerations of interior design practice as well as the role and responsibilities of a design assistant, with emphasis on ethical considerations and the legal issues of the profession and licensing. Prerequisites: DSIT 100.

Normal Grade Rules
3 units

DSIT 116. Solar Energy Analysis

See ENVS 116.

Normal Grade Rules
3 units

DSIT 132. Solar Home Design

See ENVS 132.

Normal Grade Rules
3 units

DSIT 151. Introduction to Urban Design

See URBP 151.

Normal Grade Rules
4 units

DSIT 152. Introduction to Urban Design Studio

See URBP 152.

Normal Grade Rules
4 units

DSIT 192C. History of Interior Design

See ARTH 192C.

Normal Grade Rules
3 units

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Donald and Sally Lucas College and Graduate School of Business Courses

BUSINESS

UPPER DIVISION

BUS 180. Individual Studies in Business

Individual work on special topics by arrangement.

Notes: Business majors only. Petition and plan of study must have consent of instructor and Chairperson in the department of concentration.

Prerequisites: Upper division standing. Not available to Open University Students.

Credit / No Credit
1-6 units

GRADUATE

BUS 200. Business, Economics and Society

Emphasizes the relationship between the micro and macro economic environment and thoughtful managerial decision-making. Examines various theories and techniques that underlie the market economy. Costs and benefits of various governmental policies are investigated in a historical context.

Prerequisite: Graduate standing.

Normal Grade Rules
3 units

BUS 200W. Business Research and Communications

Using a case approach, students will learn about communication within the business world, with the intention that they will practice interpersonal, team, and presentation skills that are expected of effective managers.

Prerequisite: Graduate standing. Restricted to Business - MBA majors only

Note: This course satisfies graduate-level GWAR in this master's program.

Normal Grade Rules
GE: GWAR
3 units

BUS 201. Business Communications

This business communications course develops students' written and oral communication skills, emphasizing clear, concise and coherent articulation via a multitude of channels: e-mails, memos, cover letters, resumes, presentations, reports, etc. The course enables students to continue practicing effective communication in all aspects of their academic and professional careers.

Normal Grade Rules
1 unit

BUS 202. Managing in the Global Economy

This course investigates the world economy, including how markets, institutions and organizations vary from country to country, and how global competition, climate change, digital and emerging economics, and shifting from manufacturing to a service economy affect management practice.

Prerequisite: Graduate standing. Restricted to Business - MBA majors only

Normal Grade Rules
3 units

BUS 203. International Experience for American Executives

An intensive one-week program at one of the nine EMBA Consortium partner schools with opportunities to collaborate with classmates from around the globe. Develop your global business acumen while learning about the unique culture and business practices of the region you visit. The course consists of classroom work, company visits, and cultural experiences. Prerequisite: Instructor Consent

Normal Grade Rules
3 units

BUS 210. Developing and Managing People

Based on the philosophy that increased self-awareness and effective self-management leads to more effective management of others, uses experientially focused, integrating models, principles, and activities.

Prerequisite: Graduate standing. Restricted to Business - MBA majors only

Note: This course satisfies graduate-level GWAR in this master's program.

Normal Grade Rules
GE: GWAR
3 units

BUS 211. Orientation and Behavioral Workshop

The course provides graduate business students with frameworks, processes and methods to improve their opportunity for success in a rigorous, accelerated graduate business program format. Students are introduced to key concepts in business communication and etiquette, case study methodology, and business strategy. This overview includes the opportunity to apply key concepts in a team format and discuss their strategic, behavioral and career implications

Credit / No Credit
1 unit

BUS 220. Financial and Managerial Accounting

Introduces students to financial and managerial use of accounting information systems and concepts, including the sources, uses and limitations of accounting information as used by investors outside the firm and by managers within the firm.

Prerequisite: Graduate standing. Restricted to Business - MBA majors only

Normal Grade Rules
3 units

BUS 220A. Financial Statement Analysis for Accountants

Course develops the ability to understand, interpret, and analyze financial information, and examines the relationship between financial statement information and the capital markets. Students develop financial analysis skills, and expand business knowledge from an accounting perspective.

Prerequisite: MSA Classified Standing.

Normal Grade Rules
3 units

BUS 220B. Financial Reporting and Analysis I

Principles, control and theory of accounting for assets; correction of prior year's earnings; measurement and determination of income.

Prerequisite: MSA classified standing.

Normal Grade Rules
3 units

BUS 220C. Accounting Information Systems I

Will provide conceptual framework concerning contemporary accounting information systems including: database concepts, internal control, use of systems technology, applications, management, systems analysis/ design and auditing.

Prerequisite: MSA classified standing.

Normal Grade Rules
3 units

BUS 220D. Financial Analysis and Markets

Provides an overview of the required skills and the environment appropriate to the financial and economic decision-making function of the firm. The integrated approach of this course is designed to identify and analytically evaluate those internal and external variables which contribute to economic and financial decisions. Strategies of financial management in practical settings, application of concepts and analytical tools.

Prerequisite: MSA classified standing.

Normal Grade Rules
3 units

BUS 220E. Financial Reporting and Analysis II

Continuation of Financial Reporting and Analysis I. Principles, controls, and theory of accounting for liabilities and equities; preparation, utilization, and analysis of cash flow statements; financial ratios and statistical analysis of financial statements accounting data.

Prerequisite: MSA classified standing.

Normal Grade Rules
3 units

BUS 220F. Management Accounting and Control Systems

Provides the student techniques with an overview of the concepts and procedures of cost accounting relevant to managerial decision-making. Emphasizes planning and control, inventory valuation and income determination, and performance measurement.

Prerequisite: MSA classified standing.

Normal Grade Rules
3 units

BUS 220G. Tax Factors of Business and Investment Decisions: Theory and Practice

Introduces essentials of tax research methodology, focusing on taxation of corporations and shareholders. Includes taxation of property transactions, deferral techniques, accounting periods, and accounting methods.

Prerequisite: MSA classified standing.

Normal Grade Rules
3 units

BUS 220H. Auditing: Concepts/Practice

Discusses the public accounting profession and its socio-economic role; auditing techniques with an emphasis on EDP environment; audit procedures, practice and programs; working paper preparation; unqualified and qualified report writing.

Prerequisite: MSA classified standing. Graduate Standing only.

Normal Grade Rules
3 units

BUS 220I. Forensic Accounting

Course will examine the frauds perpetrated on companies and methods of discovery. The criminal justice system will be reviewed and litigation support services provided by accountants to attorneys, including damage computations and testifying techniques and skills will be covered.

Normal Grade Rules
3 units

BUS 220J. Business Communications & Ethics

Emphasizes communication effectiveness and skill building for influencing and guiding people. Includes fundamental skill building in researching, organizing and writing reports, making persuasive presentations that are sensitive to the needs and requirements of clients, peers and managers.

Prerequisite: MSA classified standing.

Note: This course satisfies graduate-level GWAR in this master's program.

Normal Grade Rules
GE: GWAR
3 units

BUS 220K. Accounting Practicum

The Accounting Practicum is an internship with an accounting firm or corporate finance group. This provides opportunities to apply program content to real-world environments, gain appreciation of work expectations and demands, and relate field experience to remaining program curriculum.

Prerequisite: MSA classified standing.

Credit / No Credit
3 units

BUS 220L. Legal and Ethical Environment of Accounting Practice

Emphasizes knowledge in the areas of the Law of Contracts and selected portions of the Uniform Commercial Code: Sales of Goods; Commercial Paper and other Negotiable Instruments; and Secured Transactions.

Prerequisite: MSA classified standing.

Normal Grade Rules
3 units

BUS 220M. Accounting Ethics

Examines professional ethical standards for accountants. Focuses on professional codes of conduct and workplace decisions for professionals in the fields of auditing, managerial accounting and taxation.

Prerequisite: BUS 220H, Graduate Standing only.

Normal Grade Rules
3 units

BUS 220N. Management of Organizations and Projects

Examines the integrative role of the general manager as a strategist responsible for leading and managing multi-functional projects and develop skills related to leadership, planning, decision-making, motivating, scheduling and shaping organizational team culture by making extensive use of team building exercises/cases.

Prerequisite: MSA Classified Standing.

Normal Grade Rules
3 units

BUS 220P. Taxation of Individuals and Flow-Through Entities

Taxation of individuals and pass-through entities (partnerships, LLCs, S corporations, estates and trusts) with emphasis on unique rules and factors in the Internal Revenue Code and Treasury Regulations.

Prerequisite: MSA classified standing.

Normal Grade Rules
3 units

BUS 220R. Software Applications for Accounting

Creation, internal controls, evaluation and audit of advanced electronic spreadsheets. Students learn to use complex queries to extract information from databases.

Prerequisites: BUS220C or equivalent

Normal Grade Rules
3 units

BUS 220S. Financial Reporting and Analysis III

Accounting for multi-unit operations: consolidated reporting issues, transfer pricing issues, globalization issues (foreign tax structures, organizational forms and international accounting), translation of foreign currency transactions and operations, hedging foreign currency exposures, goodwill and brief exposure to business combinations.

Prerequisite: MSA classified standing.

Normal Grade Rules
3 units

BUS 220T. Accounting Information/Tax

Builds project-oriented AIS skills in evaluation of performance/internal controls of accounting systems. Development of prototype accounting systems using computer tools. Deepens knowledge of property transactions, sales and use taxes, tax practice, tax penalties and tax procedures.

Prerequisite: MSA classified standing.

Normal Grade Rules
6 units

BUS 220U. IT Audit & Internal Controls

The course provides an understanding of the types of risk that arise in computer environments and consider the impact these risk and threats have on the audit by examining computer-assisted audit tools and techniques.

Prerequisite: MSA Classified Standing.

Normal Grade Rules
3 units

BUS 220V. Special Topics in Accounting

Current special topics in accounting including an understanding of the financial accounting policies and procedures followed by state, county, and municipal governments, universities, and other non-profits for accounting and budgeting of the receipt and expenditure of tax and related revenues.

Prerequisite: MSA Classified Standing.

Normal Grade Rules
3 units

BUS 220X. Business Analysis and Valuation Using Financial Statements

Development of Accounting based valuation framework that integrates a firm's strategy, accounting performance, and value; assessing a firm's value proposition and identifying key value drivers and risks; evaluating degree to which a firm's accounting policies capture the underlying business reality.

Prerequisite: MSA classified standing.

Normal Grade Rules
3 units

BUS 220Y. Professional Communications and Relationships III

Skill development in converting critique into meaningful and important information to improve professional performance; integration of professional skills; personal style with effective communication skills to prepare the student for transition to professional in the further development of their careers.

Prerequisite: MSA classified standing.

Normal Grade Rules
3 units

BUS 220Z. Data Analytics for Accounting

Basic principles and practices of data analytics as applied to accounting.

Prerequisite: Graduate standing in MS Accountancy program

Normal Grade Rules
3 units

BUS 222. Profit Planning and Control

Course covers how financial planning and control systems operate, and are used to deploy strategy, align interests, improve operations, and facilitate strategic change, maximizing firm value. Includes disciplined processes of decision-making, resource allocation, performance measurement to link strategy, management action, and shareholder accountability.

Prerequisite: BUS 220 and graduate standing.

Normal Grade Rules
3 units

BUS 223A. Tax Research and Decision Making

Develops basics for tax research and evaluates the interrelationships of statutes, regulations, rulings and court cases. Identifies tax services and other primary research materials with emphasis on their use in tax decision-making. Emphasizing critical thinking and communication skills.

Prerequisite: Graduate standing.

Note: This course satisfies graduate-level GWAR in this master's program.

Normal Grade Rules
GE: GWAR
3 units

BUS 223B. Taxation of Partnerships

Income tax treatment of partners and partnerships and LLCs, including the creation, operation, liquidation and sale or other amalgamation of organizations. Special allocation and non-recourse debt arrangements are also covered.

Prerequisite: BUS 223A and BUS 223G

Normal Grade Rules
3 units

BUS 223D. Seminar in Tax Planning and Practice

Capstone course for the MS in Taxation degree. Will integrate financial planning throughout the program, including sale of the business and estate planning, and will include a final written comprehensive project.

Prerequisite: Graduate standing and completion of at least 3 tax core courses.

Notes: Completion of the course or BUS 223E satisfies the MST comprehensive project requirement.

Normal Grade Rules
3 units

BUS 223F. Tax Accounting Methods/Periods

Definition and importance of accounting methods and periods; timing rules for income, expenditures, inventory and R&D; change procedures; special methods; book-tax differences; introduction to provision for income taxes.

Pre/Corequisite: BUS 223A

Normal Grade Rules
3 units

BUS 223G. Taxation of Business Entities

Income tax treatment of different types of business entities and their owners. Focuses on operations, reporting, formation, restructuring and termination. Selected special state and international tax rules, tax planning, and underlying tax policies also covered.

Corequisites: BUS 223A

Normal Grade Rules
3 units

BUS 223H. Tax Policy Capstone

Capstone course that examines the principles and policies that underlie and shape tax systems and rules. Students gain a broader perspective of the tax law beyond its technical application, and learn how tax, economic, social and environmental policies interact.

Prerequisites: BUS 223A, BUS 223F, BUS 223G

Normal Grade Rules
3 units

BUS 224. Financial Statement Analysis

Course develops the ability to understand, interpret, and analyze financial information, and examines the relationship between financial statement information and the capital markets. Students develop financial analysis skills, and expand perspectives of business and professional roles.

Prerequisite: BUS 220 and graduate standing.

Normal Grade Rules
3 units

BUS 224C. Financial Accounting & Financial Aspect of Med Product Dev

Examine managerial accounting in medical product development with emphasis on financial aspects of the industry. Develops understanding of profit/loss statements; budget preparation and execution; financial implication of patent life, rationale for mergers and acquisitions; financial implications of outsourcing.

Prerequisite: Admission to MPDM program & completion of Bus 210 and SMPD 281A.

Normal Grade Rules
3 units

BUS 225A. Taxation of Estates and Trusts

Excise and transfer tax treatment of estates, gifts, trusts, creators, beneficiaries and fiduciaries. Distinguishes between revocable and irrevocable trusts, including proper trusts to achieve desired goals. Reviews taxation of asset sales and dissolution or liquidation of estates or trusts. Analyzes estate evaluation, family limited partnerships, grats, GST, and planning opportunities.

Pre/Corequisite: BUS 223A

Normal Grade Rules
3 units

BUS 225B. Taxation of Corporate Reorganizations

Income tax treatment of corporate reorganizations and amalgamations, including acquisitions, tax-free and taxable as well as corporate division. Tax treatment of net operating losses, earnings and profits, property basis and other corporate attributes.

Prerequisite: BUS 223A and BUS 223G

Normal Grade Rules
3 units

BUS 225C. International Tax - US Corporations with Foreign Activities

Taxation of outbound investment and activities of the US corporations. Topics include sourcing, foreign tax credit, subpart F, Sections 482 and 367, foreign currency, establishing foreign operations, state taxation of outbound operations, and issues affecting expanding US multinational technology firms.

Prerequisite: BUS 223G and BUS 225W

Normal Grade Rules
3 units

BUS 225D. International Tax - Individuals and Foreign Corporations

Taxation of individuals with foreign activities, and inbound investment and activities of foreign corporations. Topics include taxation of US expatriates and foreign nationals, foreign tax credit, tax treaties, foreign-owned US real estate, and issues of mobile employees.

Prerequisite: BUS 223G and BUS 225W

Normal Grade Rules
3 units

BUS 225F. State Taxation Fundamentals

Introduction to the legal foundation, nature and operation of key state and local taxes. Constitutional constraints regarding nexus, sourcing and apportionment are covered. Additional topics include research techniques, compliance and planning considerations, current issues and state tax reform.

Pre/Corequisite: BUS 223A

Normal Grade Rules
3 units

BUS 225G. Taxation of S Corporations

Topics include: Income tax treatment of S Corporations and their shareholders, built-in gains tax and excess net passive income tax; operating and distribution rules, shareholders basis, NOL pass-through rules; formation, reorganizations, QSUBS, and state income tax consequences.

Prerequisite: BUS 223A and 223G

Normal Grade Rules
3 units

BUS 225H. Taxation of Property Transactions

Key rules and planning considerations of property development, transfer, lease, abandonment, worthlessness, and destruction; depreciation and amortization; special types of intangibles and relevant tax rules; property indebtedness; sale of a business; tax-deferred transactions; sale of a principal residence; and basics of non-income taxes applicable to property and property transactions.

Pre/Corequisite: BUS 223A

Normal Grade Rules
3 units

BUS 225I. Tax Practices, Penalties and Procedures

Procedures applicable to filing returns, amended returns and claims for refund. Also covers key procedural matters governing examinations, appeals, and adjudication of disputes. Relevant penalty provisions and rules of conduct are also examined. While the focus is on federal rules, key procedural differences in California law are also covered.

Pre/Corequisite: BUS 223A

Normal Grade Rules
3 units

BUS 225J. Taxation of Executive Compensation

Tax aspects of executive compensation includes qualified and nonqualified stock options, deferred compensation, fringe benefits, 401(K), 403(B), pension and profit sharing plans, rabbi trusts, etc.

Pre/Corequisite: BUS 223A

Normal Grade Rules
3 units

BUS 225K. Advanced Individual Taxes

Course includes interest tracing, passive activity losses, net operating losses, divorce, AMT's impact on individuals and individual California income taxes.

Pre/Corequisite: BUS 223A, Graduate Standing only.

Normal Grade Rules
3 units

BUS 225L. Accounting for Income Taxes

Financial accounting rules regarding the calculation and presentation of a company's provision for income taxes.

Prerequisite: Graduate standing.

Normal Grade Rules
3 units

BUS 225M. State Tax Planning

Tax planning considerations are covered for multistate and single state businesses for key state taxes. Tax effects of location of property, payroll and sales are covered along with state tax incentives and dealing with incomplete guidance.

Prerequisite: BUS 223A and BUS 225F

Normal Grade Rules
3 units

BUS 225N. Financing Options - New or Growing Bus

Covers the fundamentals of various financing techniques for such businesses including equity, debt and "going public". Decision-making considerations, strategy, valuation and relevant security and tax laws are covered.

Pre/Corequisite: BUS 223A

Normal Grade Rules
3 units

BUS 225O. Taxation of Tax Exempt Organizations

Taxation of tax exempt organizations, including application of UBIT; investment in partnerships and S Corp., foundation, pension plans, VEBAS, form 990's.

Pre/Corequisite: BUS 223A

Normal Grade Rules
3 units

BUS 225P. Advanced International Tax - US Corporations

Advanced study of income tax treatment of international corporate transactions including international reorganizations and Section 367, Section 304 and corporate inversions. Planning for intangibles, subpart F planning, foreign entity structuring including use of check-the-box entities, foreign currency transactions, and foreign tax credit planning.

Prerequisite: BUS 223A and BUS 225C

Normal Grade Rules
3 units

BUS 225S. Consolidated Returns

Review and analysis of theory, rules and practice involving affiliated entities and filing of consolidated returns.

Prerequisite: BUS 223A and BUS 223G

Normal Grade Rules
3 units

BUS 225T. Intermediate Acctg for Income Taxes

Follow-up to BUS 225L, Accounting for Income Tax. Topics covered include IFRS-GAAP convergence, FAS 141R (Purchase accounting), International tax accounting (including APB 23, ARB 51, FAS 52), FAS 123R (advanced topics), State & Local considerations, FIN 48 and other relevant/current topics.

Prerequisite: BUS 225L

Normal Grade Rules
3 units

BUS 225U. Fundamentals of Transfer Pricing

Introduction to the fundamental principles of intercompany pricing, applications of transfer pricing methods to related party transactions under U.S. transfer pricing regulations and OECD Guidelines, and the economic analysis required for intercompany transactions of multinational corporations.

Prerequisites: BUS 223A and BUS 225W

Normal Grade Rules
3 units

BUS 225V. Tax Considerations for High Tech Companies

Explores the nature of high tech companies, special features, and why tax issues exist. In depth learning about tax incentives for innovation including the research credit, treatment of intangibles, stock options, multi-stage financing, multijurisdictional considerations, and book-tax differences.

Pre-Requisite: BUS 223A

Normal Grade Rules
3 units

BUS 225W. Introduction to International Taxation

Introduction to the structure, basic rules, and policies of the federal income tax system with respect to international transactions of US and foreign persons. Topics include residency, sourcing, tax treaties, foreign tax credit, transfer pricing, and compliance.

Prerequisite: BUS 223A

Corequisite: BUS 223G

Normal Grade Rules
3 units

BUS 225X. International Taxation - US and Foreign Individuals

Taxation of US and foreign individuals with investments and activities outside their home country. Topics include FTC, treaties, withholding taxes, US expatriates, foreign nationals, mobile employees, and compliance considerations, including US Bank Secrecy Act, FATCA and PFICs.

Prerequisite: BUS 223A and BUS 225W

Normal Grade Rules
3 units

BUS 225Y. Accounting Ethics

Covers professional responsibilities for accountants; meets CA licensure rules for a 3-unit accounting ethics course. Addresses CA statutory and regulatory ethics, AICPA rules of professional conduct, SSTS, and Circular 230, emphasizing compliance, history, process of change, and research.

Normal Grade Rules
3 units

BUS 225Z. Personal & Business Leadership Skills for Tax Professionals

Learn intrapersonal and interpersonal skills and knowledge a tax practitioner needs for personal and professional success. Includes listening, oral and written communication, ethical reasoning, relationship and team building, conflict minimization, leadership behaviors, EQ, mindfulness, and career planning.

Prerequisite: Graduate Standing

Normal Grade Rules
3 units

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BUS 227A. Individual Tax Compliance

Basics of federal income tax compliance from information gathering to return filing. Includes practice preparing various individual forms and schedules, software tools, engagement letters, rules of conduct, disclosures, record keeping, key California adjustments, and completion of a moderately complex Form 1040.

Corequisites: BUS 223A.

Normal Grade Rules
1 unit

BUS 227B. Ethics for Tax Practitioners

Review of rules of conduct, tax penalties and professional ethical behavior relevant to tax compliance and planning. Key rules applicable to a CPA are covered in the context of their application in the day-to-day work of a tax practitioner.

Prerequisite: Graduate Standing only.

Corequisites: BUS 223A.

Normal Grade Rules
1 unit

BUS 227C. Tax Symposium

Tax symposium topics may vary from year to year to allow for focus on new developments or special tax topics. Check the MST schedule for the topic description.

Corequisites: BUS 223A.

Repeatable for credit
Normal Grade Rules
1 unit

BUS 227D. Employment Taxation and the Modern Workforce

An overview to the types of employment tax and related issues that can arise for companies and workers when employees telecommute or have multiple work locations. The basics of federal employment taxes are covered along with worker classification rules as well as selected state and international tax issues and rules relevant for today's workforce.

Pre/Corequisites: BUS 223A

Normal Grade Rules
1 unit

BUS 227E. Foundation for Understanding Taxation

Legal foundation of taxes, types of taxes, and underlying theories, definitions and concepts. How to analyze transactions and activities for tax consequences. Helps strengthen one's overall understanding of taxation and application of analytical skills to resolving tax issues.

Prerequisites: Undergraduate tax course

Normal Grade Rules
1 unit

BUS 227F. Personal and Business Leadership Skills for Tax Practitioners

Learn the intrapersonal and interpersonal skills and knowledge a tax practitioner needs for personal and professional success. Includes listening, oral and written communication, ethical reasoning, relationship and team building, establishment and assessment of accountability measures, time management, and career planning.

Pre-Requisite: Graduate Standing

Normal Grade Rules
2 units

BUS 230. Marketing Management

Fundamental concepts and skills required for understanding markets and managing marketing efforts. Includes market orientation, consumer and industrial buyer behavior, market segmentation, target market identification, product development, pricing, distribution channels, marketing communication, strategy development, and marketing planning and control.

Prerequisite: Graduate standing. Restricted to Business - MBA majors only

Normal Grade Rules
3 units

BUS 231. Consumer and Market Behavior

Influence of consumer behavior upon marketing management strategy; examination of behavioral concepts as they relate to purchase decisions; types of consumer research instructions and applications; focus on buyer behavior in action-oriented environments.

Prerequisite: Bus 230 and graduate standing.

Normal Grade Rules
3 units

BUS 231A. Market Forecasting

Course will help business people in understanding and identifying the appropriate forecasting methods in order to make a more accurate prediction of future demand.

Prerequisite: BUS 230, Business statistics and graduate standing.

Normal Grade Rules
3 units

BUS 231C. High Tech Marketing

Course will give students exposure to marketing in technology industries. Principal ideas from the technology adoption life cycle form the conceptual basis for the course. Differences between technology marketing and other kinds of marketing are explored and special skills identified.

Prerequisite: BUS 230, business statistics, and graduate standing.

Normal Grade Rules
3 units

BUS 232. Third World Marketing Manager

Marketing in Third World high risk areas: Russian, African, Islamic. Understanding methods of marketing, as well as how to deal with specific third world risks: mafia, bribery, "black" market, smuggling and corruption.

Prerequisite: BUS 230 and graduate standing.

Normal Grade Rules
3 units

BUS 233. Business to Business Marketing

Course deals with business-to-business marketing, that is, the marketing of goods, services, and ideas to business and non-retail institutions. Covers product, price, promotion and distribution with emphasis on strategy development and marketing decision-making.

Prerequisite: BUS 230 and graduate standing.

Normal Grade Rules
3 units

BUS 234A. Social Media Marketing

Approaches to social media marketing. Benefits and opportunities companies face as online social networking influences company marketing strategies. Use of emerging technology to promote brand awareness and strategies for social recovery.

Normal Grade Rules
3 units

BUS 234B. Promotional Strategy

Explores the media and techniques used by businesses to communicate with consumers, resellers, and the public. Topics will include budgeting; choosing media; testing communication effectiveness; executing and controlling advertising; personal selling, and consumer trade promotions.

Prerequisite: BUS 230 and graduate standing.

Normal Grade Rules
3 units

BUS 235A. Introduction to Business Analytics

This course will introduce fundamental business analytics tools including Probability Analysis, Decision Analysis, and Linear and Discrete Optimization.An emphasis will be placed on conceptual understanding and analytic insight.

Prerequisite: Graduate Standing only.

Normal Grade Rules
3 units

BUS 235B. Business Research

This course introduces participants to 21st Century business research methodology. The emphasis here is not on issues related to ongoing data sources but rather to unique, one-time problems that are best solved with custom research projects. Quantitative methods are emphasized but the advantages of the qualitative perspective are not overlooked. Other topics include questionnaire design, data collection, analysis, and presentation, highlighting appropriate new technology. The aim is to prepare managers to conduct research as well as to enable them to engage collaboratively with their research consultants.

Prerequisite: Graduate Standing only.

Normal Grade Rules
3 units

BUS 235C. Data Mining

Data mining is used to discover patterns and relationships in data. Emphasis is on large complex data sets such as those in transactional databases or gathered through web mining. Topics: data visualization, association rules, clustering, and various modern classification techniques.

Prerequisite: Graduate Standing only.

Normal Grade Rules
3 units

BUS 235D. Business Analytics Simulation

Transforming diverse data into knowledge-driven business decisions. Participants make tactical and strategic decisions based on consumer, competitor, aggregate market, financial, etc. Success is gauged by monitoring a dashboard that includes manufacturing productivity, return on investment, investment in the future, market share, product quality, financial performance, etc.

Prerequisite: Graduate Standing only.

Normal Grade Rules
3 units

BUS 236. Current Topics in Marketing

Emphasizes marketing and decision-making in social, government and business environments. Uses behavioral science and quantitative techniques to develop strategies for tactical and strategic marketing solutions to problems which impact on R&D, finance, logistics, manufacturing, distribution and others.

Prerequisite: BUS 230 and graduate standing.

Repeatable for credit
Normal Grade Rules
3 units

BUS 237. Sales Management

Learn to recognize and capitalize on emerging market opportunities. Develop ability to manage different personality types, enhance communication skills, and increase cultural sensitivity. Sales forecasting, training, motivational techniques, and ethics.

Normal Grade Rules
3 units

BUS 238. International Marketing

The development of international marketing strategy. Focus on the evaluation of the various environmental variables, selection of target markets, methods of entry, developing an appropriate marketing mix and planning/ control of the international marketing effort.

Prerequisite: BUS 230 and graduate standing.

Normal Grade Rules
3 units

BUS 240. Electronic Commerce

Focuses on organizational uses of information technology, impacts of IT on organizational operations and strategies, and increasing importance of Internet in business activities. Covers fundamentals of IT, organizational applications of IT and Internet, and successfully developing and implementing IT-based applications.

Prerequisite: Graduate standing.

Normal Grade Rules
3 units

BUS 241. Structured Methods of Information Technology

An analysis of structured methodologies of programming, documentation, testing, and management. Examined in terms of various information technologies; emphasis on development of techniques to analyze, design and adapt system solutions to organizational information needs.

Prerequisite: Graduate standing.

Normal Grade Rules
3 units

BUS 242. Distributed Information Systems

An analysis of database management systems, data communications, and telecommunications in a distributed information network. Focus will concentrate on identifying the means through which an organization can use the information technologies of distributed systems to satisfy its data needs.

Prerequisite: Graduate standing.

Normal Grade Rules
3 units

BUS 243. Database Management

Introduction to database approach of planning, design and implementation of information systems applications in organizations from the viewpoint of the manager as a knowledgeable user. Includes data modeling, data integrity and practical project assignments.

Prerequisite: Graduate standing.

Normal Grade Rules
3 units

BUS 245. Service Innovation

The course introduces students to the service in a variety of trade, enterprise and service industry settings. Students will learn about the economics and management of service systems and their design, operations, information technology, performance measurement, marketing, supply chain and quality assurance.

Prerequisite: Graduate standing.

Normal Grade Rules
3 units

BUS 247. Big Data Management

Exploration of Big Data and how businesses are succeeding (or failing) in using it. Learn to extract value from Big Data by getting data ready for analysis (data wrangling), and by understanding and communicating the business value.

Normal Grade Rules
3 units

BUS 248. Cyber Risk Management

This course surveys cyber risk management concepts and best practices. Topics include cyber security threats, countermeasures, vulnerabilities, cost/benefit analysis, incident handling/response, business contingency planning, ethics, and legal imperatives within the organizational context.

Normal Grade Rules
3 units

BUS 250. Law and Ethics

Course focuses on both law and ethics in the business environment, how individuals and organizations approach law and ethics, as well as the ethical, legal and social consequences of disregarding law and ethics in favor of other objectives.

Prerequisite: Graduate standing. Restricted to Business - MBA majors only

Normal Grade Rules
3 units

BUS 251. Strategic Human Capital Performance Management

This course utilizes case and research discussions as well as quantitative costing and utility analyses to develop practical skills in the global deployment of human resources to achieve and sustain strategic competitive advantage.

Prerequisite: Graduate standing.

Normal Grade Rules
3 units

BUS 252. Managing Organizational Change

The focus will be upon applied organizational change by covering organizational behavior from a normative, policy-oriented perspective. The perspective will be one of viewing the person (student) as an actual or potential change agent; a consultant (internal or external), innovative personnel specialist, or middle or top level manager.

Prerequisite: Graduate standing.

Normal Grade Rules
3 units

BUS 253. Negotiation and Conflict Management

Introduces a theoretical framework and skill-building exercises/simulations for negotiating agreements in adversarial or competitive relationships. Explores conflict resolution methods applicable to commercial transactions, employee relations, union management negotiation and contract disputes, as well as international diplomacy.

Prerequisite: Graduate standing.

Normal Grade Rules
3 units

BUS 254. Advanced Personnel Management

Selected human resource management topics are studied, including: computer applications and quantitative methods, forecasting, job analysis, personnel recruitment and selection, training and development, EEO, compensation, performance appraisal, OSHA requirements, labor relations.

Prerequisite: BUS 251 (or equivalent); statistics and computer applications; graduate standing.

Repeatable for credit
Normal Grade Rules
3 units

BUS 255. Diversity in the Workforce

Analysis of communication, leadership, motivation, group dynamics, decision-making, problem solving, training, change, conflict resolution and other behavioral concerns as they apply to the management of the multicultural workforce.

Prerequisite: Graduate standing.

Normal Grade Rules
3 units

BUS 258. Leading Edge Managers

Experiential seminar to develop specific managing and leading capabilities. Focus on skills typically missing from MBA education: managing a multi- and cross-cultural workforce; developing effective teams and collaborative work; building a high-performing work system.

Prerequisite: Graduate standing.

Normal Grade Rules
3 units

BUS 259. Mg Legal Aspects of Tech & New Prod Dev

This course addresses emerging issues in intellectual property - patent, copyright, trademark, and trade secrets laws - with an emphasis toward managing and protecting innovation and new product development in areas such as computer technology, biotechnology, and cyber-space.

Prerequisite: Graduate standing.

Normal Grade Rules
3 units

BUS 260. Managerial Decision Analysis

Concerns the inherent complexities in the process of choice. Covers decomposition of the decision environment, the use of decision trees, value theory, analysis of criterion, the statistical measurement of risk and uncertainty, preposterior analysis, and problems of collective choice.

Prerequisite: Business statistics and graduate standing; restricted to Business - MBA majors only

Normal Grade Rules
3 units

BUS 261. Legal Challenges for the International Manager

Learn how legal systems affect international business. Topics include: securities law in international transactions; US trade law; export regulations; foreign legal problems; legal risk analysis; labor law systems; control of capital and currency; intellectual property rights; licensing; business with state-controlled agencies.

Prerequisite: Graduate standing.

Normal Grade Rules
3 units

BUS 262. Leadership

Explores classic and contemporary models of leaders and leadership and defines the difference between management and leadership. Practical applications of theory emphasizing the contingency perspective.

Prerequisite: Graduate standing.

Normal Grade Rules
3 units

BUS 262A. Global Leadership and Innovation

This course provides an in-depth introduction to global leadership and its development and to fostering innovation and global change. Through assessments and behavioral simulations, it prepares students to do global work effectively in a complex context with people from various cultures.

Prerequisite: Graduate standing.

Normal Grade Rules
3 units

BUS 262B. Global Leadership Development

Students learn about global leadership and, in particular, its development in the Global Leadership Laboratory. As GLLab Associates, they help facilitate high impact experiential exercises, learn to give feedback, and supervise and coach student teams in global leadership courses.

Prerequisite: Graduate Standing

Normal Grade Rules
3 units

BUS 263. High Performance Management

An intense analysis of management with main focus on understanding organizations as systems. Use of academic theories as tools with which you solve real-world tactical performance problems. Emphasizes critical thinking and problem solving.

Prerequisite: Graduate standing.

Normal Grade Rules
3 units

BUS 264. Introduction to Technology Planning and Management

Develops technology strategies through a qualitative (scenario and strategy map-based) and a quantitative (decision analysis and option theory-based) approach for technology portfolio planning and management. It provides practical, stimulating, and easy-to-use methods for realistic applications.

Prerequisite: Graduate standing.

Normal Grade Rules
3 units

BUS 264A. Professional/Business Ethics

Ethical principles relevant to decision-making in business situations. Using case studies, examines and analyzes moral issues to determine the most appropriate actions. Experiential and self-reflective as well as theoretical.

Prerequisite: Graduate standing.

Normal Grade Rules
3 units

BUS 265. Silicon Valley Experience

This course is designed to develop the "whole student" for success in the business world, including professionalism, ethics, case competitions, communications, networking, career success, and work/life balance. It includes lectures, speakers, panels, competitions, and other events providing students with an in-depth exposure to Silicon Valley.

Normal Grade Rules
2 units

BUS 267. Alternative Compensation Systems

A systematic exposure to theories and practices of various organizational reward systems. Drawing on managerial, behavioral, and economic frameworks to review various compensation topics and tackle some of the most controversial or innovative issues in compensation management.

Prerequisite: Graduate standing.

Normal Grade Rules
3 units

BUS 268. Managing Across Cultures

A comprehensive foundation for understanding, managing, and successfully interacting in the multi-faceted, culturally-embedded contexts of multinational firms. Understanding major issues facing multinational corporations in the management of international operations; insights into cultural, historical and institutional factors; skills for working effectively in international multicultural teams.

Prerequisite: Graduate standing.

Normal Grade Rules
3 units

BUS 268A. Global Business Management

A global view on business, investigating why and how companies succeed internationally. It provides students a conceptual tool by which to understand how economic, social and political factors influence both domestic and international operations.

Prerequisite: Graduate standing.

Normal Grade Rules
3 units

BUS 269. Strategic Management in the Computer Industry

The online course focuses on the industry-specific strategic challenges faced by companies that comprise the sector that is preeminent in the Information Age. Case studies favor PCs over big Iron and software over hardware.

Prerequisite: Graduate standing.

Normal Grade Rules
3 units

BUS 270. Financial Management

Introduces the structure, markets and regulatory factors within the financial system. Develops basic skills in preparing financial plans/budgets, valuing capital costs, financial assets and evaluating the firm's capital structure, cost of capital, working capital, dividend policies, financing and investment decisions.

Prerequisite: BUS 220 or BUS 231B and graduate standing; restricted to Business - MBA majors only

Normal Grade Rules
3 units

BUS 271. Capital Markets

Driven by technological change, deregulation and globalization, course provides students an overview of the U.S. and international financial environment through financial media, spreadsheets and the Internet. Students leave the class with knowledge of interest rates, flow of funds, derivatives, money and capital markets and financial intermediaries.

Prerequisite: BUS 270 and graduate standing.

Normal Grade Rules
3 units

BUS 272. Current Topics in Finance

Presented as a collection of topics of current interest and concern to managers, investors and creditors. A seminar approach emphasizes discussion, illustrations, examples and applications drawn from current financial practice to encourage exploration of all facets of select financial issues.

Prerequisite: BUS 270 and graduate standing.

Repeatable for credit
Normal Grade Rules
3 units

BUS 273. Business Valuation

Course uses accounting and market data to determine the value of public and private businesses. The course considers methods and models whereby business values are created and destroyed. Techniques, from basic rules of thumb to holistic computer models are considered.

Prerequisites: BUS 220 and BUS 270.

Normal Grade Rules
3 units

BUS 274. Financial Analysis of Technology-Based Firms

Students will learn to develop financial strategies in practical settings. This includes the ability to construct and interpret pro forma financial statements, planning and control models, working capital analysis, capital structure studies, capital budgeting and cost of capital models, and valuation analysis.

Prerequisite: BUS 270 and graduate standing.

Normal Grade Rules
3 units

BUS 275. Corporate Finance: Cases in High Tech Firms

Course is a continuation of corporate finance where finance concepts directly related to high technology firms are examined. The concepts are enhanced by using five Harvard cases. Other data and handouts are provided to supplement these cases and the textbook.

Prerequisite: BUS 270 and graduate standing.

Repeatable for credit
Normal Grade Rules
3 units

BUS 276. New Venture Finance

New ventures face different business and financing environments than large, publicly-traded firms. The risk of R&D failure is more severe for new ventures. Examines how business and financing decisions are intertwined. Topics: Venture capital, joint ventures and intrapreneurship.

Prerequisite: BUS 270 and graduate standing.

Normal Grade Rules
3 units

BUS 277. Investment Analysis and Management

Principles of financial and portfolio analysis applied to investments in common stocks and bonds. Descriptive characteristics of financial markets reviewed, with main emphasis on application of financial theory and statistics to understanding movements in security prices and portfolio values. A financial management viewpoint will be taken in conducting fundamental valuation analysis and formulating portfolio policy.

Prerequisite: BUS 270 and graduate standing.

Normal Grade Rules
3 units

BUS 278. International Corporate Finance

The finance manager's responsibilities, risks, problems and need for strategic planning. Unique aspects of financial analysis for international business discussed and applied to real and/or similar decision situations.

Prerequisite: BUS 270 and graduate standing.

Normal Grade Rules
3 units

BUS 280. Operations and Supply Chain Management

Analysis of effective and efficient flow of materials, products, services, and information within and across organizations. Includes: process flow analysis, capacity planning, quality, lean supply chain, layout, aggregate planning, supply chain networks, inventory management, sourcing, ERP, and logistics planning.

Prerequisite: Graduate standing. Restricted to Business - MBA majors only

Normal Grade Rules
3 units

BUS 281. Management of High Technology Organizations

Investigates ingredients for sustained profitable innovation. Emphasizes management of technological innovation, including: innovation strategies, organization, project selection, project management, managing and integrating functional areas. Analyzes developmental processes which enable small firms to grow and prevent large organizations from stifling innovation.

Prerequisite: Graduate standing.

Normal Grade Rules
3 units

BUS 282. Silicon Valley: The Business of Technology

The Silicon Valley Business of Technology course prepares students for fast-paced and pressure-packed conditions to accelerate development of Critical Thinking Skills; providing a unique insight into the Silicon Valley culture. Students will apply technology to various industries by understanding its origins, categories, and functionality.

Prerequisite: Graduate Standing

Normal Grade Rules
3 units

BUS 282A. Essentials of Management and Organizational Behavior

Familiarizes students with the challenges that arise for managers in organizational settings; surveys theories and practices relating to managerial roles, organizational cultures, strategy, planning, team building, communication, motivation, leadership, decision-making, control, structure, and change.

Prerequisite: Enrollment in the MBT program.

Normal Grade Rules
3 units

BUS 282B. Essentials of Operations Management

Familiarizes students with the role and importance of operations management and how it interacts with other parts of the organization; develops skills in applying analytical tools and techniques to operations management challenges.

Prerequisite: Enrollment in the MBT program.

Normal Grade Rules
3 units

BUS 283. Entrepreneurship

Examines the growth and nature of entrepreneurship and the support infrastructure of tasks, people, finances and technology. Emphasizes entrepreneur characteristics sought by venture capitalists and investors, role of the business plan and evolutionary stages of start-up activity.

Prerequisite: Graduate standing.

Normal Grade Rules
3 units

BUS 284. Managing Product Development

Views product development as a cross-functional business process. Examines concepts used and management challenges faced in structuring product development activity and in strategically managing a portfolio of product development projects.

Prerequisite: Graduate Standing.

Normal Grade Rules
3 units

BUS 284C. Managing Medical Product Development

Views medical product development as a cross-functional business process. Examines concepts used and management challenges faced in structuring medical product development activity and in strategically managing a portfolio of medical product development projects. Examines industry practices and cases relevant to medical product development.

Prerequisite: Admission to MPDM program and completion of BUS 224C, BUS 286 and SMPD 289A.

Normal Grade Rules
3 units

BUS 285. Total Quality Management

Documents forces which propel quality (competition, Deming, Baldridge, etc.) and impact on planning, benchmarking and competitive analysis. Includes design for manufacturability, design of experiments, Taguchi methods, systems analysis, continuous process development and statistical process control.

Prerequisite: Graduate standing.

Normal Grade Rules
3 units

BUS 286. Project Management

Covers both strategic and operational points of view for managing projects. Quantitative methods include project planning, budgeting, selection, scheduling, evaluation and control. Qualitative methods include project organization, staffing and team building.

Prerequisite: Graduate standing.

Normal Grade Rules
3 units

BUS 287. Advanced Topics in Global Supply Chain Management

In depth analysis of current issues in global SCM with emphasis on industry best practices from around the globe. Topics may include continuous replenishment, value of information, outsourcing, collaboration, strategic alliances, e-SCM, supply chain risk, performance metrics, SCM simulations.

Prerequisite: Bus 280. Graduate standing.

Normal Grade Rules
3 units

BUS 288. Manufacturing Planning, Cost and Control

Methods for analyzing cost/volume/profit relationships, job costing, process costing and activity-based accounting. Creating budgets, standards and performance measurements applied to cost of quality and internal control systems. Develops financial tools for non-financial managers.

Prerequisite: Graduate standing.

Normal Grade Rules
3 units

BUS 289. Managing Information and High Technology

Applies convergence among information, technology and strategy to organization and design of information and business systems for competitive advantage. Practical uses of electronic data interchange, expert systems and design and control of database systems to manage high-tech production.

Prerequisite: Graduate standing.

Normal Grade Rules
3 units

BUS 290. Strategic Thinking

Integrative focus on managing the total enterprise, including corporate and business-level strategy formation. Applies market and industry analysis, using qualitative and quantitative techniques, to position companies in their competitive environment. Students create a strategic plan for on-going or new organization.

Prerequisites for Early Career MBA students: Completion of BUS 201, BUS 202, BUS 210, BUS 220, BUS 230, BUS 250, BUS 260, BUS 270, BUS 280 and graduate standing; restricted to Business - MBA majors only.

Prerequisites for MBA for Professional students: BUS 200W, BUS 202, BUS 210, BUS 220, BUS 230, BUS 250, BUS 260, BUS 270, BUS 280 and graduate standing; restricted to Business - MBA majors only.

Note: Must receive a minimum grade of "B" on project.

Normal Grade Rules
3 units

BUS 294. Management Simulation Competition

Developing analytical and general management decision-making skills as member of a team competing in the regional business schools' management simulation game. Extensive use of computers for simulation and analytical/planning tools.

Prerequisite: Graduate standing or instructor consent.

Normal Grade Rules
3 units

BUS 295. Management Consulting Field Experience

Apply management theory and learn consulting skills by carrying out an intensive project. Identify and analyze actual business problems, develop and evaluate alternative solutions and present plan to management.

Prerequisite: Graduate standing and instructor consent.

Normal Grade Rules
1-3 units

BUS 297A. Special Topics in Business Administration

Special topics to augment regularly-scheduled electives.

Prerequisite: Graduate standing and prerequisite courses as specified.

Repeatable for credit
Normal Grade Rules
1-4 units

BUS 297D. Special Topics in Business Administration

Special topics to augment regularly-scheduled electives.

Prerequisite: Graduate standing and prerequisite courses as specified.

Repeatable for credit
Normal Grade Rules
3 units

BUS 298. Master's Project

Supervised completion of the Plan B (Project) culminating experience.

Prerequisite: Advancement to Candidacy and instructor consent. Not available to Open University Students.

Repeatable for credit
Mandatory CR/NC/RP
3 units

BUS 298C. Applied Business Experience Internship

The course provides students with an opportunity to translate their academic training into real world practice and gain overall knowledge of key functional areas of business. The internship must offer students a valuable learning experience and must significantly increase their knowledge of business organizations. Students are responsible for identifying a specific internship opportunity and obtaining an official offer from an employer. Upon approval from the MBA Director, the students will be able to enroll in the 3-unit course which will count as one of the MBA electives. The course requires the preparation of an internship journal & report. The internship qualifies as Curricular Practical Training (CPT) for international students.

Prerequisites: Advancement to Candidacy

Normal Grade Rules
3 units

BUS 298I. Applied Business Experience Internship

For the student with a specific internship providing a quality experience that reinforces the curriculum and involves meaningful work. The student must submit a one-page formal proposal to the graduate program director. A final report is required. The internship must qualify as Curricular Practical Training (CPT) for international students.

Prerequisite: Approved advancement to candidacy.

Repeatable for credit
Mandatory CR/NC/RP
1 unit

BUS 299. Master's Thesis

Master's Thesis Plan A.

Prerequisite: Approval of the instructor and admission to candidacy. Not available to Open University Students

Mandatory CR/NC/RP
1-4 units

SJSU SAN JOSÉ STATE UNIVERSITY

Academic Year 2019-2020

Course Descriptions

v1
July 1, 2019

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DESCRIPTION CONTENTS

Economics Department Courses

ECONOMICS

LOWER DIVISION

ECON 001A. Principles of Economics: Macroeconomics

Determination of economic aggregates such as total output, total employment, the price level and the rate of economic growth.

Notes: May be taken concurrently or prior to ECON 1B.

Normal Grade Rules
4 units

ECON 001B. Principles of Economics: Microeconomics

Allocation of resources and distribution of income as affected by the workings of the price system and by government policies. GE Area: D1

Notes: May be taken concurrently or prior to Econ 1A.

Normal Grade Rules
GE: D1
4 units

ECON 002A. Principles of Macroeconomics Online Lab

Self-paced, online lab guides students through practice and graded problem sets of key macroeconomics tools and concepts.

Credit / No Credit
1 unit

ECON 002B. Principles of Microeconomics Online Lab

Self-paced on line lab guides students through practice and graded problem sets of key microeconomics tools and concepts.

Credit / No Credit
1 unit

ECON 002C. Statistics Lab

This 1 unit, credit/no credit statistics lab is designed for transfer students who have taken a 3 semester-unit elementary statistics course. (SJSU Economics Department requires 4 semester units of introductory statistics. Transfer students who are economics majors and minors must make-up the missing unit.) The lab also is useful for those who have taken an elementary statistics course and are in need of a refresher.

Basic statistical concepts and methods that emphasize understanding the principles of data collection and analysis rather than theory. Discussions of how statistics is commonly used in the real world.

Credit / No Credit
1 unit

ECON 003. Economic Statistics

Elementary statistical analysis of economic data, probability theory, probability distributions, sampling, sampling distributions, estimation, hypothesis testing, simple linear regression, correlation and index numbers.

Prerequisite: ECON 1A, and ECON 1B

Misc/Lab: Lecture 3 hours/lab 2 hours.

Normal Grade Rules
4 units

UPPER DIVISION

ECON 100W. Writing Workshop: Economic Reports

Writing skills appropriate to majors in economics of lucid expression in essays, reports and other types of communication. GE Area: Z

Prerequisite: A3 or equivalent second semester composition course (with a grade of C- or better); Completion of core GE, satisfaction of Writing Skills Test and upper division standing.

Note: All SJSU Studies courses require completion of the WST and upper division standing. Must be passed with C or better to satisfy the CSU Graduation Writing Assessment requirement (GWAR).

Normal Grade Rules
GE: Z
4 units

ECON 101. Microeconomic Analysis

Consumer behavior determining demands for goods and services. Theory of the firm including theories of production and cost. Theory of distribution to production factors.

Prerequisite: ECON 1B.

Normal Grade Rules
4 units

ECON 102. Macroeconomic Analysis

Theory of aggregate demand and related topics: national income accounting, employment and inflation, monetary and fiscal policies, economic stability, growth and balance of payments equilibrium.

Prerequisite: ECON 1A.

Normal Grade Rules
4 units

ECON 103. Intro to Econometrics

Use of econometric methods in analyzing economic data. Simple and multiple regression. Problems of autocorrelation multicollinearity and heteroskedasticity.

Prerequisite: ECON 3 or equivalent.

Misc/Lab: Lecture 3 hours/lab 2 hours

Normal Grade Rules
4 units

ECON 104. Mathematical Methods for Economics

Applications of linear algebra and differential calculus to economic analysis. Topics include market equilibrium, properties of production functions, multipliers, optimization methods, comparative statics analysis.

Prerequisite: ECON 1A, ECON 1B & MATH 30 or MATH 71

Normal Grade Rules
4 units

ECON 106. Managerial Economics

Applications of economic analysis to practical problems in the private and public sector. Demand and cost analysis, market structure, statistical estimation and forecasting; case studies.

Prerequisite: ECON 1B.

Normal Grade Rules
4 units

ECON 107. Introduction to Environmental Economics and Policy

See ENVS 107.

Normal Grade Rules
3 units

ECON 108. Cost-Benefit Analysis

Theory and practice of cost-benefit analysis applied to various topics including public projects and environment. Welfare foundations of CBA, valuation of goods (such as clean air, wilderness, and sports arenas), discounting future values and cost.

Prerequisite: ECON 1B and ECON 3 or STAT 95, or instructor consent

Normal Grade Rules
4 units

ECON 109. Analysis of Economic Issues for Teachers

Economic analysis of such topics as unemployment, inflation, poverty, pollution, education and international trade will be covered within the context of K-12 education.

Prerequisite: Upper division standing.

Notes: Not acceptable for Economics majors, except double majors; acceptable for Economics minors.

Normal Grade Rules
3 units

ECON 112. Economic Development

Theories of development and underdevelopment. Problems of initiating and sustaining growth. Relations between developed and underdeveloped regions. Economic reform and change in the underdeveloped world.

Prerequisite: ECON 1A and ECON 1B.

Normal Grade Rules
4 units

ECON 113A. Economic History of the United States

Economic analysis of U.S. and Canadian history to the mid-20th century and its application to understanding the causes, patterns and consequences of economic development.

Prerequisite: Upper division standing or instructor consent.

Normal Grade Rules
4 units

ECON 113B. Economic History of Europe

Economic analysis of U.S. history to the mid-20th century and its application to understanding the causes, patterns and consequences of economic development.

Prerequisite: Upper division standing or instructor consent.

Notes: Offered summer and winter sessions and occasionally during the academic year.

Normal Grade Rules
4 units

ECON 121. Industrial Organization

Microeconomic theory applied to pricing of products by seller having different market structures such as competition, imperfect competition, monopoly, public utility regulation or government pricing.

Prerequisite: ECON 1B.

Normal Grade Rules
4 units

ECON 132. Public Finance

Microeconomics of the public sector. Role of government in market systems. Cost-benefit analysis, public choice theory, taxation, fiscal federalism. State and local government sector.

Prerequisite: ECON 1B.

Normal Grade Rules
4 units

ECON 133. Public Choice

Economic analysis applied to non-market decision making. Topics may include: voting, special interests, rent-seeking, legislative decision-making, bureaucracy, collective action problems, judicial decision-making, political business cycles, and comparative political institutions.

Prerequisite: ECON 001B

Normal Grade Rules
4 units

ECON 135. Money and Banking

Monetary institutions and theory, central banking, Federal Reserve System, interest rates, foreign exchange, price level theory, flow of funds, policy relative to private, government and international finance.

Prerequisite: ECON 1A.

Normal Grade Rules
4 units

ECON 136. International Economics

International trade theory, customs union, tariffs, quota policies. International monetary system balance of payments problems, foreign exchange markets.

Prerequisite: ECON 1A and ECON 1B.

Normal Grade Rules
4 units

ECON 137A. Fundamentals of Corporate Finance

Net present value criterion for investment and financial decisions, portfolio analysis, capital assets pricing model, information efficiency of security markets, influence of dividend policy on stock prices and optimality of financial structure of corporations.

Prerequisite: ECON 1B.

Normal Grade Rules
4 units

ECON 137B. Topics in Corporate Finance

Analytical coverage of topics such as role of leverage, valuation of options (warrants, puts, calls and convertibles), valuation of risky debt, capital budgeting, mergers, financial planning and international aspects of corporate finance.

Prerequisite: ECON 137A or instructor consent.

Normal Grade Rules
4 units

ECON 138. Business and Economic Forecasting

Use of regression techniques to forecast movements in economic conditions having effects on business firms and governments.

Prerequisite: ECON 1A, ECON 1B and a semester of statistics.

Normal Grade Rules
4 units

ECON 139. Principles of Investments

Stocks, bonds, money market instruments, options, futures and real estate. Institutions, markets and theory. Speculation, present value theory, yields, term structure, taxes, portfolios and insurance.

Prerequisite: ECON 1A and ECON 1B.

Normal Grade Rules
4 units

ECON 141. Law and Economics

Effects on resource use of existing and proposed laws concerning contracts, tort liability, crime, water resources, antitrust, real property, the environment and corporations.

Prerequisites: STAT 95 or ECON 3, any 100W.

Normal Grade Rules
4 units

ECON 151. Labor Economics

Development of labor institutions and markets, public regulation of unions, economics of collective bargaining. Theories of wages, employment and labor income.

Prerequisite: ECON 1A or ECON 1B, ECON 3 or equivalent, ECON 100W.

Normal Grade Rules
4 units

ECON 155. Principles of Austrian Economics

Examines the discipline of Austrian economics and differentiates from other economic disciplines. Uses the Austrian approach to analyze and understand the consequences of various policy prescriptions.

Prerequisite: Econ 001A and Econ 001B

Normal Grade Rules
4 units

ECON 158. Economics of Entrepreneurship

Examines how economists have approached the phenomenon of entrepreneurship, from its behavioral foundations to its effects on economic growth and progress. Explores the role of entrepreneurship in theory and policy, and emphasizes its cultural, legal, and political determinants.

Prerequisite: ECON 001A and ECON 001B.

Normal Grade Rules
4 units

ECON 160. Public Regulation of Business

Economic criteria of public regulation and control of private business with emphasis on the problems of public policy.

Prerequisite: ECON 1B.

Notes: Offered summer and winter sessions and occasionally during the academic year.

Normal Grade Rules
4 units

ECON 165. Regional Economics

The economic structure of a region, including the economic base and its relation to industries serving the local market, the relationships among the subregions and the location of industry.

Prerequisite: ECON 1A or ECON 1B or instructor consent.

Normal Grade Rules
4 units

ECON 166. Urban Economics

Analysis of major economic problems of metropolitan areas: taxation, financing of urban services, transportation, residential and industrial development, local growth controls, zoning and housing.

Prerequisite: ECON 1B.

Normal Grade Rules
4 units

ECON 170. Health Economics

Introduction to the application of economics to healthcare and medical care issues including demand and supply of healthcare, health insurance, health quality and safety, and the role of regulations within a healthcare system.

Prerequisite: ECON 1A and ECON 1B

Normal Grade Rules
4 units

ECON 180. Individual Studies

Prerequisite: Instructor consent and department chair approval.

Repeatable for credit
Credit / No Credit
1-4 units

ECON 185. Applied Economics Internship

Supervised work with a private or public employer. Provides opportunity to gain experience in applied economics or in a discipline closely related to economics.

Prerequisite: Junior or senior standing and consent of internship coordinator.

Repeatable for credit
Credit / No Credit
3 units

ECON 190. History of Economic Thought

Course includes Ancient Greek thought; the School of Salamanca; mercantilism; Adam Smith and classical political economy; the pre-Marxian socialists and Karl Marx; the marginalist revolution and the development of neoclassical economics; and monetary theory from David Hume to Keynes.

Prerequisite: Econ 1A and Econ 1B

Normal Grade Rules
4 units

ECON 191. Economic Thought of Nobel Prize Winners

Exploration of lectures and essays related to economics Nobel Prize Winners since 1969. Topics include market theory, information theory, game theory, macroeconomic models, and new developments. Students submit weekly questions, three papers, and a presentation on a Nobel Prize winner.

Prerequisites: ECON 001A, ECON 001B, any 100W.

Normal Grade Rules
4 units

ECON 193. New Institutional Economics

Introduces recent approaches to the study of institutions in economics and other social sciences. Examines how formal and informal institutions, including laws, contracts, norms and conventions, affect economic and political outcomes from a global perspective.

Prerequisite: ECON 001B

Notes: Offered summer and winter sessions and occasionally during the academic year.

Normal Grade Rules
4 units

ECON 195. Computational Methods for Economics

Covers the use of software which has the greatest applicability in economics and related social sciences; i.e., spreadsheets, databases, and programs for statistical analysis of data and numerical computation. Examples of software programs that may be covered include Excel, Gretl, Matlab/Octave, Netlogo, R, and STATA.

Prerequisite: ECON 1A, ECON 1B and a semester of statistics.

Normal Grade Rules
4 units

ECON 197. Experimental Economics

Experimental Economics uses computerized laboratory experiments, field experiments, and quasi-natural experiments to test economic theory and human behavior. The course covers game theory, markets and auctions, experimental methodology and design, and field experiments.

Prerequisite: ECON 103.

Normal Grade Rules
4 units

GRADUATE

ECON 201. Seminar in Microeconomic Analysis

Advanced analysis of costs, pricing, revenue, market structures, economic efficiency, rates of wages, rent, interest, profits and allocation of resources; analytical models and economic equilibrium.

Prerequisite: ECON 101 and ECON 104.

Normal Grade Rules
3 units

ECON 202. Seminar in Macroeconomic Analysis

Aggregate analyses of inflation and unemployment (and of alternative fiscal and monetary policies) using general equilibrium and dynamic disequilibrium adjustment models of real output, labor, real capital and financial markets (both domestic and international).

Prerequisite: ECON 101, ECON 102 (or equivalents approved by the instructor, with grades of "B" or better).

Normal Grade Rules
3 units

ECON 203A. Economic Research Methods

Illustrates how to construct an economic study. Topics include basic statistical methods, cost-benefit analysis, data analysis, other quantitative techniques, literature reviews, and the professional standards of the discipline.

Prerequisite: Econ 003 & Econ 101 or instructor permission

Normal Grade Rules
3 units

ECON 203B. Seminar in Econometric Methods

Elements of statistical inference (t, F and Chi-square tests); the classical regression model and simultaneous equations models; estimation and prediction; the use of lagged and dummy variables; problems of multicollinearity, heteroskedasticity, serial correlation of disturbances and errors in the variables.

Prerequisite: ECON 103 or instructor consent.

Normal Grade Rules
3 units

ECON 204. Seminar in Mathematical Economics

The use of mathematical techniques such as differential and integral calculus, linear algebra, topology, differential and difference equations, mathematical programming, optimal control theory and game theory to analyze economic models.

Prerequisite: ECON 104 (or equivalent).

Notes: Offered summer and winter sessions and occasionally during the academic year.

Normal Grade Rules
3 units

ECON 205. Workshop in Policy Analysis

Survey of major areas of economic policy such as taxes, transportation, health, housing, environment, trade and education. Students prepare a written report on some topic of policy analysis and present the results to the class.

Prerequisite: instructor consent.

Notes: Usually offered in the Spring semester.

Normal Grade Rules
GE: GWAR
3 units

ECON 205A. Economic Decision Making (Quantitative Economic Analysis for Public Decision-Making)

The nature and use of techniques for estimating the impact of alternative courses of action. Emphasizes fiscal impact analysis, cost benefit analysis, input-output analysis and multiplier methods.

Prerequisite: ECON 101 and ECON 102, or instructor consent.

Normal Grade Rules
3 units

ECON 221. Industrial Organization

Analysis of the relations between industry structures, business conduct and economic performance under conditions of limited governmental interference. Appraises the role of competition and monopoly in the American economy. Stresses the role played by antitrust laws and regulatory commissions in the U.S. economy.

Prerequisite: Instructor consent.

Normal Grade Rules
3 units

ECON 232. Seminar in Public Finance

The public sector. Determination of objectives of the public sector; pricing and output in the public sector; taxes, their distribution and allocative effects; public expenditure theory; public debt theory and policy.

Prerequisite: Instructor consent.

Normal Grade Rules
3 units

ECON 235. Seminar in Monetary Theory and Policy

Concentration on the theoretical aspects of money and monetary policy. Early and modern theories of money demand; early Keynesian and Monetarist monetary analysis; expectations and dynamic monetary business cycles; monetary policy under the Keynesian, Monetarist and New Classical assumptions; open economy monetary theory.

Prerequisite: ECON 1A, ECON 102 and ECON 135, or instructor consent.

Normal Grade Rules
3 units

ECON 236. Seminar in International Trade and Finance

Advanced theory of international trade and finance and its application to current problems in international economics.

Prerequisite: Instructor consent.

Notes: Not offered on a regular basis.

Normal Grade Rules
3 units

ECON 241. Seminar in Law and Economics

Examines the economic effects of legal institutions, existing and proposed, and economic analysis applied to the law. Evaluation of the interactions between legal and economic principles and introduction to standard topics such as property rights, contracts, liability, and torts. Includes case studies, a proposal, research paper and oral presentation.

Prerequisite: Graduate Standing

Normal Grade Rules
3 units

ECON 251. Seminar in Labor Economics

Analysis of labor markets, utilizing economic theory and empirical techniques with applications to public policy. Topics include: investment in human capital; employee compensation issues; compensating wages; discrimination; unions; and public sector labor markets.

Prerequisite: Graduate Standing or Instructor consent.

Notes: Offered summer and winter sessions and occasionally during the academic year.

Normal Grade Rules
3 units

ECON 281. Advanced Topics in Economics

This course addresses current developments or special-interest topics in economics.

Prerequisite: Instructor Consent

Repeatable for credit
Normal Grade Rules
3 units

ECON 285. Applied Economics Internship

Supervised work with a private or public employer.

Prerequisite: Graduate standing and 3.0 GPA.

Credit / No Credit
3-6 units

ECON 298. Special Study

Advanced individual research projects.

Prerequisite: Instructor consent and department chair approval.

Repeatable for credit
Mandatory CR/NC/RP
1-3 units

ECON 298E. Special Study Comprehensive Exam

Individual preparation for the comprehensive exam. Students must file for candidacy before enrolling. Approval of department chair, graduate advisor, or instructor is required. Satisfactory completion satisfies culminating experience requirement.

Mandatory CR/NC/RP
1 unit

ECON 299. Master's Thesis or Project

Open only to approved candidates for the MA - Economics degree.

Description: Open only to approved candidates for the MA - Economics degree.

Repeatable for credit
Mandatory CR/NC/RP
1-6 units

UPPER DIVISION

ECON 1290R. Culminating Experience Supervision

Department and University support for progress to completion of culminating experience.

Prerequisite: Outstanding RP grade in a preceding semester in a culminating experience class or project.

Note: No Degree Credit.

Repeatable for credit
No Degree Credit
1 unit

Education - Communicative Disorders and Sciences, Department of Courses

AUDIOLOGY

UPPER DIVISION

EDAU 115. Introductory Hearing Science
Anatomy, physiology and psychoacoustics of the auditory system; theories of hearing and physics of sound.
Prerequisite: CDS major, upper division standing, or instructor consent.
Normal Grade Rules
3 units

EDAU 116. Audiology for Speech-Language Therapists
Anatomy, physiology and psychoacoustics of the auditory system; theories of hearing and physics of sound.
Prerequisite: CDS major, upper division standing, or instructor consent.
Repeatable for credit
Normal Grade Rules
3 units

EDAU 170. Audiology I
Theory and application of the fundamentals of pure tone and speech, audiometric procedures and immittance measurements basic to identification audiometry and the differential diagnosis of peripheral auditory problems.
Prerequisite: EDAU 115 or instructor consent.
Normal Grade Rules
3 units

EDAU 172. Introduction to Principles of Aural Rehabilitation
Principles and methods of aural rehabilitation procedures. Components include development of listening, visual and oral communication skills; psycho-social aspects of hearing loss.
Prerequisite: EDAU 115 and EDAU 170.
Normal Grade Rules
3 units

EDAU 177. Practicum in Audiology
Supervised clinical experience in basic testing and treatment of children and adults with communicative disorders due to hearing impairments.
Prerequisite: EDAU 170 and EDAU 172 or instructor consent.
Repeatable for credit
Credit / No Credit
1-3 units

EDAU 180. Individual Studies
Supervised study in specific fields of audiology not covered by offered courses.
Prerequisite: Upper division standing and area coordinator consent.
Repeatable for credit
Credit / No Credit
1-3 units

GRADUATE

EDAU 257. Seminar in Audiology
Current issues impacting the practice of audiology.
Prerequisite: 6 units of graduate work or instructor consent.
Repeatable for credit
Normal Grade Rules
3 units

EDAU 273. Aural Rehabilitation
Aural rehabilitative services and procedures for the hearing impaired. Emphasis on governmental agencies, community services, especially for adult and geriatric populations, school programs and the professional role and responsibilities of the audiologist.
Repeatable for credit
Normal Grade Rules
3 units

EDAU 277. Advanced Practicum in Aural Rehabilitation
Supervised advanced clinical experience with children and adults with complex communicative disorders due to hearing impairments, leading to independence in administering therapeutic services.
Prerequisite: EDAU 177, EDAU 172 (or equivalent) and instructor consent.
Repeatable for credit
Normal Grade Rules
1-3 units

EDAU 298. Special Studies
Supervised study in a specific field of audiology.
Prerequisite: Consent of area coordinator.
Repeatable for credit
Mandatory CR/NC/RP
1-3 units

SPEECH PATHOLOGY

UPPER DIVISION

EDSP 102. Language Development in Children
Students will acquire knowledge concerning the language learning process and theories as well as the factors that intervene in its normal development. We will review linguistic terminology, components in language, stages of language development, and language diversity factors.
Prerequisites: CDS major or instructor consent.
Normal Grade Rules
3 units

EDSP 110. Resources for Human Communication Disorders
Scope of human communication disorders and public attitudes affecting educational, sociological, psychological and vocational opportunities of the communication disordered. Management resources for the communication handicapped.
Prerequisite: CDS major, upper division standing, or instructor consent.
Normal Grade Rules
3 units

EDSP 111. Introduction to Phonetics
Principles of the International Phonetic Alphabet and their application.
Prerequisite: CDS major, upper division standing, or instructor consent.
Normal Grade Rules
3 units

EDSP 112. Principles of Assessment and Treatment in Communicative Disorders
Fundamental principles of assessment and treatment of communicative disorders.
Prerequisite: EDSP 102, 111, 113, or instructor consent.
Normal Grade Rules
3 units

EDSP 113. Speech Science
Analysis and measurement of the components and processes involved in the production and reception of speech.
Prerequisite: CDS major, upper division standing, or instructor consent.
Normal Grade Rules
3 units

EDSP 120. Communicative Disorders in Children
Etiology and remediation of communicative disorders in children.
Prerequisite: EDSP 102, 111, 113, or instructor consent.
Normal Grade Rules
3 units

EDSP 124. Assessment in Speech Pathology
Principles and practices of assessment of language, speech and communication disorders. Clinical procedures and theory in diagnostic evaluations.

Prerequisite: EDSE 102, EDSP 110, EDSP 111 or instructor consent.

Normal Grade Rules
3 units

EDSP 161. Normal Processes of Speech, Language and Hearing
Normal neuropsychological processes of swallowing, speech, language and hearing. Normal functioning of the nervous system in sensory, cognitive and motor processes.

Prerequisite: Upper division standing, EDSP 113 or instructor consent.

Normal Grade Rules
3 units

EDSP 162. Communicative Disorders in Adults
Etiology and remediation of communicative disorders in adults.

Prerequisite: EDSP 102, 111, 113, or instructor consent.

Normal Grade Rules
3 units

EDSP 176. Guided Professional Clinical Observations
Guided observation experiences in audiology and speech-language pathology; introduction to: clinical reasoning and clinical mindset; professional conduct; clinician-client interactions and perspectives; efficacy and evidence-based practice; inter-professional collaboration; effective oral, listening, nonverbal, and written clinical communication skills.

Prerequisite: EDSP 102, EDSP 111, EDSP 113

Normal Grade Rules
3 units

EDSP 177. Practicum in Speech Pathology
Supervised clinical experience with children and adults who have speech and language disorders.

Prerequisite: EDSP 112, EDSP 120 and EDSP 125 or instructor consent.

Credit / No Credit
1-3 units

EDSP 180. Individual Studies
Supervised study in specific fields of speech pathology.

Prerequisite: Upper division standing and area coordinator consent.

Repeatable for credit
Credit / No Credit
1-3 units

GRADUATE

EDSP 221. Research Seminar in Communicative Disorders
An overview of the theory, procedures, application and use of research in educational settings; assist in the study of a specific area of applied research from the current professional literature; and assist in the development of a specific research proposal.

Note: This course satisfies graduate-level GWAR in this master's program.

Normal Grade Rules
GE: GWAR
3 units

EDSP 222. School Age Language, Literacy, and Social Comm.
Explores and discusses connections between listening, speaking, reading and writing with applications in assessing and planning intervention programs for monolingual and bilingual individuals who have a developmental or acquired language-learning disabilities. Required for speech-language pathologists. Prerequisite: EDSP 251, EDSP 259, EDSP 262, EDSP 276 or instructor consent.

Repeatable for credit
Normal Grade Rules
3 units

EDSP 250. Seminar in Voice Disorders
Advanced discussion of human voice production, the perceptual, acoustic, and physiologic characteristics of voice disorders, and clinical implications, with hands-on learning of assessment methods and treatment of functional, organic, and neurological voice disorders across the lifespan.

Normal Grade Rules
3 units

EDSP 251. Seminar in Phonological Disorders
Establishes a level of advanced competency in the knowledge and understanding of phonology and phonological disorders: the procedures of analysis, the assessment of phonological disorders and the establishment of intervention strategies as a logical consequence of diagnostic findings.

Prerequisite: Graduate standing or instructor consent.

Normal Grade Rules
3 units

EDSP 252. Seminar Fluency Disorders
Examines the complex issues related to the clinical management of fluency disorders. Includes contemporary research on etiology, assessment methods and concerns, intervention approaches, interdisciplinary considerations, and technological advancements.

Prerequisite: Graduate standing or instructor consent.

Normal Grade Rules
3 units

EDSP 254. Seminar in Neurological Disorders
Provides an understanding of the neuropsychological, cognitive and linguistic correlates underlying adult neurological disorders. Assessment and treatment for a variety of disorders emphasized.

Prerequisite: Graduate standing or instructor consent.

Normal Grade Rules
3 units

EDSP 255. Seminar in Motor Speech Disorders
Provides an understanding of anatomy, physiology and neurology of motor speech disorders. Emphasis on assessment and treatment of apraxia and dysarthrias.

Prerequisite: Graduate standing or instructor consent.

Normal Grade Rules
3 units

EDSP 259. Seminar in Language Disorders in Children
Provides an understanding of the neuropsychological, cognitive and linguistic correlates of developmental language disorders which underlie the competencies to diagnose and provide treatment for children with language impairments.

Prerequisite: Graduate standing or instructor consent.

Normal Grade Rules
3 units

EDSP 260. Seminar in Dysphagia
A review of the anatomic, neurologic, physiologic, and behavioral correlates of normal and disordered swallowing across the life-span. Assessment and treatment of swallowing disorders will be emphasized in children and adults with genetic and acquired disorders.

Prerequisite: EDSP 254, 255, 265 or Instructor Consent.

Normal Grade Rules
3 units

EDSP 262. Speech and Language in a Cross-Cultural Society
Communication development and disorders in bilingual clients. Emphasis on the assessment of such disorders to the bilingual population.

Normal Grade Rules
3 units

EDSP 264. Contemporary Professional Issues
Organization and development of profit and nonprofit agencies that serve the communicatively impaired. Role and responsibilities of supervisors included.

Normal Grade Rules
3 units

EDSP 265. Seminar in Cognitive Disorders
Provides a framework for better understanding the process of cross-generational communication and the improvement of communication competencies for interaction with cognitively impaired persons.

Normal Grade Rules
3 units

EDSP 269. Field Experience in Public Schools - Speech Pathology and Audiology

Supervised teaching in speech pathology and audiology. Two hundred clock hours minimum requirement for credential as speech, language and hearing specialist.

Prerequisite: TB clearance, CPR, basic physical, Hep B

Normal Grade Rules
6 units

EDSP 276. Practicum in Advanced Assessment

Supervised clinical experience in assessment of a variety of speech/language disorders. Laboratory and classroom experience required.

Prerequisite: EDSP 124 and instructor consent.

Repeatable for credit
Normal Grade Rules
3 units

EDSP 277. Advanced Practicum-Speech Pathology

Working with children, adult, and group clients within a clinical practicum setting including preparing lesson plans, analyzing assessment results, developing and implementing therapy activities, collecting data, conducting client conferences and writing reports and home programs.

Prerequisite: Graduate standing and instructor consent.

Repeatable for credit
Normal Grade Rules
1-3 units

EDSP 278. Clinical Management and Practicum

Supervised clinical experience.

Prerequisite: EDSP 254, EDSP 255, EDSP 276, EDSP 277 and instructor consent.

Repeatable for credit
Credit / No Credit
6-10 units

EDSP 288. Seminar in AAC and Communication Disorders

Exploration of how augmentative and alternative communication is used for individuals with complex communication needs. The impact of cognition, educational, physical, psychosocial and linguistic aspects of behavior on AAC use, assessment, intervention and research will be explored.

Prerequisite: EDSP 255, graduate standing or instructor consent.

Normal Grade Rules
3 units

EDSP 298. Special Studies

Supervised study in a specific field of speech pathology.

Prerequisite: Instructor consent.

Repeatable for credit
Mandatory CR/NC/RP
1-3 units

EDSP 299. Master's Thesis

Supervised thesis work in the field of speech pathology.

Prerequisite: Instructor consent.

Repeatable for credit
Mandatory CR/NC/RP
1-4 units

SJSU SAN JOSÉ STATE UNIVERSITY

Academic Year 2019-2020

Course Descriptions

v1
July 1, 2019

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DESCRIPTION CONTENTS

Education - Counselor Education, Department of Courses

COUNSELOR EDUCATION

LOWER DIVISION

EDCO 004. Personal, Academic and Career Exploration

This course explores the concepts and applications of personal decision-making. Introduction to life-span development concepts through the use of self-assessment instruments and procedures. Orientation to San Jose State University. GE Area: E

Normal Grade Rules
GE: EE
3 units

EDCO 004FY. Personal, Academic and Career Exploration

This course explores the concepts and applications of personal decision-making. Introduction to life-span development concepts through the use of self-assessment instruments and procedures. Orientation to San Jose State University.

Misc/Lab: 2 hours lecture/ 2 hours Lab

Normal Grade Rules
GE: EE
3 units

EDCO 010. Adjunct Learning

Reading/writing/learning skills necessary for comprehension of textbooks and lectures in various disciplines; includes notetaking, exam preparation and library techniques. Not repeatable for graduation credit.

Repeatable for credit
Credit / No Credit
1-2 units

UPPER DIVISION

EDCO 180. Individual Studies

Supervised study in specific fields of counselor education not covered by other courses.

Prerequisite: Program director consent.

Repeatable for credit
Credit / No Credit
1-3 units

GRADUATE

EDCO 215. Introduction to Counseling and Guidance

Introduction to counseling and guidance research, theories, concepts, and competencies. Provides an overview of the related professional roles and settings.

Note: This course satisfies graduate-level GWAR in this master's program.

Normal Grade Rules
GE: GWAR
3 units

EDCO 218. Counseling Process & Techniques

Foundational course in individual and small group counseling process, skills, and techniques. Examines the characteristics of an effective counselor, the role of the counselor in the counseling process, and fundamental counseling microskills and techniques.

Normal Grade Rules
3 units

EDCO 219. Practicum in Guidance II

Provides for the expansion and extension of the skills with a focus on group systems communication. Media will be used to help students be aware of constructive and destructive elements of interpersonal functioning in group systems. Two intensive training weekends.

Repeatable for credit
Credit / No Credit
3 units

EDCO 221. Research in Counselor Education

Exploration of research and evaluation in education and counseling. Research procedures, forms of evaluation, and data collection and analysis techniques are examined. Coursework focuses on the conceptualization and development of a research proposal.

Prerequisite: EDCO 215

Normal Grade Rules
3 units

EDCO 227. School-Family-Community Collaboration

Exploration of the socio-cultural and psychological dynamics influencing home, school, and community relations. To provide knowledge to collaborate effectively with diverse families, communities, and school personnel to support students' learning, achievement, and psychological well-being.

Normal Grade Rules
3 units

EDCO 232. Law & Ethics in Counseling

Examination of the professional ethical standards guided by the American School Counselor Association (ASCA) and American Counseling Association (ACA) codes of ethics. To explore local, state and federal laws relating to youth and child welfare, adults, and families.

Normal Grade Rules
3 units

EDCO 244. Cultural Perspectives in Counseling

Exploring, identifying, and broadening personal perspectives, with an emphasis on culture and diversity in the context of counseling. Raising awareness regarding multicultural diversity and social justice issues.

Prerequisite: EDCO 215, 218, 232, 248

Normal Grade Rules
3 units

EDCO 248. Dynamics of Behavior and Development

Study of the dynamics of individual and group behavior over the lifespan. Specific study of selected personality and development theory and practices.

Normal Grade Rules
3 units

EDCO 266. Education and Career Planning

Study of theory and practice of educational and career planning. Includes sources, uses, evaluation and filing of educational and career information and procedures for working with both individuals and groups.

Note: This course satisfies graduate-level GWAR in this master's program.

Normal Grade Rules
GE: GWAR
3 units

EDCO 267. Practicum in Lifespan and Career Development

Practicum in lifespan development and career planning with emphasis on the development of applied skills in career counseling. May be repeated for credit when an alternate focus is shown in the Schedule of Classes.

Prerequisite: Core curriculum.

Repeatable for credit
Normal Grade Rules
1-3 units

EDCO 268. Lifespan Development

Examination of human development across the lifespan, through multiple theoretical and cultural perspectives, with a holistic integration of physical, cognitive, and socio-emotional aspects of development. To deepen knowledge to assist children, adolescents, and adults with life challenges.

Normal Grade Rules
3 units

EDCO 279. Advanced Group Process Theory and Practice

Focus on diverse theoretical approaches in group dynamics, group facilitation/leadership and the group as an instrument of learning within varying institutional settings.

Prerequisite: Core curriculum and instructor consent.

Normal Grade Rules
3 units

EDCO 280. Multicultural Counseling

Practical application of multicultural counseling theories and techniques. Examine and understand personal cultural perspectives; develop empathy and understanding of various community cultures.

Prerequisite: EDCO 215, 218, 232, 248, 266 and 244

Repeatable for credit
Normal Grade Rules
3 units

EDCO 282. Assessment for Counselors

Exploration of the assessment and diagnostic process, including differential diagnosis and use of diagnostic tools including the current edition of the Diagnostic and Statistical Manual. Discuss development of pathology; applicable for use within educational and counseling agency settings.

Prerequisite: EDCO 215, 218, 232, 248

Normal Grade Rules
3 units

EDCO 283. Advanced Educational Assessment

Concept and practice in uses of standardized evaluative instruments in school and community. Emphasis on generating curriculum and guidance hypotheses for groups.

Prerequisite: Core curriculum.

Normal Grade Rules
3 units

EDCO 285. Trauma Counseling & Crisis Intervention

Advanced seminar addressing cognitive, affective, behavioral, physiological, and interpersonal effects of trauma. To learn to assess and respond to crises as well as brief and long-term counseling interventions for individuals and groups in K-12, higher education, and agency settings.

Prerequisites: EDCO 215, 218, 232, 248, 266, 282

Normal Grade Rules
3 units

EDCO 286. Organizational Change and Development

Examination of organizational change within educational and community settings. To develop knowledge and increase skills in using institutional change strategies and innovations in various settings. Concepts and skills are applied through the design and planning of a change intervention.

Prerequisite: EDCO 215, 218, 232, 248, 266, and 282

Normal Grade Rules
3 units

EDCO 287. Comprehensive School Counseling Analysis

Examination of the planning, development, organization, and evaluation of comprehensive K-12 school counseling programs based on national standards. Coursework is designed to increase effective use of data and technology to promote students' academic, career, and personal/social development. Hybrid course format.

Prerequisite: EDCO 227

Normal Grade Rules
3 units

EDCO 288. Seminar in Counseling Theory and Practice

Assists students in the clarification of philosophical and psychological theory and develops a consistent individual and group counseling theory in relation to a defined lifestyle and the study of practice in school and agency settings.

Prerequisite: Core curriculum.

Corequisite: EDCO 280.

Note: This course satisfies graduate-level GWAR in this master's program.

Normal Grade Rules
GE: GWAR
3 units

EDCO 289. Seminar in Professional Counseling

A culminating seminar which emphasizes a critical review and critique of theory and research in application of human development specialties. May be repeated for credit when an alternate focus is shown in the Schedule of Classes.

Prerequisite: Instructor consent.

Repeatable for credit
Normal Grade Rules
3 units

EDCO 292. Supervised Experience in Counseling

Supervised field experience in guidance and counseling. Assignments to public schools or agencies.

Prerequisite: Core curriculum.

Repeatable for credit
Credit / No Credit
3-6 units

EDCO 293. Practicum in Child and Substance Abuse

A practicum in peer group systems and psychodrama counseling intervention for treatment of addiction, physical and sexual abuse, teen pregnancy and other at-risk groups. Required participation in a peer group counseling process.

Prerequisite: Instructor consent.

Repeatable for credit
Normal Grade Rules
3 units

EDCO 294. Practicum in Self-Development

Facilitates training in individual and group counseling methods, including transpersonal journal, psychodrama and peer group techniques.

Prerequisite: EDCO 218, EDCO 219 and instructor consent.

Repeatable for credit
Normal Grade Rules
3 units

EDCO 298. Special Studies in Counselor Education

Supervised study for master's degree counselor education candidates with a final course product that satisfies the department and university Plan B requirement.

Prerequisite: EDCO 215 and EDCO 221

Repeatable for credit
Mandatory CR/NC/RP
3 units

EDCO 299. Master's Thesis

Supervised thesis in the field of counseling and guidance.

Prerequisites: Advanced to candidacy, satisfactory completion of EDCO 221 & advisor/designated faculty consent

Repeatable for credit
Mandatory CR/NC/RP
3 units

Education - Ed.D. Educational Leadership Courses

EDUCATIONAL LEADERSHIP

EDD 501. Quantitative Analysis for Educational Research

Students will develop a comprehensive understanding of the statistical principles used in the description and analysis of data. Students will also learn how to conduct appropriate statistical analyses, interpret findings, and compose meaningful reports while examining how these skills can lead to being a more informed and involved educator.

Prerequisite: Acceptance into the Ed.D. Program

Normal Grade Rules
3 units

EDD 502. Qualitative Methods in Educational Research

Explores qualitative research approaches and methods including participant observation, interviews, ethnography, narrative and case study approaches; includes methods of data analysis such as discourse analysis, dialogic analysis, and visual analysis.

Prerequisite: Acceptance into the Ed.D. Program

Normal Grade Rules
3 units

EDD 510. Educational Leadership: Theory and Practice

This course presents an overview of the major concepts and theories that constitute the knowledge base in the leadership of education, including an examination of leadership theories from early models of hierarchical control to contemporary models of shared leadership and organizational transformation.

Prerequisite: Acceptance into the Ed.D. Program

Normal Grade Rules
3 units

EDD 511. Leadership for Learner Centered Organizations

Students will develop the knowledge and skills for examining, designing and implementing organizational, classroom, and training conditions that support quality learning experiences for individuals in the organization.

Prerequisite: Acceptance into the Ed.D. Program

Normal Grade Rules
3 units

EDD 512. Leadership, Complexity, and Systems Thinking

This course presents principles, theories, attributes related to individual leadership development. It includes concepts related to systems thinking that are critical to the long-term sustainability of your school, agency, or organization.

Prerequisite: Acceptance into the Ed.D. Program

Normal Grade Rules
3 units

EDD 515. Leadership, Diversity, and Culture: Family, School and Community Connections

Educational leadership and management issues related to an increasingly diverse student body in educational institutions. Reviews educational research, practice, theory and legal matters within local and global contexts. Students engage in activities and discussions focused on strategies utilized by social justice advocates that have the potential to improve educational experiences and opportunities in P-12 settings, and in university-school-community partnerships. Emphasis placed on the interaction between underrepresented segments of society and educational institutions with attention to varying cultural backgrounds, communication patterns, social networks, leadership and administrative styles.

Prerequisite: Acceptance into the Ed.D. Program

Normal Grade Rules
3 units

EDD 520. Organizational Behavior and Change in Education

This course seeks to interpret and analyze observed organizational processes, behavior, and potential solutions using theoretical insights. The course relies on seminar discussions, theory applications, and an organizational change design project and evaluation research design.

Prerequisite: Acceptance into the Ed.D. Program

Normal Grade Rules
3 units

EDD 522. Communication and Educational Leadership

This course analyzes popular narratives on education and practices persuasive, rhetorical strategies for using those narratives to shape public expectations of educators, students, and schools.

Prerequisite: Acceptance into the Ed.D. Program

Normal Grade Rules
3 units

EDD 525. District Office Administration: The Superintendency

An overview of the major concepts and theories that constitute the knowledge base in the superintendency, including public education governance, role characterizations and management responsibilities, the conditions of practice and contemporary challenges, the school organization, federal and state policy and superintendent-school board relations.

Prerequisite: Acceptance into the Ed.D. Program

Normal Grade Rules
3 units

EDD 530. Assessment, Testing and Evaluation: Contexts and Implications for School Reform

This course provides a historical, analytical and empirical framework for understanding assessment, testing and evaluation in K-12 education. The context aims at exploring the current national and state accountability policy regimes in the U.S. particularly those linked to the Common Core Standards movement.

Prerequisite: Acceptance into the Ed.D. Program

Normal Grade Rules
3 units

EDD 535. Education Policy, Resource Allocation and School Reform

This course is designed for students to develop understanding of education policy. The course explores the formation, design, and implementation of school reform efforts across different levels of educational system.

Prerequisite: Acceptance into the Ed.D. Program

Normal Grade Rules
3 units

EDD 536. The Politics of Education and Finance of Schooling

This course presents an overview of the major concepts and theories that constitute the knowledge base in the politics of education and finance of schooling.

Normal Grade Rules
3 units

EDD 540. Education and Leadership in Global Context: Globalization & Narrative Ethics

This course provides global perspectives on education and leadership in contemporary society with emphasis on social, political, and economic factors that affect access and equity and the role of leadership.

Normal Grade Rules
3 units

EDD 585. Field Experience: Global Context

Lectures, field visits, and extended study of education and leadership in global context

Mandatory CR/NC/RP
3 units

EDD 591A. Proseminar I: Introduction to Doctoral Studies in Educational Leadership

This course provides an orientation to the doctoral program in educational leadership, doctoral studies more generally, and an overall introduction to educational leadership studies. The seminar will discuss the skills and practices needed to be successful doctoral students, both as consumers and producers of research.

Credit / No Credit
3 units

EDD 591B. Proseminar II - Practitioner-Led Research

The course content focuses on practice-led research methods and the problems they are best suited to answer. In practice-led research, the primary focus of the research is to advance knowledge about practice, or to advance knowledge within practice.

Note: This course satisfies graduate-level GWAR in this master's program.

Normal Grade Rules
GE: GWAR
3 units

EDD 591C. Professional Seminar III: Structuring & Writing a High Quality Dissertation

The focus of the seminar is to facilitate the production of a high quality dissertation. Candidates will gain a deep understanding of the expectations of dissertation writing by examining published dissertations and considering relevant applications to their own dissertation writing.

Mandatory CR/NC/RP
3 units

EDD 599. Dissertation

Over the final year of the program, students must enroll in 12 units of dissertation credit. This course carries degree credits to recognize work done on the dissertation and is to be used on the candidacy form and to fulfill graduation requirements.

Prerequisite: Acceptance into the Ed.D. Program

Repeatable for credit
Mandatory CR/NC/RP
1-12 units

UPPER DIVISION

EDD 1290R. Culminating Experience Supervision

Continued work on dissertation or project.

Prerequisite: Outstanding RP grade in a preceding semester in a project or thesis class

Note: No Degree Credit.

No Degree Credit
1 unit

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DESCRIPTION CONTENTS

Education - Educational Leadership, Department of Courses

ADMINISTRATION AND HIGHER EDUCATION

UPPER DIVISION

EDAD 160. 1st Generation College Students Pathways

This course is designed to review and discuss research-based issues of educational equity and the experience of first-generation college students pathways to undergraduate and graduate school. Students will also have opportunities to engage research, theory, and practice through introductory approaches to qualitative research method called autoethnography.

Prerequisites: Passage of the Writing Skills Test (WST) or ENGL/100A with a C or better (C- not accepted), 100W is strongly recommended as a pre-requisite or co-requisite, Upper division standing, Completion of core general education

Normal Grade Rules
3 units

GRADUATE

EDAD 200. The School Manager

Management skills for leading effective school organizations. Present and emerging issues in our society and how they relate to schooling. Governance of education.

Prerequisite: Admission to Graduate Division.

Normal Grade Rules
3 units

EDAD 201. The School Leader

Leadership as principal and program administrator in a variety of settings. Promotion of successful learning. Instructional program administration. Personnel functions at school level. Group problem solving and decision-making.

Prerequisite: Admission to Graduate Division

Note: This course satisfies graduate-level GWAR in this master's program.

Normal Grade Rules
GE: GWAR
3 units

EDAD 202. The Educator

Curriculum development and implementation. Instructional program organization and improvement. Instructional program and curriculum evaluation. Characteristics of effective schools. Curriculum balance, integration and congruence.

Prerequisite: Admission to Graduate Division.

Repeatable for credit
Normal Grade Rules
3 units

EDAD 203. The School Human Resources Administrator

Certificated staff supervision and staff development. Organization development, staff motivation and personnel management functions at the district level.

Prerequisite: Admission to Graduate Division.

Normal Grade Rules
3 units

EDAD 204. School Fiscal and Legal Leadership

State and federal legal frameworks and landmark judicial decision in education. Application of constitutional, statutory, case and administrative law to school settings. Process of collective bargaining. Management of employee agreements. Sources of public school funding. School site budget development.

Prerequisite: EDAD 200 and admission to Graduate Division

Normal Grade Rules
3 units

EDAD 205. The School Leader in the Community

Mobilization of community and public agency resources. Response to cultural and socio-economic diversity in the community. Communication with the community.

Prerequisite: Admission to Graduate Division.

Normal Grade Rules
3 units

EDAD 206. Advocate for All Students

Administration of programs for handicapped, economically disadvantaged and other exceptional students. Needs assessment and goal setting. Preparation of proposals for competitive funding to foundations and public agencies.

Prerequisite: Admission to Graduate Division.

Normal Grade Rules
3 units

EDAD 221A. Research Seminar Ed Leadership

To provide an overview of the theory, procedures, application, and use of research in educational settings. To deepen your understanding of the ways that educational research can be brought to bear on the challenges of practice.

Normal Grade Rules
3 units

EDAD 221B. Research Seminar Ed Leadership: Methods

To provide an overview of theory, procedures, application, and research in educational settings. To assist in the study of a specific area of applied research from the current professional literature and in the development of a specific research proposal.

Prerequisite: EDAD 221A

Normal Grade Rules
3 units

EDAD 221C. Research Ed Leadership:Data Collection

To provide an overview of and support during data collection, data organization, and preliminary analyses of findings. To assist in the study of a specific area of applied research from the current professional literature to carry out a specific research project.

Prerequisites: EDAD 221A and EDAD 221B

Normal Grade Rules
3 units

EDAD 242A. Fieldwork:Effective Leadership

This fieldwork course focuses on dispositions of effective educational leadership and provides for the application of administrative skills in various educational settings in instructional leadership, school management, personnel management, and business management.

Prerequisite: Program director consent.

Repeatable for credit
Credit / No Credit
3 units

EDAD 242B. Fieldwork: Instructional Leadership

This fieldwork course focuses on dispositions of effective instructional leadership and provides for the application of administrative skills in various educational settings in instructional leadership, school management, personnel management, and business management.

Prerequisite: EDAD 242A

Repeatable for credit
Credit / No Credit
6 units

EDAD 242C. Fieldwork: Assessing Resources

This fieldwork course focuses on the application of administrative skills in various educational settings in instructional leadership, school management, personnel management, and business management. Leadership skills will be developed for the management of school change initiatives.

Prerequisite: EDAD 242A and EDAD 242B

Credit / No Credit
6 units

EDAD 242D. Fieldwork: Advocacy

This fieldwork course focuses on dispositions of critical leadership while advocating for all students and provides for the application of administrative skills in various educational settings in instructional leadership, school management, personnel management, and business management.

Prerequisite: EDAD 242A, EDAD 242B, and EDAD 242C

Credit / No Credit
6 units

EDAD 242H. Educational Field Work in Higher Education

Designed to provide opportunity for supervised field experience in administration in community colleges and universities.

Repeatable for credit
Credit / No Credit
3 units

EDAD 253. Seminar in Administration in Educational Settings

Analysis of practical problems in educational administration. Application of planning, evaluation and research methodologies to problems in education.

Prerequisite: Completion of all other courses in the administrative credential sequence and EDLD 221.

Repeatable for credit
Normal Grade Rules
3 units

EDAD 270. Administrative Assessment and Induction

Assessment activities for development of Professional Development Action Plan. Development of a plan with official district representative, student, mentor and university supervisor.

Prerequisite: Admission to Professional Services Credential Program.

Credit / No Credit
2 units

EDAD 275A. The Successful School

Based on problem approach to educational administration through exploration of essential questions dealing with leadership in successful schools. Challenged to answer questions/problems in a way that continues development as an educational leader. Challenged to raise questions/problems that you feel are essential.

Prerequisite: EDAD 270 and admission to Professional Services Credential Program.

Note: This course satisfies graduate-level GWAR in this master's program.

Normal Grade Rules
GE: GWAR
2 units

EDAD 275B. Improving Schools From Within and Without

One of the courses in the core program of the Professional Credential Program. Assessment and improvement of school level learning support systems; development, supervision and evaluation of certificated staff.

Prerequisite: EDAD 270 and admission to the Professional Services Credential Program.

Normal Grade Rules
6 units

EDAD 275C. Building Equity in Diverse Communities

One of the courses in the core program of the Professional Credential Program. Exploring leadership behaviors that maximize learning for all students.

Prerequisite: EDAD 270 and EDAD 275B.

Normal Grade Rules
2 units

EDAD 275D. Politics and Economics of Education

One of the courses in the core program of the Professional Credential Program. School, district, state and federal governance, and management. Private sector/public sector financial relationships and school/community pressure groups.

Prerequisite: EDAD 270 and admission to the Professional Services Credential Program.

Normal Grade Rules
2 units

EDAD 285A. Advanced Fieldwork/Peer Coaching/Mentoring

Supervised advanced field experiences for school administrators. Peer coaching skills are applied to specialization areas. May not be repeated in the same semester.

Prerequisite: EDAD 270, admission to Graduate Division and admission to the Professional Services Credential Program.

Repeatable for credit
Credit / No Credit
2-6 units

EDAD 298. Individualized Studies in Education

Supervised study in school administrations for both the Preliminary and Professional Services Credential Programs.

Prerequisite: Admission to Graduate Division; EDAD 200 or EDAD 270; advisor consent.

Repeatable for credit
Mandatory CR/NC/RP
1-4 units

SJSU SAN JOSÉ STATE UNIVERSITY

Academic Year 2019-2020

Course Descriptions

v1
July 1, 2019

ALL DATES, FEES & INFORMATION SUBJECT TO CHANGE WITHOUT NOTICE

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DESCRIPTION CONTENTS

Education - Special Education, Department of Courses

SPECIAL EDUCATION

LOWER DIVISION

EDSE 014A. American Sign Language I
Introductory course covering basic vocabulary and grammatical structures, appropriate cultural and linguistic behaviors within the deaf community and basic information about the deaf community.

Normal Grade Rules
3 units

EDSE 014B. American Sign Language II
Continuation of EDSE 14A. Covers additional basic vocabulary and grammatical structures, cultural and linguistic behaviors within the deaf community and information about the deaf community.

Prerequisite: EDSE 14A or instructor consent.

Normal Grade Rules
3 units

UPPER DIVISION

EDSE 102. Speech, Language & Typical, Atypical Dev
Developmental levels of speech, language, and communicative competence. Dialectal variations. Second language acquisition. Communication disorders. Language assessment and development. GE Area: S

Prerequisite: Upper Division Standing or Instructor Consent

Normal Grade Rules
GE: S
3 units

EDSE 104. Atypical Development in Young Children
Historical and philosophical background of intervention theories of learning related to young children with high risk development. Skills and techniques to promote optimal environments and appropriate methods for early intervention and stimulation of young children with special needs.

Prerequisite: CD 60 (or equivalent).

Normal Grade Rules
3 units

EDSE 105. Supervision Induction Plan Evaluation
Supervised observation, support and feedback for new special education teachers and evaluation of the induction plan.

Prerequisite: Department consent.

Repeatable for credit
Credit / No Credit
6 units

EDSE 105X. Intern Support Seminar
Discussion about challenging aspects of Interns' jobs and a focus on problem solving. Collaboration and effective practices for collaborative group work is addressed. Interns learn to collaboratively interact with others, and to provide support to each other.

Prerequisite(s): Enrollment in the Collaborative Intern Program and teaching with an Intern Credential.

Repeatable for credit
Credit / No Credit
1 unit

EDSE 108. Assessment and Evaluation: Atypical Young Children
Identification, description and assessment of atypical children ages birth through 8 years. Introduction to early intervention and collaboration.

Prerequisite: Department consent.

Normal Grade Rules
3 units

EDSE 110. Autism Spectrum Disorders
EDSE 110 provides an overview to autism spectrum disorders and examines theoretical foundations and applications of evidence-based best practices (EBPs) for students on the Autism Spectrum.

Prerequisite: Special Education Minor

Normal Grade Rules
3 units

EDSE 115. Introduction to Deaf Culture
This course is an introduction to the American Deaf Culture and provides a comprehensive analysis of how Deaf people are understood from a cultural perspective. The identities, contributions and experiences of Deaf people are explored in educational and linguistic context.

Prerequisite: EDSE 014A or EDSE 102

Normal Grade Rules
3 units

EDSE 124. Methodologies for Eng Learners w/ out Dis
Examines unique considerations and approaches to working with culturally and linguistically diverse students with special needs. Discussion and application course, emphasizing teaching and learning of language skills and content to English Learners (EL's) with and without disabilities. Focus on legislation requirements, strategies to deliver sheltered instruction, materials, and resources. Candidates become proficient in using the Sheltered Instruction Observation Protocol for English Language Learners. GE Area: V

Prerequisite: Upper Division Standing

Normal Grade Rules
GE: V
3 units

EDSE 154. Practicum and Student Teaching in Special Education
Field-based course to measure competency in a special education setting.

Prerequisite: Department consent.

Repeatable for credit
Credit / No Credit
6 units

EDSE 180. Individual Studies
Supervised study of a specific problem or topic.

Prerequisite: Upper division standing and instructor consent.

Repeatable for credit
Credit / No Credit
1-4 units

EDSE 192A. Including and Supporting Students
Preparation for teaching students with disabilities in general education; provides intervention strategies prior to referral for special education with policies and procedures regarding placement of and services for students with disabilities, either in special education or within an inclusive classroom.

Prerequisites: Department consent

Normal Grade Rules
3 units

GRADUATE

EDSE 206A. Assessment Strategies for M/S
Strategies for comprehensive assessment of students from diverse backgrounds and with a variety of language and cognitive skills for the purpose of making instructional decisions. Required field experiences and an emphasis on developing effective communication practices and collaborative partnerships.

Prerequisite: Department consent.

Normal Grade Rules
3 units

EDSE 209. Educating Students with Emotional Disorders
Identification of students with emotional disorders, effective models of instruction, educational theories, teaching strategies and positive behavior support.

Prerequisite: Department consent.

Corequisite: EDSE 105 or instructor consent.

Normal Grade Rules
3 units

EDSE 213A. Curriculum, Instruction and Transition
Exploration of instructional practices and current issues for students with moderate-severe disabilities and English Learners with moderate-severe disabilities. Curriculum design aligned with content standards that promote life skills and successful student transition into school and community settings.

Prerequisite: EDSE 206A and department consent.

Normal Grade Rules
3 units

EDSE 214A. Augmentative and Alternative Comm Strat

The use of augmentative and alternative communication (AAC) devices and strategies for assessisng and instructing individuals with complex communication needs in home, school, and community settings, and computer-based technology to facilitate the teaching and learning process.

Prerequisite: Department consent.

Normal Grade Rules
3 units

EDSE 215. Assessment And Evaluation of Individuals with Mild/Moderate Disabilities

Formal and non-formal evaluation methods to assess students with mild/moderate disabilities for first and second language learners. Includes standardized and alternative assessment, tools and practices, case studies, report development, and a comprehensive understanding of related research.

Prerequisite: Department consent.

Normal Grade Rules
3 units

EDSE 216A. Teaching Reading and Language Arts

Emphasis on socio-cultural propensities of diverse groups and theories of culturally relevant pedagogy and a model of teaching reading and writing that is based in scientific research.

Prerequisite: Department consent.

Normal Grade Rules
3 units

EDSE 217A. Directed Teaching I

Supervised teaching experience in educational settings for students with mild to moderate disabilities. Concurrent seminar.

Prerequisite: Department consent.

Credit / No Credit
6 units

EDSE 217B. Directed Teaching II

Supervised teaching experience in educational settings for students with mild to moderate disabilities. Concurrent seminar.

Prerequisite: Completion of prescribed credential program including EDSE 217A and departmental consent.

Credit / No Credit
6 units

EDSE 217D. Advanced Directed Teaching

Supervised teaching experience in educational settings for students with disabilities.

Prerequisite: Departmental consent.

Repeatable for credit
Credit / No Credit
3 units

EDSE 218A. ASD: Moderate to Severe Disabilities

Theoretical foundations and application of evidence-based best practices for students with ASD and M/S disabilities including social language interventions, social stories, integrated playgroups, positive behavior support, self-advocacy skills inclusive education, recreation and leisure, and special interventions for young children.

Prerequisite: Department consent.

Normal Grade Rules
3 units

EDSE 218B. ASD: Mild to Moderate Disabilities

Theoretical foundations and appication of evidence-based best practices for students with ASD and M/M disabilities including social language interventions, social stories, integrated playgroups, positive behavior support, self-advocacy skills, inclusive education, recreation and leisure, and special interventions for young children.

Prerequisite: Department consent.

Normal Grade Rules
3 units

EDSE 218C. ASD: Collaboration and Implementation of Best Practices

Focus on collaboration and understanding roles of service providers for students with autism spectrum disorders. Team work and strategies for working with educational professionals and parents or significant others in the life of the students with autism spectrum disorders.

Prerequisite: Department consent.

Normal Grade Rules
3 units

EDSE 220. Research Seminar on Exceptional Individuals

Applied research or projects in the field of special education.

Prerequisite: Department consent.

Normal Grade Rules
3 units

EDSE 221. Intervention for Young Children with Disabilities and Delays

Intervention strategies for young children with special needs; theory and design of content; linkage between assessment, intervention and evaluation; inclusion of motor, adaptive, cognitive communication and social skills development; attention to multicultural/linguistic considerations. When content changes may be repeated.

Prerequisite: Department consent.

Normal Grade Rules
3 units

EDSE 224. Methodologies for Second Language Learners in Special Education Programs

Examines the unique considerations, legislation, and approaches to working with culturally and linguistically diverse students with special education needs.

Prerequisite: Department consent.

Normal Grade Rules
1-3 units

EDSE 228A. Topics in Collaboration and Transition

Strategies for effective communication and collaboration practices with members of the various teams that plan and serve students receiving special education services. Emphasis in planning transitional life experiences across the lifespan.

Prerequisite: Department consent.

Normal Grade Rules
3 units

EDSE 230A. Curriculum and Instruction M/M

Focus on special education alignment with content standards, integrated curriculum design, information literacy, evidence-based practices for differentiated classroom instruction, multiple intelligences and modeling and integrating habits of mind.

Prerequisite: Department consent.

Normal Grade Rules
3 units

EDSE 231. Issues and Research in Special Education

Evaluation of research on characteristics and methods of identification of individuals with disabilities; including minority and underachieving students. Current funding issues, research models, research on individuals with disabilities and instructional organization are reviewed and analyzed.

Prerequisite: Department consent.

Repeatable for credit
Normal Grade Rules
3 units

EDSE 231X. Educational Research: Design and Implementation

EDSE 231X is a continuation of the process for the development of educational research, implementation of the study, and writing for the Masters of Arts project or thesis started in EDSE 231.

Prerequisites: EDSE 231 and EDSE 285.

Normal Grade Rules
3 units

EDSE 234. Advanced Fieldwork in Special Education

Application of knowledge and skills in classrooms. Examination of ethical practices, work with parents, challenges in application, and professional growth.

Prerequisite: Department consent.

Repeatable for credit
Credit / No Credit
6 units

EDSE 235A. Movement, Mobility, Sensory and Health

Identifies the special services available to students with moderate/severe disabilities and defines the implementation of these services in the school and community. The course will define the role, function and services provided by professionals available to meet the health care and educational needs of students with multiple disabilities. The course will also address appropriate assessment and referral practices for teachers, seizures protocols, basic first aid and universal precautions, medication administration, positioning and handling for students with severs disabilities and feeding techniques.

Prerequisite: Department consent.

Normal Grade Rules
3 units

EDSE 241. Emerging Technology for All Learners

Effective use of the computer to meet exceptional learning needs, including special education software evaluation, word processing for written language development, logo, individualized lessons with graphics and speech and database management for cognitive and language development.

Prerequisite: Department consent.

Repeatable for credit
Normal Grade Rules
3 units

EDSE 279. Managing Behavior and Emotional Problems of Students in Special Education

Introduction to the application of various management approaches to individual and group instruction of exceptional individuals.

Prerequisite: Department consent.

Repeatable for credit
Normal Grade Rules
3 units

EDSE 281. Student Teaching with Deaf and Hard of Hearing Students

Classroom teaching with hearing impaired students in an educational setting under supervision of the instructor.

Prerequisite: Department consent.

Repeatable for credit
Credit / No Credit
6 units

EDSE 285. Seminar on Issues Related to Teaching Exceptional Individuals

Issues, trends and research in educating handicapped students.

Prerequisite: Department consent.

Note: This course satisfies graduate-level GWAR in this master's program.

Repeatable for credit
Normal Grade Rules
GE: GWAR
3 units

EDSE 298. Special Studies

Supervised study in a specific field of special education; to be taken only with the consent of the division head.

Prerequisite: Department consent.

Repeatable for credit
Mandatory CR/NC/RP
1-3 units

EDSE 299. Master's Thesis

Supervised thesis in the field of special education, to be taken only with chair consent.

Prerequisite: Department consent.

Repeatable for credit
Mandatory CR/NC/RP
3 units

Education - Teacher Education, Department of Courses

ELEMENTARY EDUCATION

UPPER DIVISION

EDEL 102. Psychological Foundations of Education

Cognitive, affective and social/emotional development related to school settings. Theories of development, learning and instruction critically examined. Other topics include individual differences, measurement, evaluation, instructional goals, classroom management and diversity in the classroom.

Prerequisite: Upper division standing.

Normal Grade Rules
3 units

EDEL 103. Social-Multicultural Foundations of Education

Foundational preparation focused on implications of social, cultural, linguistic and economic diversity on teaching and learning. Emphasis on understanding the implications of history and social context on the educational endeavor in a pluralistic and democratic society.

Prerequisite: Upper division standing.

Normal Grade Rules
3 units

EDEL 108A. Curriculum: Reading/Language Arts

Elementary school language/literacy acquisition in culturally diverse classrooms; emphasis on listening, speaking, reading and writing within the context of theory and practice. May be repeated for different subtitle.

Prerequisite: Upper division standing.

Repeatable for credit
Normal Grade Rules
2-6 units

EDEL 108B. Curriculum: Science

Elementary school science curriculum and theoretical approaches; emphasis on materials, methods, content and evaluation procedures for teaching science in elementary and middle schools in a multicultural and technological society. May be repeated for different subtitle.

Prerequisite: Upper division standing.

Repeatable for credit
Normal Grade Rules
1-3 units

EDEL 108C. Curriculum: Social Studies

Elementary school social studies curriculum and instruction with emphasis on the influence of ethnic, linguistic, cultural, economic, gender and disability factors on present day culture.

Prerequisite: Upper division standing.

Repeatable for credit
Normal Grade Rules
1-3 units

EDEL 108D. Curriculum: Mathematics

Elementary school mathematics curriculum and methodology relationships between instructional materials and how children construct knowledge; the role of technology and issues that bear on the teaching of school mathematics. May be repeated for different subtitle.

Prerequisite: Upper division standing.

Repeatable for credit
Normal Grade Rules
1-3 units

EDEL 108E. Teaching Reading in Linguistically and Culturally Diverse Classrooms

Assessing and teaching reading in diverse classrooms in grades K-8. Integrates research, theory and practice. Requires some classroom observation and working in schools with K-8 students.

Prerequisite: LLD 108, ENGL 103 or LLD 107.

Note: Should be taken in final semester of undergraduate program.

Repeatable for credit
Normal Grade Rules
3 units

EDEL 143A. Beginning Student-Teaching (Phase I)

Role of state and local government in education. Clinical observation of classroom, school and district organization. Emphasis on lesson planning.

Prerequisite: Upper division standing.

Repeatable for credit
Credit / No Credit
1-6 units

EDEL 143B. Advanced Student-Teaching (Phase II)

Practicum in public school classrooms at two grade levels for student teaching experience; includes field and campus seminar. Supervision by College of Education faculty.

Prerequisite: EDEL 143A.

Repeatable for credit
Credit / No Credit
1-10 units

GRADUATE

EDEL 294. Research and Practices in Health and Special Education

Introduces students to issues in health and special education that are necessary for them to know and be able to meet their legal and professional responsibilities. The course includes identifying, referring, and supporting students who may be at risk of health problems and have special needs. Students will also learn about effective instruction in health and special education content and skill development and how to create and support a safe and healthy environment for learning for all students.

Prerequisite: Upper Division Standing

Normal Grade Rules
3 units

SECONDARY EDUCATION

UPPER DIVISION

EDSC 153. Student Teaching/Seminar for Interns

Third of three courses required of second year interns. Action research, peer observation, and self reflection serve as vehicles for examining how instructional design affects student outcomes in content literacy. Includes classroom observations and professional development activities.

Prerequisite: EDSC 152.

Credit / No Credit
2 units

EDSC 162. Language/Literacy Development of L2 Learners

Principles of language structure, variation, and usage. First and second language acquisition theories and application of teaching in diverse secondary classrooms. Social and psychological influences on linguistic behavior of students. Cultural and political issues affecting language attitudes.

Prerequisite: Program Director consent.

Normal Grade Rules
3 units

EDSC 172A. Social, Philosophical Multicultural Fdn

Social, cultural, historical and philosophical concepts in secondary teacher education: Application to problems of curriculum and instruction in multilingual, multicultural classrooms.

Prerequisite: Program director consent.

Normal Grade Rules
3 units

EDSC 173. Psychological Foundations of Secondary Teacher Education
Application of developmental cognitive and socio-cultural theories of adolescent psychology and culture as a rationale for teaching and learning.

Prerequisite: Program director consent.

Normal Grade Rules
3 units

EDSC 182. Assessment and Evaluation
Principles and practices of measurement and evaluation. Instructional objectives as criteria; construction, selection and use of evaluation instruments. Interpretation of data.

Prerequisite: Program director consent.

Normal Grade Rules
3 units

EDSC 184X. Student Teaching I
Supervised teaching of public middle or high school students. In-class experience ranging from observation to classroom teaching. Emphasis on application of theories examined in foundation courses.

Prerequisite: Program director consent.

Repeatable for credit
Credit / No Credit
2-6 units

EDSC 184Y. Student Teaching II
Minimum 80-120 class periods of classroom teaching in grades K-12. Related school activities.

Prerequisite: Joint approval of major advisor, program director and field placement coordinator.

Repeatable for credit
Credit / No Credit
2-6 units

EDSC 184Z. Student Teaching III
Minimum 80-120 class periods of classroom teaching in grades K-12. Related school activities.

Prerequisite: Joint approval of major advisor, program director and field placement coordinator.

Repeatable for credit
Credit / No Credit
1-6 units

GRADUATE

EDSC 200. Academic Writing Seminar for Professional Educators
This advanced writing seminar is designed to support COE students in their academic and professional writing. Students will receive support in the writing process and explicit instruction on the conventions of academic and professional writing via class sessions, regular individual conferences, and online dialogue.

Mandatory CR/NC/RP
3 units

EDSC 246. Learning Communities: Methods and Management
Examine factors that contribute to a healthy, inclusive, and collaborative classroom community. Through critical reflection on their field experiences, teacher credential candidates develop a broad view of classroom management, and develop their own approach to building a learning community.

Prerequisites: EDSC 184X.

Normal Grade Rules
3 units

TEACHER EDUCATION

UPPER DIVISION

EDTE 162. Meeting the Needs of Second Language Learners
Second Language acquisition theories and application of teaching in diverse secondary classrooms.

Prerequisite: Upper division standing.

Normal Grade Rules
3 units

EDTE 166. Pre-Professional Experience
Observation of learners; service as teacher assistants in public school classrooms; tutoring. May be repeated once.

Prerequisite: Upper division standing.

Repeatable for credit
Credit / No Credit
1-3 units

EDTE 180. Individual Studies
Supervised study in specific fields of elementary or secondary education not covered by offered courses.

Prerequisite: Division head consent.

Repeatable for credit
Credit / No Credit
1-3 units

EDTE 190. Health Education for the Classroom Teacher
Current problems of individual, family and community health. Theories, organization, methods and materials for teaching health education.

Prerequisite: Upper division standing.

Normal Grade Rules
3 units

GRADUATE

EDTE 201. Critical Issues in Education
A cross-disciplinary investigation of fundamental value issues of American education in a democratic society, considered in the context of the problems and prospects of world civilizations.

Normal Grade Rules
3 units

EDTE 208. Educational Sociology
Role of education in modern social, economic and political life. The school as institution. Problems in American life which affect and are affected by public schools.

Note: This course satisfies graduate-level GWAR in this master's program.

Normal Grade Rules
GE: GWAR
3 units

EDTE 210. Becoming a Reader at Any Age
Theory and practice of teaching beginning and struggling readers and writers, both native and nonnative English speakers.

Prerequisite: EDEL 108A or EDSC 138A.

Normal Grade Rules
3 units

EDTE 211. Developing Academic Language for Reading Across the Curriculum
Focus on comprehension across subject areas for first and second language learners: background knowledge, fluency, vocabulary, and metacognition.

Prerequisite: EDEL 108A or EDSC 138A.

Normal Grade Rules
3 units

EDTE 212. Leadership, Politics and Literacy Program Evaluation
Review of reading research, public policy and effective literacy programs for curriculum leaders.

Prerequisite: EDTE 216 and EDTE 217.

Notes: Open to MA candidates in Reading only.

Normal Grade Rules
3 units

EDTE 213. Multicultural Literature for Children and Young Adults
Literature for children and young adults that reflects diverse experiences and perspectives. Will address the role of this literature in classrooms.

Normal Grade Rules
3 units

EDTE 214. Learning in a High Tech Environment
Teaching and learning with high technology from student-centered perspectives. Lab activities, field observations and investigations in individual areas of specialization. Includes theory to practice, exploring new uses of technology, logistics, leadership roles. May not repeated in the same semester.

Prerequisite: EDIT 122 (or equivalent).

Repeatable for credit
Normal Grade Rules
3 units

EDTE 216. Ongoing Assessment in Your Classroom
Prevention and correction of reading/writing/language difficulties with emphasis on diagnosis and evaluation.

Prerequisite: EDEL 108A, EDSC 138A or instructor consent.

Normal Grade Rules
3 units

EDTE 217A. Reading Practicum I
For Reading/Language Arts Specialist Credential or Reading Certificate candidates. In a supervised after-school program, candidates work with struggling readers and implement effective ongoing assessment and instructional strategies to meet the needs of diverse struggling readers.

Prerequisites: EDTE 210, EDTE 211, EDTE 216, EDTE 292.

Misc/Lab: Lecture 2.5 hours/Activity 1.0 hours

Credit / No Credit
3 units

EDTE 217B. Reading Practicum 2
For Reading/Language Arts Specialist Credential or Reading Certificate candidates. In a supervised summer school program, candidates work with struggling readers and implement effective ongoing assessment and instructional strategies to meet the need of diverse struggling readers.

Prerequisites: EDTE 210, EDTE 211, EDTE 216, EDTE 292

Misc/Lab: 2.5 hour Seminar/1.0 hour activity

Credit / No Credit
3 units

EDTE 223. The Politics of Literacy
State, national and global decisions about literacy instruction and the impact on the profession.

Prerequisite: Teaching experience or English major.

Normal Grade Rules
3 units

EDTE 224. Seminar in Educational Psychology
Role of psychology in education. Contributions of educational research to current classroom practice and curriculum design. Applications of educational psychology research to current problems in education. Theoretical and practical approaches to understanding learning and teaching.

Prerequisite: EDSC 172A and EDEL 102.

Normal Grade Rules
3 units

EDTE 230. Mathematics: Teaching Common Core (K-3)
Course focuses on the mathematical knowledge for teaching K-3 Common Core content standards and mathematical practices within the domains of number, operations, and algebraic thinking. Additional emphasis on pedagogical strategies to foster motivation, engagement, and development of academic language.

Normal Grade Rules
3 units

EDTE 231. Math Seminar: Common Core (grades K-3)
Seminar focuses on implementation of Common Core standards and mathematical practices within teachers' specific curricular and school context. Emphasis on classroom implementation of high leverage mathematical practices within foundational K-3 content domains of number and operations, measurement, geometry, and data.

Normal Grade Rules
3 units

EDTE 232. Mathematics: Teaching Common Core (4-8)
Course focuses on mathematical knowledge for teaching 4th -8th grade Common Core content standards and mathematical practices within the domains of number, operations, proportional relationships, and algebra. Additional emphasis on strategies to foster motivation, engagement, and development of academic language.

Normal Grade Rules
3 units

EDTE 233. Math Seminar: Common Core (grades 4-8)
Seminar focuses on implementation of Common Core standards and mathematical practices within teachers' specific curricular and school context. Emphasis on classroom implementation of high leverage mathematical practices within foundational 4-8 content domains of algebraic thinking, measurement, geometry, statistics, and probability.

Normal Grade Rules
3 units

EDTE 242R. Field Experience - Reading/ Language Arts Specialist
Conducting reading/language arts assessments; designing, organizing and implementing reading programs; assisting teachers with reading programs.

Credit / No Credit
1-4 units

EDTE 244. Seminar in School Curriculum
Curriculum in the elementary and middle level school. Includes current issues and practices, curriculum planning and interrelation of theory and practice in elementary education curriculum.

Prerequisite: EDTE 208.

Normal Grade Rules
3 units

EDTE 246. Classroom Management and Governance
Study of theory, practice and research related to effective communication in bilingual/cross-cultural settings.

Prerequisite: EDEL 102, EDEL 103, EDSC 172A and EDSC 173, or instructor consent.

Normal Grade Rules
1-3 units

EDTE 247. Supervisory/Coaching Practices for Teacher Leaders
Development of coaching/supervisory behaviors which encourage the development of reflective practitioners. Includes understanding of principles and methods of observing teachers and children, and how to record, analyze and share data to best meet their needs.

Prerequisite: Two years of teaching experience.

Normal Grade Rules
3 units

EDTE 250. Qualitative Research in Education
The role of qualitative research in education and society. Historical theoretical groundings, ethical considerations, procedures in development and evaluation of research proposals, techniques of research data analysis.

Prerequisite: EDEL 221 or instructor consent.

Note: This course satisfies graduate-level GWAR in this master's program.

Normal Grade Rules
3 units

EDTE 260. Critical Perspectives on Schooling for a Pluralist Democracy
Critical study of theory, practice and research related to effective communication in cross-cultural, multilingual settings.

Prerequisite: EDEL 103.

Normal Grade Rules
3 units

EDTE 261. Cross-Cultural Communication for Teachers: Critical Studies in Language, Culture and Narrative
Study of cross-cultural communication for teachers with a focus on theory and practice related to language, culture and narrative in educational settings.

Prerequisite: EDTE 225 or instructor consent.

Normal Grade Rules
3 units

EDTE 262. Classroom Issues in the Language/ Literacy Development of L2 Learners
Theories of first and second language acquisition and their application to teaching reading, writing and SDAIE in linguistically diverse classrooms.

Prerequisite: EDEL 108A, EDSC 138A or instructor consent.

Normal Grade Rules
3 units

EDTE 281. Philosophy of Education
Critical philosophical issues as they bear on education in a democratic society.

Normal Grade Rules
3 units

EDTE 290C. Research on Literacy Across the Curriculum for an Equitable Society

Emphasis on research/teacher inquiry with attention to research designs and methods from various disciplinary perspectives for the study of literacy. An historical look at three additional program themes: Reading and Writing Across Cultures and the Curriculum; Second Language Learners; and The politics of Literacy.

Pre/Corequisite: EDTE 290A or EDTE 290B.

Note: This course satisfies graduate-level GWAR in this master's program.

Repeatable for credit
Normal Grade Rules
GE: GWAR
3 units

EDTE 292. Writing Across Cultures and the Curriculum

Research, theory and practice of writing development of instruction for native and nonnative English speakers. Emphasis on writing in an integrated curriculum.

Prerequisite: EDEL 108A or instructor consent.

Note: This course satisfies graduate-level GWAR in this master's program.

Normal Grade Rules
GE: GWAR
3 units

EDTE 298. Special Studies in Education

Supervised study in a specific educational field.

Prerequisite: Consent of program director.

Repeatable for credit
Mandatory CR/NC/RP
1-6 units

EDTE 299. Master's Thesis

Supervised thesis in the field of education.

Prerequisite: Admission to candidacy for the master's degree.

Repeatable for credit
Mandatory CR/NC/RP
1-6 units

UPPER DIVISION

EDTE 1290R. Culminating Experience Supervision

Continued work on thesis or project beyond minimum required units, for cases in which final deliverables are still in progress.

Prerequisite: RP grade in a preceding thesis or project semester.

Note: No Degree Credit.

Mandatory CR/NC/RP
1 unit

SJSU SAN JOSÉ STATE UNIVERSITY

Academic Year 2019-2020

Course Descriptions

v1
July 1, 2019

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DESCRIPTION CONTENTS

Electrical Engineering Department Courses

ELECTRICAL ENGINEERING

LOWER DIVISION

EE 030. Introduction to Programming Micro-Controllers for Electrical Engineering
Introduction to C language program development using an integrated development environment. Program development includes program design, development, debugging, testing and documentation. Electrical engineering application examples dealing with circuits, systems, data converters and signal processing concepts are used throughout the course.

Pre-requisite: ENGR 10

Misc/Lab: Lecture 3 hours/Lab 3 hours

Normal Grade Rules
3 units

EE 097. Introductory Electrical Engineering Laboratory
Basic instruments and experimental techniques in electrical engineering. Oscilloscopes, function generators, frequency counters and multiple-use meters. Measurements of voltage, current, frequency response, transient response and computer simulation of circuits.

Pre/Corequisite: EE 98. Allowed Declared Majors: Electrical Engineering, Computer Engineering, Chemical Engineering, Materials Engineering, Industrial and Systems Engineering.

Misc/Lab: Lab 3 hours.

Normal Grade Rules
1 unit

EE 098. Introduction to Circuit Analysis
Circuit laws and nomenclature, resistive circuits with DC sources, ideal operational amplifier, controlled sources, natural and complete response of simple circuits, steady-state sinusoidal analysis and power calculations.

Prerequisites: ENGR 10 and Phys 51 with a C or better. Allowed Declared Majors: Any Engineering.

Corequisite: MATH 133A or MATH 123.

Normal Grade Rules
3 units

EE 098H. Honors Introduction to Circuit Analysis
A project and design based approach to the introduction of circuit laws and analysis methods such as nodal analysis, superposition, equivalent circuits and phasor analysis for circuits involving RLC and operational amplifiers.

Prerequisite: ENGR 10 and Phys 51 with a B or better

Corequisite: Math 133A or Math 123

Normal Grade Rules
3 units

EE 098W. Introduction to Circuit Analysis Workshop
Workshop designed to help all students excel in EE98. Students work in groups on challenging circuit analysis problems to help them understand EE 98 concepts more deeply and lay the groundwork for success in engineering courses. Corequisite: EE 98 or EE 98H

Credit / No Credit
1 unit

UPPER DIVISION

EE 101. Circuits Concepts and Problem Solving
Development of skill and proficiency in solving electric circuit, calculus, and differential equation problems; techniques for analyzing DC circuits, AC circuits, and transients. Well prepared students should consider credit by examination for this course.

Prerequisite: EE 98 (with a grade of "C" or better).

Misc/Lab: Activity 2 hours.

Repeatable for credit
Credit / No Credit
1 unit

EE 102. Probability and Statistics in Electrical
Introduction to probability and statistical analysis for undergraduate EE students. Discrete probability theory, theory of single random variables, introduction to statistics and hypothesis testing, and EE applications.

Prerequisite: EE 112 with a grade of "C-" or better. Allowed Declared Major: Electrical Engineering.

Normal Grade Rules
3 units

EE 104. Numerical Methods in Electrical Engineering
Review of matrix algebra. Solution of linear, non-linear and ordinary differential equations. Interpolation and integration. Approximation of functions. Python programming in electrical engineering applications, which include signal analysis, neural networks, system modeling.

Prerequisite: EE110 and EE112 with a "C" or better

Normal Grade Rules
3 units

EE 106. Fundamentals of Mechatronics Engineering
See ME 106.

Normal Grade Rules
3 units

EE 110. Circuits and Systems
Continuous-time signals, circuits and systems. Impulse response and convolution. Laplace and Fourier transforms. Frequency response, transfer function, poles/zeros, filtering. Application to passive and active circuits, and to basic control, communications, and bio-systems.

Prerequisite: EE 098 and MATH 133A (with grade of "C" or better) and Satisfactory Score on the Circuit Concepts and Problem Solving Placement Exam. Allowed Declared Majors: Engineering, Computer Engineering, Electrical Engineering

Normal Grade Rules
3 units

EE 110L. Continuous and Discrete Time Systems Lab
Matlab, LTspice, and Ipython used to solve realistic continuous and discrete time signals, circuits and systems problems. Application to passive and active circuits, to basic control, communications, and bio systems.

Prerequisite: EE 098 and MATH 133A (with grade of "C" or better) and Satisfactory Score on the Circuit Concepts Placement exam.

Corequisite: EE110

Normal Grade Rules
1 unit

EE 110W. Circuits and Systems Workshop
Workshop designed to help all students excel in EE110. Students work in groups on challenging circuit analysis and systems problems to improve their understanding of concepts in EE110 and lay the groundwork for success in future EE courses. Prerequisite: EE98 and MATH 133A or MATH 123 with a C or better

Corequisite: EE110 and EE110L

Credit / No Credit
1 unit

EE 112. Introduction to Signal Processing
Introduction to discrete-time signal processing. Sampling and aliasing. Frequency response, transfer function, poles/zeros. Z-transform. FIR and IIR filtering. The four Fourier transforms. Computing spectra and spectrograms. Bio-systems, speech, music, image processing applications with Matlab.

Prerequisite: EE 098 and MATH 133A (with grade of "C" or better) and Satisfactory Score on the Circuit Concepts and Problem Solving Placement Exam. Allowed Declared Major: Electrical Engineering.

Normal Grade Rules
3 units

EE 118. Digital Logic Circuit Design

Fundamentals of digital logic design. Boolean logic, MUXes, DEMUXes, decoders, encoders, comparators, arithmetic blocks, flip-flops, counters, registers, RAMs/ROMs, PLDs and FPGAs. Design of a simple computer CPU. Schematic capture and Hardware Description Language (HDL), particularly, Verilog.

Prerequisite: EE98 and EE97 with a C or better. Allowed Declared Major: Electrical Engineering.

Misc/Lab: Lecture 3 hours/lab 3 hours.

Normal Grade Rules
4 units

EE 120. Microprocessor Based System Design

Advanced algorithmic processes using MSI and SSI integrated circuits. Organization and interface requirements for a microcomputer. Hardware-software tradeoffs in digital systems.

Prerequisite: EE 118 with grade of "C" or better. Allowed Declared Major: Electrical Engineering.

Misc/Lab: Lecture 3 hours/lab 3 hours.

Normal Grade Rules
4 units

EE 122. Electronic Design I

Design of circuits based on OPAMPS, diodes, MOSFETs and BJT's, as applied to the contemporary issues of biomedical devices and power generation (solar cell modules), and power usage. Electronic CAD tools (LTPSICE) will be used extensively, PCB board design.

Prerequisite: EE 110 with grade of "C" or better, EE 97. Allowed Declared Majors: Electrical Engineering, Computer Engineering.

Misc/Lab: Lecture 4 hours/lab 3 hours.

Normal Grade Rules
4 units

EE 124. Electronic Design II

Analysis and design of Analog integrated circuits using Bipolar and CMOS transistors. Topics include current sources, active loads, differential amplifiers, frequency response, frequency compensation, output stages, feedback amplifiers and operational amplifiers

Prerequisite: EE122 and EE128 with grade C or better. Allowed Declared Major: Electrical Engineering.

Misc/Lab: Lecture 3 hours/lab 3 hour.

Normal Grade Rules
4 units

EE 125. Analog CMOS Integrated Circuits

Analysis and design of analog CMOS integrated circuits. Voltage references, noise analysis, amplifiers and comparators, sample-and-hold circuits, switched-capacitor circuits and converters.

Prerequisite: EE 124.

Normal Grade Rules
3 units

EE 127. Electronics for Biomedical Applications

Study of the fundamental concepts of electrical circuits relevant to the use and design of biomedical instruments and devices currently used for patient care using several examples.

Prerequisite: EE 98 with C or better

Normal Grade Rules
3 units

EE 128. Physical Electronics

Review of semiconductor theory. Methods of device fabrication; p-n junctions; bipolar junction transistors; field-effect transistors (FETS); MOSFETs; and equivalent circuits.

Prerequisite: MATE 153 with a grade of "C" or better. Corerequisite: EE 122 . Allowed Declared Major: Electrical Engineering.

Misc/Lab: Lecture 3 hours.

Normal Grade Rules
3 units

EE 129. Introduction to Integrated Circuits Processing and Design

See MATE 129.

Normal Grade Rules
3 units

EE 130. Electric Machines and Drives

This course introduces the theory of operation and the control of electro-mechanical machines including DC machines, DC brushless machines, and AC synchronous machines and their electric drive systems. Applications include robotics, electric vehicle, and electric power generation.

Prerequisite: EE 110 and EE 112 (with grade of "C" or Better).

Misc/Lab: Lecture 3 hours.

Normal Grade Rules
3 units

EE 132. Theory of Automatic Controls

Theory of linear feedback control systems. Transfer functions and block diagrams; root-locus techniques; frequency analysis techniques; compensation; transducers and servo-system elements.

Prerequisite: EE 110 with a grade of "C" or better. EE 112. Allowed Declared Major: Electrical Engineering.

Normal Grade Rules
3 units

EE 134. Power Systems

Introduction to power systems including: complex power, power factor correction, power quality, power flow analysis, grid steady state and transient stability, fault analysis, integration of renewable energy, theory and modeling of transformers, transmission lines, and synchronous generators.

Prerequisites: EE 110 and EE 112 (with grade of "C" or better).

Normal Grade Rules
3 units

EE 135. Control and Electronics for Renewable Energy Systems

This course introduces control methodology and electrical systems commonly used in renewable energy systems including wind turbines and solar panels. Topics include control of turbine, generator, peak power tracking for solar panels, and power conversion circuits.

Prerequisites: EE 110 and EE 112 (with grade of "C" or better) or ME 147 (with grade of "C" or better).

Normal Grade Rules
3 units

EE 136. Semiconductor Power Electronics

Study of power electronic circuits and applications including switch-mode regulators, AC-DC, DC-DC and DC-AC conversion, uninterruptible power supplies, variable speed drives, active filtering and harmonic cancellation; laboratory demonstrations. Applications include electric vehicle propulsion and spacecraft power systems.

Prerequisite: EE 122 with grade C or better

Normal Grade Rules
3 units

EE 138. Embedded Control System Design

Introduction to designing microcontroller-based embedded control systems using C programs to control input/output peripherals including general purpose I/Os, state machines, analog interfaces, pulse width modulation, digital filter implementation, design of control systems for motor, and interrupt concept.

Prerequisite: EE 112, EE 120 both with a C or better.

Normal Grade Rules
3 units

EE 140. Principles of Electromagnetic Fields

Static electromagnetic fields and waves using vector calculus methods. Development of Maxwell's Equations. Dynamic effect of time varying electromagnetic fields and its applications.

Prerequisites: EE 98, PHYS 52, MATH 133A or MATH 123 (all with a C or better). Allowed Declared Major: Electrical Engineering.

Normal Grade Rules
3 units

EE 153. Introduction to Digital Signal Processing

Digital signal processing fundamentals, discrete system theory, convolution, DFT, and design of IIR and FIR filters. MATLAB based lab exercises are used for verification of DSP principles, signal analysis, and design of filters for audio signals.

Prerequisite: EE 112.

Normal Grade Rules
3 units

EE 160. Principles of Communication Systems

Introduction to communication systems. Harmonics for analysis of amplifiers and amplitude modulators. Sampling and its application to frequency shifting. Communication receiver architectures: Direct-conversion and heterodyne. Amplitude modulators and demodulators. Basic binary modulation techniques.

Prerequisite: EE 112 with grade of 'C' or better.

Misc/Lab: Lecture 2 hours/lab 3 hours.

Normal Grade Rules
3 units

EE 161. Digital Communication Systems

Introduction to communication systems and noise. Binary communication systems. Pulse amplitude modulation. Digital modulation of amplitude, phase and frequency of a carrier signal. Modulation and signaling for wireless communication channels. Digital wireless communication using multiple antennas.

Prerequisite: EE 102, EE 112. Allowed Declared Major: Electrical Engineering.

Normal Grade Rules
3 units

EE 165. Photovoltaic Fabrication/Testing Lab

See MATE 165.

Normal Grade Rules
1 unit

EE 166. Design of CMOS Digital Integrated Circuits

Analysis and design of MOS based combinational sequential digital integrated circuits. Industry standard CAD tools (Cadence) will be used extensively in homework and a group final project.

Prerequisite: EE 128. Allowed Declared Major: Electrical Engineering.

Normal Grade Rules
3 units

EE 168. Microfluid Fabrication and Design

See ME 168.

Normal Grade Rules
1 unit

EE 169. Microelectromechanical Systems Fabrication and Design

See ME 169.

Normal Grade Rules
1 unit

EE 172. Introduction to Microwave Engineering

Topics in Microwave Engineering: Standard RF measurements, waveguide resonator and antenna. Transmission line theory, impedance matching, and design approach of selected microwave components. Emphasis will be on the fundamental principles and industrial practice of the designs. Commercial CAD tools.

Prerequisites: EE 98, Phys 52, Math 133A or Math 123 (all with a C or better).

Corequisite: EE 140.

Normal Grade Rules
3 units

EE 174. Analog Peripheral for Embedded Systems

Introduction to analog peripherals for embedded systems such as ADC/DAC, DC-DC Converters, Energy harvesting and solar cells, near field communication, RF-IDs, phase lock loops, clock generators, displays and touch screens. Industry based projects and applications are integral to the course.

Prerequisite: EE110 and EE112 with C grade or better. Allowed Declared Major: Electrical Engineering.

Normal Grade Rules
3 units

EE 176. Computer Organization

Design of instruction sets, addressing modes and memory management. Data and control paths of the CPU. Microprogramming. Arithmetic units and I/O organization.

Prerequisite: EE 120.

Normal Grade Rules
3 units

EE 178. Digital Design with FPGAs

Advanced Digital Design Technologies as they relate to synchronous digital systems. Requires student design projects that deal with the use of CAD tools for the Design, Simulation, and Implementation of Systems with FPGAs.

Prerequisite: EE 118.

Normal Grade Rules
3 units

EE 180. Individual Studies

Individual work on special topics arranged by the student and faculty mentor. Enrollment is handled by the EE department office. A completed and approved application is required.

Prerequisite: BS in Electrical Engineering Senior in good standing. Allowed Declared Major: Electrical Engineering. Not available to Open University Students.

Repeatable for credit
Credit / No Credit
1-3 units

EE 181. Fundamentals of Internetworking

Data communication concepts, protocols, algorithms; 7-layer OSI reference model and implementations; physical media (fiber, wire); switching systems; LAN architectures and components, Ethernet, FDDI, TCP/IP, and related standards.

Prerequisite: EE 118.

Normal Grade Rules
3 units

EE 189. Special Topics in Electrical Engineering

Advanced topics in Electrical Engineering. Content varies from semester to semester.

Prerequisite: Instructor consent/senior standing.

Repeatable for credit
Normal Grade Rules
3 units

EE 197. Cooperative Education Project

See ENGR 197.

Normal Grade Rules
3 units

EE 198A. Senior Design Project I

Team design project proposal, business plan, oral design presentations of the initial phases of the design project, a written and oral defense of the proposed design project. Global and social issues in engineering. Individual written reports on professional development plans. GE Area: S when taken as part of EE major sequence.

Prerequisite: EE Senior in good standing in Major, ENGR 100W (with grade of "C" or better), EE120, EE122, and EE128 (with grades of "C-" or better).

Corequisite: ENGR 195A

Misc/Lab: Lab 3 hours

Note: Meets GE Areas S and V when course is taken in combination with: EE 198B, ENGR 195A and ENGR 195B

Normal Grade Rules
GE: S
1 unit

EE 198B. Senior Design Project II

Implementation of group design projects initiated in EE 198A. Group oral and written reports. Integrate global and social issues in engineering. GE Area: V when taken as part of the EE Major sequence

Prerequisite: EE 198A (with grade of "C" or better), Senior EE student in good standing.

Corequisite: ENGR 195B

Misc/Lab: Lab 9 hours.

Note: Meets GE Areas S and V when course is taken in combination with: EE 198A, ENGR 195A and ENGR 195B

Normal Grade Rules
GE: V
3 units

GRADUATE

EE 209. Network Security

See CMPE 209.

Normal Grade Rules
3 units

EE 210. Linear System Theory

Comprehensive overview of signals and linear systems with discrete-time emphasis. System attributes. Fourier transform families and properties. Convolution and correlation. The 2-sided z-transform. FIR and IIR filters analysis and realizations. State variable modeling. Sampling, filtering, and other applications. Computer simulations.

Prerequisite: Graduate standing.

Normal Grade Rules
3 units

EE 220. Radio Frequency Integrated Circuit Design I (RFIC Design I)
Study of transmitter and receiver architectures and their building blocks for modern wireless communication standards, high frequency modeling of passive and active circuit components realized in CMOS and BiCMOS technologies, networks theory, wideband matching, nonlinearity and noise link budgets.

Prerequisite: EE 124 or instructor consent.

Normal Grade Rules
3 units

EE 221. Semiconductor Devices I
Study of semiconductors in equilibrium and nonequilibrium conditions; principles of semiconductor device fabrication, p-n junctions; and junction transistors; device modeling for circuit analysis.

Prerequisite: Graduate standing.

Normal Grade Rules
3 units

EE 222. Semiconductor Devices II
Continuation of EE 221. MOS devices; short channel effects; device scaling; NMOS, CMOS and BiCMOS technologies; device modeling and simulation, memory cell design. Optoelectronic and microwave devices.

Normal Grade Rules
3 units

EE 223. Analog Integrated Circuits
Introduction to analog integrated circuits. Bipolar and MOS transistor models. Analysis and design of monolithic operational amplifiers. Frequency response. Feedback amplifier theory and design. Applications to specific case studies, such as phase-locked oscillators and wide-band amplifiers. Switched-capacitor filters.

Prerequisite: Graduate standing or instructor consent.

Normal Grade Rules
3 units

EE 224. High Speed CMOS Circuits
Analysis and design of digital integrated circuits; bipolar and MOS inverters and logic gates; semiconductor memories; gate arrays; standard cells; programmable logic array; computer-aided design; SPICE program is used extensively.

Prerequisite: Graduate standing or instructor consent.

Normal Grade Rules
3 units

EE 224B. Advanced High Speed CMOS Circuits
EE224B covers advanced high speed CMOS design circuit design and challenges. The course will focus on design of advanced circuits such as arithmetic circuits, memory. Overall concepts will be tied together by a design project. Team work will be stressed.

Prerequisite: EE 224

Normal Grade Rules
3 units

EE 225. Introduction to Quantum Computing
Hardware implementation and algorithms for quantum computing. Essential quantum mechanics including Bra-Ket notation, spins, Hilbert Space, Simple Harmonic Oscillator, Block Sphere, Tensor Product, Density Operator. Implementation of Qubits including electron spins in quantum dots and Josephson junction. Qubits such as topological insulator, trapped ion and defect centers. Quantum gates, logics, circuits, and representative quantum computing algorithms (Deutsch's, Grove's and Shor's). Error correction. Quantum computing simulation and experiment through IBM Q Experience.

Prerequisite: EE 221 or instructor consent

Normal Grade Rules
3 units

EE 227. Signal Integrity in AMS IC
This course studies essential blocks for wire-line communication integrated circuits such as analog equalizer circuits, Decision-Feedback Equalization (DFE), Phase Looked Loop (PLL) and Clock and Data Recovery (CDR) circuits. True understanding of system level modeling and behavioral of the PLL will be discussed. Matlab/Simulink Modeling techniques will be introduced as new vehicle for system level design and simulation. Performance metrics, such as random jitter, BER, jitter transfer, jitter tolerance, phase noise, will be introduced. Integrated circuit design consideration for the key essential blocks for PLL and equalizer block will be covered.

Prerequisite: EE 221.

Normal Grade Rules
3 units

EE 230. Radio Frequency Integrated Circuit Design II
Low noise amplifiers, mixers, power amplifiers, LC voltage controlled oscillators, phase shifters, patch antennas and advanced layout to improve noise, stability, efficiency and bandwidth performance of nanoscale CMOS integrated circuits.

Prerequisite: EE 220 or instructor consent.

Normal Grade Rules
3 units

EE 231. Automatic Control Theory
Fundamentals of state space techniques in the analysis and synthesis of dynamic control systems; relationship to classical control theory via the Laplace transform; controllability; observability; performance indices discrete systems; introduction to optimal control and Kalman filtering.

Prerequisite: EE 132.

Normal Grade Rules
3 units

EE 237. Vector Control of AC Machines
This course introduces modeling and control of electrical drive for AC motors and generators including induction, permanent magnet, and synchronous machines. The dynamic model, control methods, current regulation, and space vector modulation are discussed by both analysis and computer simulation.

Prerequisites: EE 210

Normal Grade Rules
3 units

EE 238. Advanced Power Electronics
Adv. study of switching regulators in power management, including energy conversion topologies, state space averaging techniques, assessing voltage mode/current mode control to embedded hardware. Applications include photo-voltaic /solar grid-tied inverters, active power factor correction, analysis, computer simulation.

Prerequisite: Graduate Standing

Normal Grade Rules
3 units

EE 239. Selected Topics in Systems and Control
Critical analysis of current literature pertinent to control systems.

Prerequisite: EE 231 and instructor consent.

Normal Grade Rules
3 units

EE 241. Fundamental of Signal Integrity
EE241 aims to introduce the essential knowledge on signal integrity. The course covers transmission line theory, channel loss, coupling, signal lunch and termination, timing issues on clock distribution and EDA tools usage for modeling and analysis of signal integrity in a system.

Normal Grade Rules
3 units

EE 242. Embedded Hardware Design
See CMPE 242.

Normal Grade Rules
3 units

EE 249. Integrated Circuits for Biomedical Application
EE249 aims to introduce the essential knowledge and techniques for designing integrated circuits for biomedical applications. An introduction to the deep-submicron effects and noise in transistors, the principles for designing low-power, low-noise electronics and RF/ inductive coupling links will be discussed.

Prerequisite: EE 223

Normal Grade Rules
3 units

EE 250. Probabilities, Random Variables and Stochastic Processes
Random variables, random processes, power spectral density, optimum linear systems, queuing theory.

Prerequisite: Graduate standing.

Normal Grade Rules
3 units

EE 251. Digital Communication Systems

Review of random processes. Gaussian noise. Sampling, quantization and pulse transmission. Bandlimited channels and equalization. Signal space analysis. Digital modulation techniques. Tradeoffs between power and transmission rate.

Prerequisite: EE 250.

Normal Grade Rules
3 units

EE 252. Advanced Communication Systems

Digital modulation techniques for power and bandwidth limited communication systems. Offset QPSK, GMSK, noncoherent modulation and detection. Multipath fading channels, diversity and combining methods.

Prerequisite: EE 250

Normal Grade Rules
3 units

EE 253. Digital Signal Processing

DSP systems analysis and design. Spectral analysis and spectrograms. FIR and IIR digital filters. Quantization effects. Decimation, interpolation, and sample rate conversion. Perfect reconstruction filter banks. The discrete wavelet transform and applications. Computer implementations.

Prerequisite: Graduate standing or instructor consent

Normal Grade Rules
3 units

EE 254. Adaptive Signal Processing

Random signals analysis. Optimal Wiener filtering. Adaptive LMS and RLS algorithms and variants. Application to noise cancellation, interference cancellation, system identification, channel equalization, array processing, among others. Linear prediction and speech coding. Lattice filters implementation. Classical and model-based spectral estimation.

Prerequisite: EE 250 and EE 253.

Normal Grade Rules
3 units

EE 255. Wireless/Mobile Communications

Cellular mobile radio systems, propagation models, multipath propagation effects, diversity and combining noise, and interference are discussed. Analog and digital modulation techniques and their performance measures multiple access techniques such as FDMA, TDMA and CDMA are discussed.

Prerequisite: Instructor Consent

Normal Grade Rules
3 units

EE 256. Programmable DSP Architectures and Applications

Implementations of DSP algorithms using programmable DSP architectures. Internal architectural requirements for a DSP device, system level hardware/software design and applications of programmable DSP architectures.

Prerequisite: EE 210.

Normal Grade Rules
3 units

EE 257. Machine Learning for ElectricalEngineers

Introduction to machine learning for electrical engineers. Course covers statistical models for data analysis, inference, and prediction. Case studies and projects related to applications in Electrical Engineering.

Normal Grade Rules
3 units

EE 258. Neural Networks

Fundamentals and applications of neural networks and learning processes. Course covers models of a neuron, perceptrons, Linear Mean Square (LMS) algorithm, multilayer perceptrons, back propagation algorithm, and radial basis function networks. Deep feedforward networks, regularization for deep learning, and optimization for deep models. Convolutional neural networks. Recurrent and recursive networks.

Prerequisite: Graduate standing or instructor consent. Allowed Declared Major: Electrical Engineering.

Normal Grade Rules
3 units

EE 259. Selected Topics in Signal Processing

Advanced topics in signal processing. Content varies from semester to semester.

Prerequisite: Instructor consent.

Normal Grade Rules
3 units

EE 260. RFID Systems

This course gives an introduction to RFID systems. Emphasis is on RFID technology applications in biomedical devices, object tracking and identification. Complemented with practical laboratory experiments. A final project (written report and oral presentation) covers RFID applications in a topic of interest to the student.

Prerequisite: EE 251 or instructor consent.

Normal Grade Rules
3 units

EE 261. Acq. & Analysis of Biomedical Imaging

Study of the image acquisition physics and analysis concepts of biomedical imaging systems like X-Ray, MRI, Ultrasound etc. currently used for patient care in diagnosing various disease conditions.

Prerequisites: EE 210 or equivalent.

Normal Grade Rules
3 units

EE 263. Digital Image Processing

Fundamental principles and algorithms for digital image processing. Topics include image formation, modeling, transforms, enhancement, compression, segmentation, representation, feature extraction, and object recognition. Introduction to imaging system hardware components and architectures.

Prerequisite: EE 210.

Normal Grade Rules
3 units

EE 265. Software-Defined Radio Communications

Experimental approach to designing and building wireless communications. Topics include analog/digital transmission, ADC/DAC, and wireless channel modeling. Students are exposed to MATLAB, software defined radios (USRP boards), GNU Radio, GRC (GNU Radio Companion) in homework assignments and projects.

Prerequisite: EE 210 or instructor consent.

Normal Grade Rules
3 units

EE 270. Advanced Logic Design

Logic design theory, advanced logic minimization, design and analysis of sequential circuits, asynchronous circuit design, logic circuit testing and design for testability. Review Verilog/VHDL. CAD tools are used for design, modeling and simulation.

Prerequisite: Graduate standing.

Normal Grade Rules
3 units

EE 271. Digital System Design and Synthesis

In depth study of concepts and practices in modern digital system design, such as high-speed arithmetic, cache memory design, advanced pipelining and processor design. Verilog or VHDL is used for simulation and synthesis.

Prerequisite: EE 270.

Normal Grade Rules
3 units

EE 272. SoC Design & Verifi. with System Verilog

The course covers topics in System-on-Chip design and verification with SystemVerilog. Major topics include top-down SoC design; design metrics, techniques, and system-level synthesis; IP integration and system-level verification; SystemVerilog design hierarchy, data types, assertions, interfaces, verification constructs, and testbench structures.

Prerequisite: EE 271 or instructor consent.

Normal Grade Rules
3 units

EE 273. Logic Verification with UVM

EE273 covers non-design System Verilog and Universal Verification Methodology (UVM). It introduces logic verification methodologies and techniques. No prior object oriented programming is assumed. UVM is practiced on sample designs in lab projects with industrial simulation tools.

Normal Grade Rules
3 units

EE 275. Advanced Computer Architectures

Performance metrics, instruction set architectures, instruction pipelining and pipeline hazards, instruction-level parallelism, multithreading, cache and virtual memory, I/O performance and advanced topics in storage systems, topologies and hardware/software issues of interconnection networks.

Prerequisite: EE 270 or EE271.

Normal Grade Rules
3 units

EE 276. Parallel Computer Systems

Advanced concepts in parallel computer architectures and algorithms. Cache memory for multiprocessor systems, multistage networks, pipelined vector processors, massive parallel processors, systolic arrays and array processors, parallel processing algorithms and time complexity analyses. Design project.

Prerequisite: EE 270.

Normal Grade Rules
3 units

EE 276B. Multi-core Architectures

Topics cover various areas of parallel computation including performance metrics, shared memory computer, snoop-based multiprocessor design, directory-based cache coherence, multiple level cache, multi-core architecture symmetric and asymmetric. The commercial multi-core architectures and multi-core programming will also be addressed in this course. There will be a term project be developed and presented by students on selected topics.

Prerequisites: EE275 or Lecturer Consent

Normal Grade Rules
3 units

EE 277A. Embedded SoC Design

Embedded system design challenge and metrics. Processor and compiler technologies. Software and hardware architectures for embedded system design. The design of co-processors, parallel processors, graphics processors and MPSOC processors. Basic concept of high performance computing (HPC)

Prerequisite: EE 210

Normal Grade Rules
3 units

EE 278. Digital Design for AI and DSP

Digital design and FPGA/ASIC/VLSI-based implementation of high-performance DSP/AI/Machine Learning systems. FPGA and GPU architectures, various deep neural network design examples of video/imaging/speech and AI/machine learning include applications to object recognition for autonomous vehicles and speech recognition.

Prerequisite: EE 270 or EE 271

Normal Grade Rules
3 units

EE 279. Special Topics in Digital Systems

Advanced topics in digital systems. Content varies from semester to semester.

Prerequisite: Instructor consent.

Repeatable for credit
Normal Grade Rules
3 units

EE 281. Internetworking

Network layers, packet networks, ATM, SONET, TCP/IP protocols, high-performance switches and routers, queuing theory, error detection coding, quality of service, multicast, IPv6.

Prerequisite: EE 250 or equivalent. Allowed Declared Major: Electrical Engineering.

Normal Grade Rules
3 units

EE 283. Broadband Communication Networking

Broadband Networks Overview, Tunneling, VPNs, and Multi-Protocol Label Switching (MPLS); All-Optical Networks, Architecture of High-Speed Switches and Routers, Data Center Networks, Network Virtualization, Software-Defined Networking (SDN), Packet Delay and Network Queueing Models, and Quality of Service.

Prerequisite: EE 281 or equivelant

Normal Grade Rules
3 units

EE 284. VoIP and Multimedia Networks

Public-Switched Telephone Network and SS7 Protocol, Voice over IP (VoIP) Signaling Protocols, H.323, Session Initiation Protocol (SIP), Internetworking VoIP, Regular, and Wireless Cellular Networks, Media Gateways, Media Preparation and Compression, Codecs, Multimedia Networks, IPTV, VoD, Content Delivery Networks (CDNs).

Prerequisite: EE 281 or equivalent

Normal Grade Rules
3 units

EE 286. Mobile and Wireless Networking

This course covers recent and upcoming networking topics on mobile and wireless scenarios and applications. The course focuses on mobile and wireless network standards including cellular (LTE), Wi-Fi, Bluetooth, and routing algorithms including DSDV, DSR, TORA, and AODV.

Prerequisite: EE 250

Normal Grade Rules
3 units

EE 287. ASIC CMOS Design

CMOS ASIC design principles. Topics include ASIC architectures, cell libraries, synthesis issues, latches, clocking multiple clock synchronizers, delay calculation, timing closure, I/O specification, and testing.

Prerequisite: EE 271 or Instructor consent.

Normal Grade Rules
3 units

EE 288. Data Conversions/Analog Mixed Signal ICs

Study of different architectures for analog to digital convertors and digital to analog convertors. System level modeling & simulation. Design considerations and techniques for circuit implementation. Data conversion testing methods.

Prerequisites: EE 221

Normal Grade Rules
3 units

EE 289. Special Topics in Networking

Advanced topics in networking that are currently of high interest to both industry and academia. Content varies from semester to semester, and may include, but not limited to, network security, virtual private network, network availability and reliability, network management.

Repeatable for credit
Normal Grade Rules
3 units

EE 295. Technical Writing - Engineering Ethics

Students learn to analyze and write about issues in engineering ethics. Three types of ethics are explored: ethics of the person, the process, and the product.

Prerequisite: Graduate standing.

Note: This course satisfies graduate-level GWAR in this master's program.

Normal Grade Rules
GE: GWAR
3 units

EE 296A. ES-level and Physical-level Design

Electronic System Level (ESL) Description of Systems using SystemC/OpenCL, High Level Synthesis from ESL Languages, Physical design and verification, Floorplanning, Placement, Routing, Power Analysis, Signal Integrity Analysis, ESL simulations and automate physical design tasks

Prerequisite: Graduate Standing

Normal Grade Rules
3 units

EE 297A. MSEE Project Proposal

Written project proposal development for MSEE research/design project, subsequently culminating in EE 297B or EE 299B. An approved application for EE 297A registration including project title and abstract and graduate seminar participation required.

Prerequisites: Classified Standing, GPA of at least 3. 3 or GPA of at least 3. 0 and graduate coordinator consent, satisfied GWAR requirement or EE295 may be taken concurrently. Misc/Lab: 9 hours lab

Credit / No Credit
3 units

EE 297B. MSEE Project

Implementation of the research/design project, culminating the MSEE work proposed in EE 297A or EE 299A. Formal Master's project report and its formal defense required.

Prerequisites: EE 297A or EE 299A with grade of RP or CR and satisfied GWAR requirement

Normal Grade Rules
3 units

EE 298. Special Problems

Advanced individual work in electrical engineering.

Prerequisite: Graduate standing. Not available to Open University Students

Repeatable for credit
Mandatory CR/NC/RP
1-6 units

EE 298I. Electrical Engineering Internship Experience

For this course a student is employed in industry as an electrical engineering intern or in an equivalent position. The course supplements and supports student's plan of study.

Prerequisite: Graduate standing.

Repeatable for credit
Mandatory CR/NC/RP
1-3 units

EE 299A. MSEE Thesis Proposal

Written Thesis proposal development for research/design, subsequently culminating the MSEE work in EE 299B or EE 297B. An approved application for EE 299A registration, including project title and abstract and graduate seminar participation required.

Prerequisites: Classified, GPA of at least 3. 3 or above (GPA GPA of at least 3. 0 and graduate coordinator consent) consent, satisfied GWAR requirement or EE295 may be taken concurrently.

Credit / No Credit
3 units

EE 299B. MSEE Thesis

Implementation of the research/design, culminating the MSEE work proposed in EE 299A or EE 297A. Formal Master's Thesis report and its formal defense required.

Prerequisites: EE 297A or EE 299A with grade of CR and satisfied GWAR requirement

Mandatory CR/NC/RP
3 units

UPPER DIVISION

EE 1290R. Culminating Experience Supervision

Continued work on thesis or project beyond minimum required units, for cases in which final deliverables are still in progress.

Prerequisite: RP grade in a preceding thesis or project semester

Note: No Degree Credit.

Repeatable for credit
No Degree Credit
1 unit

English and Comparative Literature Courses

COMPARATIVE LITERATURE

UPPER DIVISION

COLT 121. Introduction to Comparative Literature

Critical approaches, reference sources, problems of translation.

Prerequisite: One year of college level foreign language or instructor consent.

Normal Grade Rules
4 units

COLT 122. Topics in Comparative World Literature

An exemplary theme as treated in various literatures in different languages, e.g., war, love, freedom, religious experience. May be repeated when course content changes.

Prerequisite: One year of college level foreign language or instructor consent.

Normal Grade Rules
4 units

COLT 124. Literature and Religious Experience

See RELS 124.

Repeatable for credit
Normal Grade Rules
3 units

ENGLISH

LOWER DIVISION

ENGL 001A. First Year Writing

English 1A is an introductory course that prepares students to join scholarly conversations across the university. Students develop reading skills, rhetorical sophistication, and writing styles that give form and coherence to complex ideas for various audiences, using a variety of genres. GE Area: A2

Prerequisite: Completion of Reflection on College Writing

Normal Grade Rules
GE: A2
3 units

ENGL 001AF. First-Year Writing: Stretch English I

Stretch I is the first semester of a year-long ENGL 1A that prepares students to join scholarly conversations across the university. Students develop reading skills, rhetorical sophistication, and writing styles that give form and coherence to complex ideas for various audiences, using various genres.

Prerequisite: Completion of Reflection on College Writing.

Credit / No Credit
3 units

ENGL 001AS. First-Year Writing: Stretch English II

Stretch II is the second semester of a year-long ENGL 1A that prepares students to join scholarly conversations across the university. Students develop reading skills, rhetorical sophistication, and writing styles that give form and coherence to complex ideas for various audiences, using various genres. GE Area: A2

Prerequisite: ENGL 1AF Stretch English I (formerly HA 96F (FYC Stretch I))

Normal Grade Rules
GE: A2
3 units

ENGL 001B. Argument and Analysis

English 1B is a writing course that focuses on argumentation and analysis. Through the study of literary, rhetorical, and professional texts, students will develop the habits of mind required to write argumentative and critical essays. Particular emphasis is placed on writing and reading processes. Students will have repeated practice in prewriting, drafting, revising, and editing, and repeated practice in reading closely in a variety of forms, styles, structures, and modes. GE Area: C2

Prerequisite: ENGL 1A or ENGL 1AS with a C- or better.

Note: ENGL 1B is treated as a repeat for students who have taken ENGL 2.

Normal Grade Rules
GE: C2
3 units

ENGL 002. Critical Thinking and Writing

English 2 is a course that focuses on the relationship between language and logic in composing arguments. Students learn various methods of effective reasoning and appropriate rhetorical strategies to help them invent, demonstrate, and express arguments clearly, logically, and persuasively. GE Area: A3

Prerequisite: Completion of GE Areas A1 and A2 with a C- or better

Note: ENGL 2 is treated as a repeat for students who have taken ENGL 1B.

Normal Grade Rules
GE: A3
3 units

ENGL 010. Great Works of Literature

Fiction, drama and poetry for non-English majors. Emphasis on critical appreciation of various literary forms. GE Area: C2

Notes: No credit in the English major.

Normal Grade Rules
GE: C2
3 units

ENGL 020. The Graphic Novel

Approaching the graphic novel as a form of popular literature, students examine the narrative and textual aspects of the form including the function of the text, its integration with the graphics, and formal aspects of narrative such as plot, character, theme, and symbol. GE Area: C2

Normal Grade Rules
GE: C2
3 units

ENGL 021. Mystery and Detective Fiction

Examines mystery or detective fiction from its inception in the 19th century and follow it across the globe as the genre has been taken on and developed by a variety of cultures. GE Area: C2

Normal Grade Rules
GE: C2
3 units

ENGL 022. Fantasy and Science Fiction

Students will examine works of literary fantasy and science fiction to understand them as expressions of human intellect and Imagination; to comprehend their historical and cultural contexts; and to recognize their diverse cultural traditions. Both contemporary and historical works will be studied. GE Area: C2

Notes: No credit in the English major.

Normal Grade Rules
GE: C2
3 units

ENGL 030. Literature and the Environment

Explores the ways in which writers and literary texts engage environmental issues and represent the natural world and humanity's place in it, paying close attention to issues of ecology, the landscape, conservation, sustainability, and human intervention/ interference. Possible areas of inquiry include nature writing, ecofeminism, ecocriticism, environmental justice, postcolonial environments, and the Anthropocene. GE Area: C2

Normal Grade Rules
GE: C2
3 units

ENGL 040. Contemporary World Fiction

A study of selected works of fiction in English and in English translation written since 1975. The course both focuses on international texts that address significant themes of our time and explores ways of reading and understanding literature. GE Area: C2

Notes: No credit in the English major.

Normal Grade Rules
GE: C2

3 units

ENGL 050. Beginnings to the "American" Experiment

Exploration of Anglo-Saxon, Medieval, Renaissance, and Early Colonial Writings in Britain and America. Class engages literary text, literary history, and historical events that shape the literature of the period.

Prerequisite: ENGL 1A

Normal Grade Rules
3 units

ENGL 060. The Emergence of "British" and "American" Literatures (1680 to 1860)

Exploration of Restoration, Early American, Romantic, American Romantic, and Victorian writings in Britain and America. Class engages literary text, literary history, and historical events that shape the literature of the period.

Prerequisite: ENGL 1A

Normal Grade Rules
4 units

ENGL 070. Emerging Modernisms and Beyond

Exploration of Modernist and twentieth-century writings in Britain and America. Class engages literary text, literary history, and historical events that shape the literature of the period.

Prerequisite: ENGL 1A

Normal Grade Rules
3 units

ENGL 071. Creative Writing

Examinations of works of poetry, creative nonfiction and short fiction as expression of human intellect and imagination, to comprehend the historic and cultural contexts, and recognize issues related to writing by men and women of diverse cultural traditions. Students will also write poetry, creative nonfiction, and a short fiction. GE Area: C2

Normal Grade Rules
GE: C2
3 units

ENGL 078. Introduction to Shakespeare's Drama

Reading of five or six representative plays. The Elizabethan era, dynamics of performance and close analysis of the plays. GE Area: C2

Notes: No credit in the English major.

Normal Grade Rules
GE: C2
3 units

ENGL 096RWS. Integrating Reading and Writing

Co-requisite course offered in conjunction with a primary content-area course in which students engage reading and writing activities to learn disciplinary content. Activities support students to learn about their own learning processes as they build content knowledge in a discipline.

Co-requisite: Early Start or GE course

Repeatable for credit
Credit / No Credit
1 unit

UPPER DIVISION

ENGL 100A. Writing Competency Through Genres

Satisfies the WST requirement if passed with a C or better (C- or lower will not satisfy the WST). Prepares students for 100W through drafting, feedback, and revision to demonstrate writing competency. Develops ability to analyze written genres used in the students' chosen disciplines as well as write analytical and reflective essays.

Prerequisite: Must have failed the WST.

Note: A CR/NC option may not be used to satisfy the WST requirement.

Normal Grade Rules
3 units

ENGL 100W. Writing Workshop

Advanced workshops in Reading and Composition. GE Area: Z

Prerequisite: A3 or equivalent second semester composition course (with a grade of C- or better); Completion of core GE, satisfaction of Writing Skills Test and upper division standing.

Notes: Required of all English majors before they achieve senior standing. All SJSU Studies courses require completion of the WST and upper division standing.Must be passed with C or better to satisfy the CSU Graduation Writing Assessment requirement (GWAR).

Normal Grade Rules
GE: Z
3 units

ENGL 100WB. Written Communication: Business

Written communications for business majors; includes minimum of 8,000 words of writing spaced throughout the semester. GE Area: Z

Prerequisites: A3 or equivalent second semester composition course (with a grade of C- or better); Completion of core GE, satisfaction of Writing Skills Test and upper division standing.

Note: Must be passed with C or better to satisfy the CSU Graduation Writing Assessment requirement (GWAR).

Normal Grade Rules
GE: Z
3 units

ENGL 101. Introduction to Literary Criticism

Study and application of various historical and contemporary approaches to literature, such as formalism, structuralism, new criticism, cultural studies, new historicism, post-structuralism, Marxism, post-colonialism, feminism, etc. Application of these approaches to works of literature.

Prerequisite: ENGL 100W.

Normal Grade Rules
4 units

ENGL 102. History of the English Language

Course traces the development of the English language--its sounds, word forms, grammatical structures, vocabulary, and punctuation--from its origins as a dialect of the Germanic-speaking peoples to its status as a world language today.

Prerequisite: Upper division standing.

Normal Grade Rules
4 units

ENGL 103. Modern English

The growth and structure of modern English, including its phonology, morphology, syntax and semantics. Attention to social and regional varieties, with implications for language development and literacy among native and nonnative speakers.

Prerequisite: Upper division standing.

Normal Grade Rules
4 units

ENGL 105. Seminar in Advanced Composition

Advanced expository writing. Prerequisites: Upper-division standing required. Prior completion of ENGL100W is suggested but not required.

Normal Grade Rules
4 units

ENGL 106. Editing for Writers

Copy editing, substantive editing and reorganization of technical documents. Review of grammar and punctuation to ensure technical mastery and ability to justify editing decisions. Graphics editing, access aids and professional skills of an editor.

Prerequisite: ENGL 2 or A3 equivalent

Normal Grade Rules
4 units

ENGL 107. Professional Technical Writing

Survey of technical and professional writing. Students learn how to write and design persuasive documents that get real things done in the real world. Projects include resumes, instructions (video and print), presentations, user manuals, and augmented reality apps. Includes learning digital tools used to author and publish writing in the current tech landscape such as DITA, Augmented Reality (AR), SnagIt, Adobe Premiere, and Madcap Flare.

Prerequisite: ENGL 2 or A3 equivalent.

Normal Grade Rules
4 units

ENGL 108. Gaming and Narrative

Study of the relationship between literary narrative theory (narratology) and interactive fiction (books and games designed to produce different stories for different readers or players). Course focuses on whether interactive fiction has changed or reinvented the possible spaces of narrative.

Pre-Requisite: Upper Division Standing

Normal Grade Rules
4 units

ENGL 109. Writing and the Young Writer

Emphasis on workshop approach to improve creative and expository writing skills and to transfer knowledge grained as a writer into practice as a prospective teacher of writing.

Normal Grade Rules
4 units

ENGL 110. Visual Rhetoric and Digital Document Design for Writers

Combines visual rhetorical theory with design techniques to teach writers about the visual aspects of written and digital communication. In this hands-on course, students will design documents, including a poster, a book chapter, and promotional materials for local nonprofits.

Prerequisite: ENGL 100W

Normal Grade Rules
4 units

ENGL 112A. Children's Literature

Study of literature for elementary and intermediate grades, representing a variety of cultures. Evaluation and selection of texts.

Prerequisite: Upper division standing.

Normal Grade Rules
3 units

ENGL 112B. Literature for Young Adults

Study of selected literary material, representing a variety of cultures, chosen to motivate secondary school readers.

Prerequisite: Upper division standing.

Normal Grade Rules
4 units

ENGL 113. Gothic Novel and Horror Fiction

Study of the gothic novel in Britain and America 1795-1900. Current trends in horror fiction and films will be traced to these gothic predecessors.

Prerequisite: Upper division standing

Normal Grade Rules
4 units

ENGL 115. The Bible as Literature

Study of the Bible from the perspective of literature, examining key portions of the Bible, its subjects, themes, literary styles and genres, and contributions to Western Literature.

Prerequisite: Upper division standing.

Normal Grade Rules
4 units

ENGL 116. Myth in Literature

Relations between archetypes, artistic style and cultural context in masterworks, ancient through modern.

Prerequisite: Upper division standing.

Normal Grade Rules
4 units

ENGL 117A. American Literature, Film, & Culture

Using both film and literature, course examines narratives that create and define cultural identities in the United States. A variety of cultural moments in the history of North America as depicted in both film and literature as well as the artistic practices used to shape those representations will be discussed. GE Area: S

Prerequisites: Passage of the Writing Skills Test (WST) or ENGL/LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

Note: All SJSU Studies courses require completion of the WST and upper division standing.

Normal Grade Rules
GE: S
3 units

ENGL 117B. Global Film, Literature, and Cultures

Using films and literary works, students will appreciate and understand the narratives (myths and other stories) that create and define cultural identity, explore cultural interaction, and illustrate cultural preservation and cultural difference over time. GE Area: V

Prerequisite: Passage of the Writing Skills Test (WST) or ENGL/LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

Note: All SJSU Studies courses require completion of the WST and upper division standing.

Normal Grade Rules
GE: V
3 units

ENGL 120. Theatre History

See TA 120.

Normal Grade Rules
3 units

ENGL 121. Introduction to Comparative Literature

See COLT 121.

Normal Grade Rules
4 units

ENGL 122. Topics in Comparative World Literature

See COLT 122.

Normal Grade Rules
4 units

ENGL 123A. Literature for Global Understanding-The Americas

Course promotes global understanding by examining the cultures and literary arts of a selected region of the world, the Americas, and covers representative texts and authors from Latin America and the Caribbean/West Indies. GE Area: V

Prerequisite: Passage of the Writing Skills Test (WST) or ENGL/LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

Note: All SJSU Studies courses require completion of the WST and upper division standing.

Normal Grade Rules
GE: V
3 units

ENGL 123B. Literature for Global Understanding-Africa

Course promotes global understanding by examining the cultures and literary arts of a selected region of the world, Africa, and covers representative texts and authors from North Africa and Sub-Saharan Africa. GE Area: V

Prerequisite: Passage of the Writing Skills Test (WST) or ENGL/LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

Note: All SJSU Studies courses require completion of the WST and upper division standing.

Normal Grade Rules
GE: V
3 units

ENGL 123C. Literature for Global Understanding-Oceania

Course promotes global understanding by examining the cultures and literary arts of a selected region of the world, Oceania, and covers representative texts and authors from Australia, New Zealand, and the Pacific Islands. GE Area: V

Prerequisite: Passage of the Writing Skills Test (WST) or ENGL/LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

Note: All SJSU Studies courses require completion of the WST and upper division standing.

Normal Grade Rules
GE: V
3 units

ENGL 123D. Literature for Global Understanding-Asia

Course promotes global understanding by examining the cultures and literary arts of a selected region of the world, Asia, and covers representative texts and authors from a sub-region of Asia such as East Asia, South Asia, Southeast Asia, Central Asia, or West Asia/the Middle East. GE Area: V

Prerequisite: Passage of the Writing Skills Test (WST) or ENGL/LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

Note: All SJSU Studies courses require completion of the WST and upper division standing.

Normal Grade Rules
GE: V
3 units

ENGL 124. Literature and Religious Experience

See RELS 124.

Repeatable for credit
Normal Grade Rules
3 units

ENGL 125. European Literature: Homer through Dante

Classical and medieval literature in translation: Homer, Aeschylus, Sophocles, Euripides, Virgil and Dante.

Prerequisite: Upper division standing.

Normal Grade Rules
4 units

ENGL 126. Holocaust Literature

Survey of literature written by survivors or witnesses of the Holocaust, the destruction of European Jewry during World War II, focusing upon diaries, memoirs, fiction, and occasionally poetry and drama. Writers may include Elie Wiesel, Primo Levi, Anne Frank, Charlotte Delbo. GE Area: V

Prerequisite: Passage of the Writing Skills Test (WST) or ENGL/LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

Note: All SJSU Studies courses require completion of the WST and upper division standing.

Normal Grade Rules
GE: V
3 units

ENGL 127. Contemporary Theatre

See TA 127.

Normal Grade Rules
GE: V
3 units

ENGL 128. Scriptwriting

See TA 128.

Repeatable for credit
Normal Grade Rules
3 units

ENGL 129. Introduction to Career Writing

Professional and workplace writing where students learn new writing skills and expand their professional portfolio. Content may include writing for social media, marketing copy, nonprofits, and website content. Students write to get published on topics such as food, music, movies, video games, fashion, high-tech, and science. Class projects may include feature articles, reviews, interviews, marketing plans, the English Department magazine, an in-class podcast series, instructional videos, and a weekly updated blog.

Prerequisite: Upper division standing.

Normal Grade Rules
4 units

ENGL 130. Writing Fiction

Workshop in short stories or other short fiction. Beginning the novel in individual cases. May be repeated twice for credit.

Prerequisite: ENGL 71 (or equivalent) or instructor consent.

Repeatable for credit
Normal Grade Rules
4 units

ENGL 131. Writing Poetry

Workshop in verse forms. Study of traditional and contemporary models. May be repeated twice for credit.

Prerequisite: ENGL 71 (or equivalent) or instructor consent.

Repeatable for credit
Normal Grade Rules
4 units

ENGL 133. Reed Magazine

Student-edited and managed literary magazine. Contents selected from local, national and international submissions. Students urged to work on the magazine for the two semesters required for publication. Open to all majors. May be repeated once for credit.

Prerequisite: Upper division standing.

Repeatable for credit
Normal Grade Rules
4 units

ENGL 134. Speech Writing

Writing speeches for others. Study of audience, language, persuasion, devices, style.

Prerequisite: ENGL 129 or instructor consent.

Normal Grade Rules
3 units

ENGL 135. Writing Nonfiction

Advanced creative writing workshop in literary nonfiction. Study of traditional and contemporary models. May be repeated twice for credit.

Prerequisite: ENGL 71, ENGL 100W, ENGL 105, ENGL 129 or instructor consent.

Repeatable for credit
Normal Grade Rules
4 units

ENGL 139. Visiting Authors

Study of works by contemporary writers participating in the Major Authors series and other programs sponsored by the Center for Literary Arts. Includes meetings with visiting authors and attending their various presentations. Recommended for the Creative Writing Concentration.

Prerequisite: Upper division standing.

Normal Grade Rules
4 units

ENGL 140A. Old English

Introduction to the language, with short selections for translation.

Prerequisite: Upper division standing.

Normal Grade Rules
4 units

ENGL 140B. Beowulf

This class is the second class in a year-long sequence of Old English. Students will be translating all 3,182 lines of Beowulf and investigating its linguistic, historical and cultural context as the first epic poem recorded in the English language.

Prerequisite: ENGL 140A or equivalent

Normal Grade Rules
4 units

ENGL 141. Medieval Literature

Middle English and continental literature, including such forms as the lyric, allegory, narrative, romance and biblically-based drama.

Prerequisite: Upper division standing.

Normal Grade Rules
4 units

ENGL 142. Chaucer

Chaucer's language and major poetic works. The Legend of Good Women, The Canterbury Tales and Troilus and Cressida.

Prerequisite: Upper division standing.

Normal Grade Rules
4 units

ENGL 144. Shakespeare I

Major plays such as Twelfth Night, Henry IV, Part I and Hamlet.

Prerequisite: Upper division standing.

Normal Grade Rules
4 units

ENGL 145. Shakespeare and Performance

Course examines in depth several of Shakespeare's plays, specifically addressing issues of performance. We will discuss each play in the context of its original performance during Shakespeare's time and its life on stage and screen in the ensuing centuries.

Prerequisite: Upper division standing.

Normal Grade Rules
4 units

ENGL 146. Studies-Early Modern British Literature

Offers students the opportunity to study the poetry, drama, and prose of the influential early modern period in England. The course is broadly construed, enabling individual professors to focus on topics relating to their particular areas of expertise and/or interests.

Prerequisite: Upper division standing.

Normal Grade Rules
4 units

ENGL 147. Milton

The man, the thinker, the revolutionary, the poet. English poems, major prose, selected modern criticism.

Prerequisite: Upper division standing.

Normal Grade Rules
4 units

ENGL 148. British Literature: 1660-1800

Major writers including Dryden, Behn, Swift, Pope and Johnson. With instructor consent may be repeated.

Prerequisite: Upper division standing.

Normal Grade Rules
4 units

ENGL 149. The Romantic Period

Study of major British authors and poets from 1780 to 1837, tracing changes in philosophy, religion, society, and culture represented in their works.

Prerequisite: Upper division standing.

Normal Grade Rules
4 units

ENGL 150. The Victorian Age

Study of major British authors and poets from 1837 to 1900, tracing changes in philosophy, religion, society and culture represented in their works.

Prerequisite: Upper division standing.

Normal Grade Rules
4 units

ENGL 151. Twentieth Century Poetry

Major British and American poets, including figures such as Yeats, Eliot, Pound, Frost, Auden, Stevens, Rich.

Prerequisite: Upper division standing.

Normal Grade Rules
4 units

ENGL 152. Studies in British Drama before 1800

Offers students the opportunity to study drama of the influential early modern poets in England. This course is broadly construed, enabling individual professors to focus on topics relating to their particular areas of expertise and/or interests.

Prerequisite: Upper division standing.

Notes: Offered only occasionally.

Normal Grade Rules
4 units

ENGL 153. Studies in the British Novel Before 1900

This course deals with the origin, evolution, and spread of the British novel through the 18th and 19th centuries. In addition to studying major novels in their historical and cultural contexts, students will also examine the changing formal characteristics of the genre.

Prerequisite: Upper division standing.

Normal Grade Rules
4 units

ENGL 156. Black Women Writers: Race, Culture and Resistance

See AFAM 156.

Normal Grade Rules
3 units

ENGL 157. Topics in Rhetorical Analysis

Focused study of a topic in the theory and practice of rhetoric, such as

rhetorics, rhetoric of graphic design, political rhetoric, or rhetorics of

classes for current offering.

Prerequisite: Upper Division Standing

Repeatable for credit
Normal Grade Rules
4 units

ENGL 162. Studies-American Literature Before 1865

This course examines oral and written poetry, fiction, and nonfiction prose in American Literature before 1865. Through lecture, discussion, and writing, students will be given the opportunity to analyze and understand the literary texts as well as the historical and cultural contexts in which they were produced.

Prerequisite: Upper division standing.

Normal Grade Rules
4 units

ENGL 163. American Literature: 1865-1945

Authors, works, and themes from the period between the Civil War and WWII, including literary and social movements such as Realism, Naturalism, Modernism, Feminism, and social protest.

Prerequisite: Upper division standing.

Repeatable for credit
Normal Grade Rules
4 units

ENGL 165. Topics in Ethnic American Literature

Focused study of a topic in ethnic American Literature, such as African American, Asian American, Latino American, or ethnic autobiography. Check schedule of classes for current offering.

Prerequisite: Upper division standing.

Normal Grade Rules
4 units

ENGL 166. American Literature Since 1945

Major works of American literature since 1945, including writers such as Barth, Reed, Kingston, Lowell, Rich, Pynchon and Ozick.

Prerequisite: Upper division standing.

Normal Grade Rules
4 units

ENGL 167. Steinbeck

Major works of John Steinbeck. Use of Steinbeck Center for research.

Prerequisite: Upper division standing.

Normal Grade Rules
4 units

ENGL 168. The American Novel

Selected American novels from the Revolution to the present.

Prerequisite: Upper division standing.

Normal Grade Rules
4 units

ENGL 169. Ethnicity in American Literature

Study of race and ethnicity in the literary arts of North America. Selected works of authors from such groups as African Americans, European Americans, Asian Americans, Chicanos, Latinos and American Indians. GE Area: S

Prerequisite: Passage of the Writing Skills Test (WST) or ENGL/LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

Note: All SJSU Studies courses require completion of the WST and upper division standing.

Normal Grade Rules
GE: S
3 units

ENGL 172. The Arts in U.S. Society

See CA 172.

Normal Grade Rules
GE: S
3 units

ENGL 173. Thinking About Contemporary World Arts

See CA 173.

Normal Grade Rules
GE: V
3 units

ENGL 176. The Short Story

Analysis and interpretation of selected short stories from the nineteenth century to the present.

Prerequisite: Upper division standing.

Normal Grade Rules
4 units

ENGL 177. Topics in Fiction Since 1900

Course will focus on different topics in modern fiction. Novels and short stories will be examined as works of art and as expressions of intellectual and social movements. May be repeated when course content changes.

Prerequisite: Upper division standing.

Normal Grade Rules
4 units

ENGL 178. Creative Nonfiction

This class will study the canonical texts in the genre of creative nonfiction and the historical influences which led to its development.

Prerequisite: Upper Division Standing

Normal Grade Rules
4 units

ENGL 180. Individual Studies

By arrangement with instructor and department chair approval.

Prerequisite: Upper division standing.

Repeatable for credit
Credit / No Credit
1-3 units

ENGL 181. Special Topics

Significant topics or themes in English or Comparative Studies.

Prerequisite: Upper division standing.

Repeatable for credit
Normal Grade Rules
4 units

ENGL 182. Women in Literature

Image of women in literature or works of significant women writers.

Prerequisite: Upper division standing.

Repeatable for credit
Normal Grade Rules
4 units

ENGL 183. Major Authors

One major author's works. Author changes each semester.

Prerequisite: Upper division standing.

Repeatable for credit
Normal Grade Rules
4 units

ENGL 190. Honors Colloquium

Selected topics.

Prerequisite: Admission to departmental honors program.

Normal Grade Rules
4 units

ENGL 199. Writing Internship

Internship at a local industry, publisher, arts or public agency. Discussion of experiences and problems in the internship. Study of professional practices and demands, including those of career preparation and development.

Prerequisite: 3.0 GPA both overall and in English; no credit in English major.

Repeatable for credit
Credit / No Credit
3 units

GRADUATE

ENGL 201. Materials and Methods of Literary Research

Use and evaluation of resource for literary research; problems in critical writing and literary history. Required for all English Masters students (to be taken as early as possible after achieving Classified standing).

Note: This course satisfies graduate-level GWAR in this master's program.

Normal Grade Rules
GE: GWAR
4 units

ENGL 202. Poetic Craft and Theory

Poetry as a literary genre - its patterns and sub-types (such as the epic, lyric, pastoral, and elegy). Attention to the theories of poetics applied to practical criticism. Prior permission of graduate advisor may be repeatable once for credit .

Prerequisite: Classified standing or instructor consent.

Repeatable for credit
Normal Grade Rules
4 units

ENGL 203. Narrative Craft and Theory

Study of prose fiction and nonfiction as a literary genre (with sub-genres) and an art which can be learned through imitation and analysis. Course emphasizes the formal and technical properties of prose narrative, with attention to Narratology. Prior permission of graduate advisor may be repeatable once for credit.

Normal Grade Rules
4 units

ENGL 204. Seminar in Modern Approaches to Literature

Study of modern approaches to the theory and practice of literary criticism. With prior permission of graduate advisor may be repeatable once for credit .

Prerequisite: Classified standing or instructor consent.

Note: This course satisfies graduate-level GWAR in this master's program.

Repeatable for credit
Normal Grade Rules
GE: GWAR
4 units

ENGL 208. Seminar in Comparative Literature

Study of selected topics in comparative literature. Students will be encouraged to do some reading and research in a language other than English. With prior permission of graduate advisor repeatable twice for credit.

Prerequisite: Classified standing or instructor consent.

Note: This course satisfies graduate-level GWAR in this master's program.

Repeatable for credit
Normal Grade Rules
GE: GWAR
4 units

ENGL 211. Seminar in Twentieth Century Poetry

Intensive study of selected major English and American poets of the twentieth century. With prior permission of graduate advisor may be repeatable once for credit.

Prerequisite: Classified standing or instructor consent.

Note: This course satisfies graduate-level GWAR in this master's program.

Repeatable for credit
Normal Grade Rules
GE: GWAR
4 units

ENGL 215. Seminar in Myth and Symbolism

Comparative study of mythic and symbolic forms in literature, focusing on theory and a variety of texts. With prior permission of graduate advisor may be repeatable once for credit.

Prerequisite: Classified standing or instructor consent.

Note: This course satisfies graduate-level GWAR in this master's program.

Repeatable for credit
Normal Grade Rules
GE: GWAR
4 units

ENGL 216. Seminar in Medieval English Literature

Study of selected writings in medieval English literature and their continental sources. With prior permission of graduate advisor may be repeatable once for credit.

Prerequisite: Classified standing or instructor consent.

Note: This course satisfies graduate-level GWAR in this master's program.

Repeatable for credit
Normal Grade Rules
GE: GWAR
4 units

ENGL 224. Studies in English Early Modern Literature

Study of selected writers or topics of the sixteenth and seventeenth century.

Prerequisite: Classified graduate standing or instructor consent

Note: This course satisfies graduate-level GWAR in this master's program.

Repeatable for credit
Normal Grade Rules
GE: GWAR
4 units

ENGL 225. Seminar in Shakespeare

A close study of selected plays and of selected major issues in Shakespearean criticism. With prior permission of graduate advisor may be repeatable once for credit.

Prerequisite: Classified standing or instructor consent.

Note: This course satisfies graduate-level GWAR in this master's program.

Repeatable for credit
Normal Grade Rules
GE: GWAR
4 units

ENGL 228. Seminar in Genre Studies

Provides focused study of a single genre of British and/or World Literature.

Prerequisite: Classified graduate standing or instructor consent.

Note: This course satisfies graduate-level GWAR in this master's program.

Repeatable for credit
Normal Grade Rules
GE: GWAR
4 units

ENGL 230. Seminar in Eighteenth Century British Literature

Study of selected writers from 1660 to 1789. With prior permission of graduate advisor may be repeatable once for credit.

Prerequisite: Classified standing or instructor consent.

Note: This course satisfies graduate-level GWAR in this master's program.

Repeatable for credit
Normal Grade Rules
GE: GWAR
4 units

ENGL 232. Seminar in Romanticism

Study of selected British writers from the late eighteenth and early nineteenth centuries. With prior permission of graduate advisor may be repeatable once for credit.

Prerequisite: Classified standing or instructor consent.

Note: This course satisfies graduate-level GWAR in this master's program.

Repeatable for credit
Normal Grade Rules
4 units

ENGL 233. Seminar in the Victorian Period

Study of selected British writers from 1832 to 1900. With prior permission of graduate advisor may be repeatable once for credit.

Prerequisite: Upper division standing.

Note: This course satisfies graduate-level GWAR in this master's program.

Repeatable for credit
Normal Grade Rules
GE: GWAR
4 units

ENGL 240. Poet Writ Workshop

Poetics and poetry writing as preparation for thesis. Includes theory and practice of major trends in contemporary poetry. Intensive workshop experience. May be repeatable for credit for up to 12 units.

Prerequisite: Graduate standing and admission via portfolio acceptance to the Writing Focus.

Repeatable for credit
Normal Grade Rules
4 units

ENGL 241. Fic Writ Workshop

Fiction writing as preparation for thesis. Study of canonical and contemporary fiction and fiction produced by students. Intensive workshop experience. May be repeatable for credit for up to 12 units.

Repeatable for credit
Normal Grade Rules
4 units

ENGL 242. Nonfiction Writing Workshop

Nonfiction writing as preparation for thesis. Study and critique of canonical and contemporary nonfiction. Intensive workshop experience. May be repeatable for credit for up to 12 units.

Repeatable for credit
Normal Grade Rules
4 units

ENGL 253. Seminar in Period Studies of American Literature

Focuses on a period of American literature such as Colonial, Revolutionary/Federal, Romantic, Realist, Modernist, Post-modernist. With prior permission of graduate advisor may be repeatable once for credit .

Prerequisite: Classified standing or instructor consent.

Note: This course satisfies graduate-level GWAR in this master's program.

Repeatable for credit
Normal Grade Rules
GE: GWAR
4 units

ENGL 254. Seminar in Genre Studies of American Literature

Focuses of a genre of American Literature such as poetry, the novel, the short story, drama, autobiography, the personal and/or philosophical essay. With prior permission of graduate advisor may be repeatable once for credit.

Prerequisite: Classified standing or instructor consent.

Note: This course satisfies graduate-level GWAR in this master's program.

Repeatable for credit
Normal Grade Rules
GE: GWAR
4 units

ENGL 255. Seminar in Thematic Studies of American Literature

Focuses on development of a theme in American Literature. With prior permission of graduate advisor may be repeatable once for credit.

Prerequisite: Classified standing or instructor consent.

Note: This course satisfies graduate-level GWAR in this master's program.

Repeatable for credit
Normal Grade Rules
GE: GWAR
4 units

ENGL 256. Seminar in Twentieth Century British Literature

Study of selected British writers since 1900. With prior permission of graduate advisor may be repeatable once for credit.

Prerequisite: Classified standing or instructor consent.

Note: This course satisfies graduate-level GWAR in this master's program.

Repeatable for credit
Normal Grade Rules
GE: GWAR
4 units

ENGL 257. Seminar in the History of Rhetoric

Study of rhetorical theory and practice from classical to modern times.

Prerequisite: Classified standing or instructor consent.

Repeatable for credit
Normal Grade Rules
4 units

ENGL 259. Seminar in Composition Studies

Study of current approaches to composition.

Prerequisite: Classified standing or instructor consent.

Normal Grade Rules
4 units

ENGL 281. Special Topics

Significant topic or area reflecting trends and changes in the field. Provides students with an opportunity to gain specialized or advanced knowledge in a small-group setting.

Normal Grade Rules
4 units

ENGL 291. Lit Practicum

This course prepares Creative Writing graduate students to take the MFA exam and develop and begin writing an MFA thesis, customize the MFA exam reading list, prepare to take the MFA comprehensive exam, draft the thesis abstract and thesis preface.

Prerequisite: Approval of thesis proposal.

Normal Grade Rules
4 units

ENGL 297. MA Comprehensive Exam Preparation

Workshop in writing and preparing for the two-part comprehensive masters examination.

Repeatable for credit
Normal Grade Rules
2 units

ENGL 298. Special Study

Advanced and individual research and projects.

Prerequisite: Instructor consent.

Repeatable for credit
Credit / No Credit
1-6 units

ENGL 298D. Departmental Thesis or Project

Supervised study. Completed thesis is approved by department and not uploaded to ProQuest, ScholarWorks or other digital repository. Recommended for students who wish to protect copyright of creative work for future publication.

Prerequisite: Candidacy and successful completion of ENGL 291, assembly of Thesis Committee, and thesis proposal.

Repeatable for credit
Mandatory CR/NC/RP
1-6 units

ENGL 299. University Thesis

Supervised study. Completed theses are approved by the university and may at some point be uploaded to ProQuest, ScholarWorks or other digital thesis repository.

Prerequisite: Candidacy and successful completion of ENGL 291, assembly of Thesis Committee, and thesis proposal.

Repeatable for credit
Mandatory CR/NC/RP
1-6 units

UPPER DIVISION

ENGL 1290R. Culminating Experience Supervision

Continued work on thesis or project.

Prerequisite: Outstanding RP grade in a preceding semester in a project or thesis class

Note: No Degree Credit.

Repeatable for credit
No Degree Credit
1 unit

ENGLISH EDUCATION

UPPER DIVISION

ENED 184Y. Student Teaching II - Classroom Teaching

Minimum of 75 periods of classroom teaching, laboratory or field teaching in appropriate subject, grades 7-12, plus related school activities and seminar. Course is repeatable for credit in the same term.

Prerequisite: ENED 353.

Repeatable for credit
Credit / No Credit
4 units

ENED 184Z. Student Teaching III - Classroom Teaching

Notes: May be in a different subject/school and will be at a different grade level. Includes final summary project for student teaching.

See ENED 184Y.

Repeatable for credit
Credit / No Credit
4 units

ENED 353. Methods of Teaching English

Theory and practice of teaching literature and language arts to a diverse student population. Strategies for planning and implementing curricula appropriate to junior and senior high school.

Normal Grade Rules
4 units

ENED 365. Seminar in English Education

Topics in English Education for middle and high school English teachers.

Prerequisite: Acceptance into the English Credential Program.

Repeatable for credit
Credit / No Credit
2 units

SJSU SAN JOSÉ STATE UNIVERSITY

Academic Year 2019-2020

Course Descriptions

v1
July 1, 2019

ALL DATES, FEES & INFORMATION SUBJECT TO CHANGE WITHOUT NOTICE

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DESCRIPTION CONTENTS

Environmental Studies, Department of Courses

ENVIRONMENTAL STUDIES

LOWER DIVISION

ENVS 001. Introduction to Environmental Issues
What effects are human activities having on the natural environment and our quality of life? Discover the technical and social causes of environmental degradation; learn how your personal and career choices can protect the environment for current and future generations. GE Area: D1

Normal Grade Rules
GE: D1
3 units

ENVS 010. Life on a Changing Planet
An introduction to basic knowledge and theory in the life sciences, focusing on the theme of environmental change. Examines challenging issues in biology and methods for evaluating conflicting data and claims. Develops students' analytical and writing skills. GE Area: B2

Prerequisite: As required for Core GE courses in B2.

Normal Grade Rules
GE: B2
3 units

UPPER DIVISION

ENVS 100W. Environmental Research and Writing
Advanced research and writing skills for future environmental professionals. Focus on issues, literature and challenges associated with environmental writing. Emphasis on writing for technical and general audiences. GE Area: Z

Prerequisite: A3 or equivalent second semester composition course (with a grade of C- or better); Completion of core GE, satisfaction of Writing Skills Test and upper division standing. Declared major in environmental studies.

Note: All SJSU Studies courses require completion of the WST and upper division standing. Must be passed with C or better to satisfy the CSU Graduation Writing Assessment requirement (GWAR).

Normal Grade Rules
GE: Z
3 units

ENVS 105. Environmental Change and Problems, San Francisco Bay Area
Systematic inquiry into physical environments of the San Francisco Bay Area, with emphasis on impacts and changes to those systems by human action. Analysis of public action and policies regarding regional environmental issues.

Prerequisite: ENVS 1 and ENVS 100W.

Notes: Offered only occasionally.

Normal Grade Rules
3 units

ENVS 106. Exploring Ocean Environments
Understand human interactions with marine environments by exploring the ocean as a place of socio-ecological encounter. Students learn and employ interdisciplinary approaches to conceptualizing, knowing, exploiting, and managing ocean environment.

Normal Grade Rules
3 units

ENVS 107. Introduction to Environmental Economics and Policy
Analysis of basic economic and political factors related to the environmental crisis. Surveys policy approaches to the problem: regulation, taxes, subsidies, cost benefit analysis.

Prerequisite: ECON 1B or instructor consent.

Normal Grade Rules
3 units

ENVS 108. Cost-Benefit Analysis
See ECON 108.

Normal Grade Rules
4 units

ENVS 110. Resource Analysis
Quantitative analysis of Earth's natural resources. Topics typically include the status and trends of resources such as topsoil, agriculture, water, energy, wildlife and the impacts of human population growth on these resources. Emphasis is on problem solving and computational methods applied to resource management problems.

Prerequisite: ENVS 001, ENVS 010, STAT 095.

Misc/Lab: Lecture 4 hours/lab 3 hours.

Normal Grade Rules
4 units

ENVS 111. Geology and the Environment
See GEOL 111.

Normal Grade Rules
GE: R
3 units

ENVS 112. Hazardous Waste
Familiarization with major environmental problems through study of federal, state and regional regulation of hazardous waste management. Methods of treatment, disposal and destruction.

Prerequisite: Junior standing, two semesters chemistry and biological science or instructor consent.

Normal Grade Rules
3 units

ENVS 113. Atmospheric Pollution
See METR 113.

Normal Grade Rules
GE: R
3 units

ENVS 116. Solar Energy Analysis
Provides a comprehensive overview of sustainable solar energy resources, economics, and policy. Includes a review of basic solar energy physics and interdisciplinary analysis of economic, social justice and environmental strategies for a solar powered civilization.

Prerequisite: ENVS 119, PHYS 002A, and PHYS 002B or instructor consent

Normal Grade Rules
3 units

ENVS 117. Human Ecology
Diversity and similarity of human adaptation, cultural evolution, cultural change and environmental modification in African, Asiatic, Oceanic and Latin American cultural groups. Emphasis: traditional non-Western conservation practices and their lessons for the modern-day resource manager.

Prerequisite: ENVS 1, ENVS 10 and ENVS 100W, or instructor consent.

Normal Grade Rules
3 units

ENVS 118. Sustainable Home Gardens
Techniques for designing landscape gardens which are sustainable in the various biomes of California. Students first research, explore, and photograph California native plant communities. Then, they design a California native home garden based on their field investigations and principles of ecology.

Prerequisite: ENVS 001 or instructor consent.

Misc/Lab: Lecture 3 hours / Activity 2 hours

Repeatable for credit
Normal Grade Rules
4 units

ENVS 119. Energy and the Environment
Introduces students to the sources of energy that fuel industrial civilization and the environmental impacts of energy extraction, distribution, and consumption. Explores a range of approaches to moving society toward a more sustainable energy future. GE Area: R

Prerequisite: Upper Division Standing. Passage of the Writing Skills Test (WST) or ENGL/LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

Note: All SJSU Studies courses require completion of the WST and upper division standing.

Normal Grade Rules
GE: R
3 units

ENVS 121. Population and Global Change

See GEOG 121.

Normal Grade Rules
3 units

ENVS 124. Introduction to Environmental Law

Development, interpretation, application and enforcement of environmental laws, regulations and legal policies by legislatures, courts, administrative agencies and citizens. Examination of air and water quality, hazardous materials, workplace, land use and wetlands regulation, international, ethical and efficacy issues.

Prerequisite: ENVS 1 or Instructor Consent.

Normal Grade Rules
3 units

ENVS 125. Advanced Environmental Law

Detailed evaluation of practical environmental law problems. Students use an interdisciplinary approach, combining evaluation of technical data with review and application of law and policy. Extensive legal analysis and writing.

Prerequisite: ENVS 1 and ENVS 124.

Normal Grade Rules
3 units

ENVS 126. Environmental Ethics and Philosophy

See PHIL 126.

Normal Grade Rules
3 units

ENVS 127. Community-Based Participatory Research

This course integrates interdisciplinary theory and practice in developing a situated understanding of community-based participatory research (CBPR) toward redressing environmental inequities. Students will apply these theories and practices in their own environmental research and advocacy projects regarding local environmental issues.

Prerequisite: Upper Division Standing

Normal Grade Rules
3 units

ENVS 128. Water Resource Management

Water uses and supplies; water resource measurement methods; hydrology; erosional processes; sediment production and transport particularly on Northern California coastal watershed; flood hazards and methods of control; groundwater and groundwater aquifers; water quality.

Prerequisite: ENVS 129 and STAT 095 or appropriate math course; or instructor consent.

Normal Grade Rules
3 units

ENVS 129. Water Policy in the Western U.S.

Water resource development; federal reclamation policy; water law and water rights; interbasin transfers; Colorado River, Central Valley Project and State Water Project; groundwater overdrafting; agricultural water and water pricing.

Prerequisite: ENVS 001 or Instructor Consent.

Normal Grade Rules
3 units

ENVS 130. Energy Policy Analysis

Energy policy questions and examination of choices including energy pricing, options for controlling oil imports, incentives for reducing consumption, allocation and end use controls, synthetic fuel production, offshore oil development.

Prerequisite: Upper division standing.

Normal Grade Rules
3 units

ENVS 131. Air Pollution Meteorology

See METR 131.

Normal Grade Rules
3 units

ENVS 132. Solar Home Design

Techniques for designing environmentally-sensitive, healthy, passive solar homes via site selection, energy conservation, lighting, non-hazardous natural building materials. Residential passive solar heating and cooling approaches for retrofits and new construction. For homeowners, teachers, professional designers and architects.

Prerequisite: ENVS 001 or instructor consent.

Normal Grade Rules
3 units

ENVS 133. Sustainable Energy Strategies

Challenges and opportunities facing sustainable energy pathways for heat, fuel, and electricity with a focus on energy efficiency, solar, wind, geothermal, bioenergy, alternative modes of transportation and other energy consuming infrastructures.

Prerequisite: ENVS 119, PHYS 002A, and PHYS 002B or instructor consent

Normal Grade Rules
3 units

ENVS 135. U.S. Environmental Policy

See POLS 135.

Normal Grade Rules
3 units

ENVS 136. Intro to Land Use and Urban Planning

See URBP 136.

Normal Grade Rules
4 units

ENVS 137. Green Building Design Issues

Provides an overview of green building design strategies based on renewable energy, water conservation, healthy interior design, beneficial building orientation, native landscaping, sustainable building materials; includes economics, policy, and green building auditing and certifications.

Prerequisite: Upper division standing.

Normal Grade Rules
3 units

ENVS 140. Politics and the Environment

Application of different political strategies to local issues examined through examples from specific environmental challenges facing the Bay Area. Considers relative contributions of the public, elected officials, government employees and interest groups in environmental decision-making.

Prerequisite: ENVS 1, ENVS 107 and ENVS 124 or instructor consent.

Normal Grade Rules
3 units

ENVS 142. Introduction to Environmental Planning

See URBP 142.

Normal Grade Rules
4 units

ENVS 144. California Wetland Controversies

Impact of agriculture, urbanization and other human land uses upon the California coastal wetlands with emphasis on current environmental problems and controversies. State public agencies concerned with vital environmental problems and analysis of current environmental legislation. May be repeated for a maximum of 8 units.

Prerequisite: ENVS 1 or instructor consent.

Misc/Lab: Lecture 4 hours/lab 4 hours.

Repeatable for credit
Normal Grade Rules
4 units

ENVS 146F. Communication and the Environment

See COMM 146F.

Normal Grade Rules
4 units

ENVS 148. Sustainable Materials Management

Focuses on practical understanding and approaches to managing discarded materials for sustainability. An interdisciplinary perspective that includes politics, business, economics, marketing, science, and environmental principles. Provides direct experience through field trips and service learning.

Prerequisite: ENVS 1 or instructor consent.

Misc/Lab: 3 hours lecture/ 2 hours lab

Normal Grade Rules
4 units

ENVS 150. Introduction to Environmental Thought

An introduction to significant works in the field of environmental studies. Topics covered include preservation, conservation, biocentrism, environmental justice, eco-feminism, deep ecology, and environmental activism. GE Area: S

Prerequisites: Pass the WST before enrollment. Upper division standing or instructor consent.

Normal Grade Rules
GE: S
3 units

ENVS 151. Race, Class and the Environment

See AFAM 151.

Normal Grade Rules
3 units

ENVS 152. Globalization and the Environment

Scientific approach to goods distribution worldwide, and environmental consequences of shipping materials and packaging, which when discarded become waste. Mutual interests of commerce and environment. GE Area: R

Prerequisite: Passage of the Writing Skills Test (WST) or ENGL/LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

Note: All SJSU Studies courses require completion of the WST and upper division standing.

Normal Grade Rules
GE: R
3 units

ENVS 154. Sustainable Agriculture

Analysis of and practicum in environmentally sustainable methods of food production, emphasizing biological diversity, water conservation, air quality, social equity and economic justice. Special focus on primary research in natural and social sciences for sustainable agriculture. Field trips and labs.

Prerequisite: ENVS 001 and GE B2 course, or instructor consent.

Misc/Lab: Lecture 3 hours/lab 2 hours.

Normal Grade Rules
4 units

ENVS 156. Introduction to Local Transportation Planning

See URBP 156.

Normal Grade Rules
4 units

ENVS 158. Environmental Education

Education of individuals can make a difference in protecting the environment. Comprehensive overview from the perspective of schools, American culture and law. Interdisciplinary approaches for correcting conditions created by modern living, energy and environmental demands.

Prerequisite: ENGL 1A and ENGL 2; upper division standing or instructor consent.

Normal Grade Rules
3 units

ENVS 159. Nature and World Cultures

See AMS 159.

Normal Grade Rules
GE: V
3 units

ENVS 160. Topics in Environmental Planning

See URBP 160.

Repeatable for credit
Normal Grade Rules
4 units

ENVS 161. California Wildlands

Discussion and field analysis of California's wildlands, including the range of biodiversity, associated agencies, environmental issues, policy choices and management approaches to protect different types of open space.

Prerequisite: ENVS 001 and ENVS 100W

Misc/Lab: 3 hours lecture/ 2 hours lab

Normal Grade Rules
4 units

ENVS 165. National Parks

See GEOG 165.

Normal Grade Rules
3 units

ENVS 166. Nature and Conservation Photography

Still photography of nature and illustrative conservation subjects in both color and black and white. Theory critique sessions supplemented with field experience. May be repeated for a maximum of 8 units.

Prerequisite: Photo experience or instructor consent.

Misc/Lab: Lecture 2 hours/activity 4 hours.

Repeatable for credit
Normal Grade Rules
4 units

ENVS 167. Managing Environmental Issues

See BUS5 167.

Normal Grade Rules
3 units

ENVS 168A. Global Climate Change I

See COMM 168A.

Normal Grade Rules
6 units

ENVS 168B. Global Climate Change II

See COMM 168B.

Normal Grade Rules
GE: RSV
3 units

ENVS 169. Introduction to Social Media in Planning

See URBP 169.

Normal Grade Rules
1-4 units

ENVS 170. Introduction to Environmental Health and Safety

An overview of environmental health and safety issues that affect industry and government, including regulatory framework and basic technical elements; course covers historical and legislative background, risk management and training required in the field.

Prerequisite: ENVS 100W.

Normal Grade Rules
3 units

ENVS 173. Forest Ecology and Conservation

A field based course designed to provide students with the conceptual framework and practical tools necessary for understanding the ecology and conservation of local forest ecosystems. Topics covered include forest restoration, succession, wildlife, diversity, natural and human disturbance, and the history of forest management.

Prerequisite: ENVS 01, ENVS 10, or upper division standing.

Misc/Lab: Lecture 3 hours/lecture 2 hour/lab.

Normal Grade Rules
4 units

ENVS 178. Intro to Regional Transport Planning

See URBP 178.

Normal Grade Rules
4 units

ENVS 179A. Fundamentals of GIS for Urban Planning

See URBP 179A.

Normal Grade Rules
4 units

ENVS 181. Environmental Resource Center

Supervised projects that support the Environmental Resource Center, a source of sustainability information and activities for the campus and community; projects help students take personal action toward achieving a sustainable lifestyle.

Prerequisite: ENVS 001 or instructor consent.

Misc/Lab: Activity 2-6 hours.

Repeatable for credit
Credit / No Credit
1-3 units

ENVS 184. Directed Reading

Directed reading in an environmental subject to gain broader knowledge.

Prerequisite: Specific proposal to or need defined by department, with consent of faculty.

Credit / No Credit
1-4 units

ENVS 185. Environmental Impact Analysis

Current environmental impact reports subjected to critical review; determination of alternative procedures and mitigating opportunities; extensive field analysis and practice.

Prerequisite: ENVS 001, ENVS 124 or instructor consent.

Misc/Lab: Lecture 3 hours/lab 2 hours.

Normal Grade Rules
4 units

ENVS 187. Environmental Restoration

Interdisciplinary art and science of restoring destroyed or degraded habitats. Emphasis on the interplay of ecological principles, policy, public involvement and economics in the planning, implementation and monitoring of restoration plans. Field work and independent research required.

Prerequisite: ENVS 001, GE B2 course and any 100W, or instructor consent.

Misc/Lab: Lecture 3 hours/lab 2 hours.

Normal Grade Rules
4 units

ENVS 189. Coastal Field Studies

Introduction to coastal processes, resources, policy, and conservation. Course emphasizes environmental issues, human impact, and protection efforts focusing on adapting to coastal change. Students conduct research and participate in local field trips along the California coast.

Prerequisite: ENVS 1.

Misc/Lab: Lecture 2 hours/lab 3 hours.

Normal Grade Rules
4 units

ENVS 190. Advanced Environmental Impact Assessment

Advanced work in the field of environmental impact assessment. Analysis of EIA documents for regulatory adequacy, consistency with local planning documents and technical accuracy.

Prerequisite: ENVS 185 or instructor consent.

Misc/Lab: Lecture 3 hours/lab 2 hours.

Normal Grade Rules
4 units

ENVS 191. Advanced Environmental Restoration

Advanced restoration research and applications. Emphasis on independent literature research and field data collection. Participation in on-going restoration project. Fieldwork and grasp of restoration principles required.

Prerequisite: ENVS 187.

Misc/Lab: Lecture 3 hours/lab 2 hours.

Notes: Offered only occasionally.

Normal Grade Rules
4 units

ENVS 193. Supervised Projects and Research

Projects and/or research to build practical environmental skills. Work on or off campus on projects with direct social value.

Prerequisite: Upper division standing.

Repeatable for credit
Normal Grade Rules
1-15 units

ENVS 194. Environmental Internship

Service in a local, city, county, state or federal environmental/sustainability agency, school or in environmental/sustainability industry; or with a worthwhile environmental education or protection organization or center.

Prerequisite: Senior standing in Environmental Studies.

Repeatable for credit
Credit / No Credit
1-9 units

ENVS 195. Instructor Assistant in Environmental Studies

Experience as a tutor assistant in classroom demonstrations, field techniques and discussion. May be repeated for a 4 unit maximum, but not for same course or instructor.

Prerequisite: Senior standing, ENGL 1A, instructor consent and appropriate academic background.

Repeatable for credit
Credit / No Credit
1-3 units

ENVS 198. Senior Seminar

Culmination of interdisciplinary curriculum in environmental studies through integration and critical assessment of the field. Goal is transition from undergraduate experience to full professionalism.

Prerequisite: Filed for graduation, completion of Environmental Studies core, including ENVS 100W.

Normal Grade Rules
3 units

ENVS 199. Senior Thesis

Thesis demonstrating grasp of environmental subjects and principles, ability to research in depth particular environmental problems and facility at recommending practical solutions.

Prerequisite: Senior standing in Environmental Studies, completion of all Environmental Studies core requirements and university 100W writing requirement.

Credit / No Credit
3 units

GRADUATE

ENVS 200. Seminar: Environmental Methods

Rigorous analysis of methods used by social, physical and natural scientists in assessing a region's natural resources and quality of environment. Environmental application of such techniques as field methods, maps, social surveys and project evaluation. Critique of individual research proposals.

Description: ENVS 297 and consent of graduate advisor.

Normal Grade Rules
3 units

ENVS 210. Current Topics in Environmental Studies

An investigation of current research topics in the field of Environmental Studies. lectures by faculty, visiting scholars, and Master's student candidates are accompanied by class discussions and analysis of academic journal articles.

Prerequisites: Graduate Student Standing or instructor consent

Repeatable for credit
Credit / No Credit
1-3 units

ENVS 230. Seminar: Environmental Theory

Intensive probe into interdisciplinary research and theories related to natural resources and environmental management. Applications of these theories to the present-day concerns of the resource manager and environmental professional. Oral critiques of various theories; advanced individual research paper and presentation.

Prerequisite: Graduate standing in Environmental Studies or instructor consent.

Normal Grade Rules
3 units

ENVS 250. Seminar: Environmental Thought and Philosophy

An in-depth critical analysis of significant works in the field of environmental studies. Topics covered include preservation versus conservation, biocentrism, environmental justice, eco-feminism, deep ecology, and environmental activism. Individual student research is presented with oral and written reports.

Prerequisite: Graduate standing in Environmental Studies or instructor consent.

Normal Grade Rules
3 units

ENVS 260. Computer Applications in Environmental Analysis

Overview of environmental simulation software used by professionals to investigate design alternatives and decision-making in the social and life sciences. Application of model designs to individual projects.

Prerequisite: Graduate standing in Environmental Studies or instructor consent.

Misc/Lab: Lecture 3 hours/lab 3 hours.

Repeatable for credit
Normal Grade Rules
3 units

ENVS 270. Field Studies in Water Resource Management

An intensive field investigation of water resource agencies and projects to acquaint resource managers, environmental quality specialists and other interested students with projects and philosophies unique to particular geographic areas.

Prerequisite: Upper division standing and ENVS 128 or ENVS 129, or instructor consent.

Misc/Lab: Lecture 4 hours/lab 2 hours.

Normal Grade Rules
4 units

ENVS 284. Directed Reading for Graduate Students

Directed reading on an environmental subject to assist graduate-level research thesis development. Analysis of peer-reviewed and grey literature; development of a literature review.

Prerequisite: Graduate student standing or instructor consent

Repeatable for credit
Credit / No Credit
3 units

ENVS 285. Graduate Internship

Advanced service in a local, city, county, state agency, federal agency or environmental industry.

Prerequisite: Graduate standing in Environmental Studies or instructor consent.

Repeatable for credit
Credit / No Credit
3-9 units

ENVS 291. Advanced Topics in Environmental Restoration

High-level restoration research and applications for advanced students. Emphasis on independent literature research and field data collection/analysis. Participation in ongoing restoration project and/or thesis research. Fieldwork and grasp of restoration principles required.

Repeatable for up to 8 units of credit

Prerequisite: Graduate standing and ENVS 187 or equivalent, or instructor consent.

Misc/Lab: Lecture 4 hours/Activity 2 hours.

Repeatable for credit
Normal Grade Rules
4 units

ENVS 295. Graduate Teaching Assistant

Teaching experience in environmental studies at the college level. Does not meet requirements for California Certification in Elementary or Secondary Education. May be repeated for maximum of 6 units, but not for same course or instructor.

Prerequisite: Graduate standing in Environmental Studies or instructor consent.

Repeatable for credit
Credit / No Credit
3 units

ENVS 297. Research and Proposal Development

Students develop their thesis topic through extensive literature research. The product will be a draft thesis proposal to be circulated among potential committee members.

Prerequisite: Graduate Standing in Environmental Studies or consent of instructor.

Note: This course satisfies graduate-level GWAR in this master's program.

Repeatable for credit
Normal Grade Rules
GE: GWAR
3 units

ENVS 298. Special Study

Advanced individual research and projects.

Prerequisite: Graduate standing in Environmental Studies or instructor consent.

Repeatable for credit
Mandatory CR/NC/RP
1-4 units

ENVS 299. Master's Thesis or Project

Masters thesis research.

Prerequisite: Graduate standing in Environmental Studies or instructor consent.

Repeatable for credit
Mandatory CR/NC/RP
1-6 units

UPPER DIVISION

ENVS 1290R. Culminating Experience Supervision

Continued work on dissertation, thesis, or project or in preparation for comprehensive exams beyond the minimum required units for cases in which final deliverables are still in progress and all other degree requirements except the culminating experience have been fulfilled.

Prerequisite: Outstanding RP grade in a preceding semester in a project or thesis class

Note: No Degree Credit.

No Degree Credit
1 unit

GLOBAL STUDIES

LOWER DIVISION

GLST 001A. Introduction to Global Studies

Introduces students to the scope of global studies as seen from the social and cultural perspectives. Readings based on the best critical studies of globalization and its outcomes. Occasionally, visiting professors will give new academic approaches to this field.

Normal Grade Rules
3 units

GLST 001B. Introduction to Global Studies

Presents scientific ways for understanding global phenomena and for developing policy to achieve positive outcomes of globalization. Interdisciplinary approaches require new analytical models. Visiting professors will collaborate with instructor. GE Area: B2

Normal Grade Rules
GE: B2
3 units

UPPER DIVISION

GLST 100W. Writing Workshop

See GEOG 100W.

Normal Grade Rules
GE: Z
3 units

GLST 143. Gender, Power, Intnl Dev

Explore issues of poverty, gender, economic transformations, inequality while examining the history of development. Consider various meanings given to development by women and men, primarily as residents of particular regions, but also as aid workers, policy makers, and government officials. Explore the underlying political, economic, social, and gender dynamics that make "development" an ongoing problem world-wide. GE Area: V

Prerequisite: Upper Division. Passage of the Writing Skills Test (WST) or ENGL/LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

Corequisite: Any 100W

Normal Grade Rules
GE: V
3 units

GLST 156. Technology of the Modern World

Analysis of development and global diffusion of technology in the 20th and 21st centuries. Interrogates historical narratives of modern technology, reflecting on broader ethical, political, human significance of modern technology. Ecological impacts of technologies. Power, problems, promise of technology.

Normal Grade Rules
3 units

GLST 162. Contemporary Global Issues

Interdisciplinary approach to contemporary global issues. Understanding and analyzing global issues are the focus of the course. Students will explore, analyze, and articulate the unique challenges each of the issues pose to the global community in ways that will foster student's ability to understand and evaluate causes, consequences, and responses to global challenges.

Pre-requisite: Upper Division standing or Instructor Consent

Normal Grade Rules
3 units

GLST 164. Advanced Seminar in Global Citizenship

Designed to encourage and inspire students to develop their own understanding of the concept of global citizenship and to develop informed perspectives related to concerns of the global community. Students will be asked to consider the impact they may have, as well as their individual and collective responsibilities, as global citizens, within their local, national, and global communities.

Pre-requisite:Upper Division Standing or Instructor Consent

Normal Grade Rules
3 units

GLST 167. Changing Ecologies of Globalization

Environmental and human issues and challenges 1492 to present. Global environmental shifts & relationship to social, demographic, cultural, political change. Human interaction with natural environment. GE Area: R

Prerequisite: Passage of WST; completion of Core GE; Upper division standing

Corequisite: GEOG 100W (if not already completed)

Normal Grade Rules
GE: R
3 units

GLST 179. Capstone Seminar in Global Studies

Course is designed for majors to help them to gain coherence in their theoretical knowledge, factual grounding, international living, personal aptitudes, and career aspirations. It will also give them experience in interdisciplinary research through preparation of a major scholarly paper. The format includes discussion, group analysis, visiting professors, and individual work.

Prerequisite: Completion of GLST 1A, senior standing.

Normal Grade Rules
3 units

GLST 187. Special Topics

Selected topics in Global Studies. Topics vary and will be announced each semester.

Prerequisite: Upper division standing.

Repeatable for credit
Normal Grade Rules
3 units

GLST 188. Special Topics in International Experiences

Study of modern history, government, immigration and impacts on development of diverse communities. Study of effects of immigration, economics, biases, and other factors on community development, as well as comparing and contrasting US and other cultural perspectives. Course offered as FLP in countries outside the U.S. GE Area: V

Prerequisites: Passage of the Writing Skills Test (WST) or ENGL/LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

Note: All SJSU Studies courses require completion of the WST and upper division standing.

Repeatable for credit
Normal Grade Rules
GE: V
3 units

GLST 189. Global Experience

Required for Global Studies majors. Completion of Global Studies sponsored faculty-led international educational study, semester-long residence abroad, for formal study, research, service learning, or internship. Students will develop their programs with the advice and approval of the GLST advisor and the International Programs and Service office. Students may transfer in additional credits from approved study, with prior approval of the GLST advisor.

Prerequisite: Completion of GLST 1A, junior standing.

Repeatable for credit
Credit / No Credit
1-3 units

SJSU SAN JOSÉ STATE UNIVERSITY

Academic Year 2019-2020

Course Descriptions

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July 1, 2019

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DESCRIPTION CONTENTS

Film and Theatre, Department of Courses

RADIO-TELEVISION-FILM

LOWER DIVISION

RTVF 010. The Art of Film
Study of the formal, aesthetic, historical, and cultural contexts of film as an art form. GE Area C1.
Normal Grade Rules
GE: C1
3 units

RTVF 020. Introduction to Audio for Film & Television
Fundamentals of audio production in film and television settings. Prerequisite: Instructor Consent. Misc/Lab: Lecture 2 hours/Activity 2 hours.
Normal Grade Rules
3 units

RTVF 021. KSJS On-Air Operations
On-Air operation of campus radio station KSJS-FM, FCC, equipment, D.J. interview, sports; all activities and processes required for live broadcasting, music, public service and community service programming.
Misc/Lab: Lecture 1 hour /Activity 4 hours.
Normal Grade Rules
3 units

RTVF 030. Introduction to Film & Television Production
Fundamentals of film and television production. Prerequisite: Instructor Consent
Misc/Lab: Lecture 2 hours/Activity 2 hours.
Normal Grade Rules
3 units

RTVF 031. Film and Television Aesthetics
Theory of applied aesthetics in video, film, and new media based on an examination of fundamental image and sound production. Prerequisite: Instructor Consent
Normal Grade Rules
3 units

RTVF 080. Introduction to Media
Analysis of the history and evolution of radio (audio) and television (video) in the U.S. Examination of programming, government regulation, advertising, networking, development of electronic media technologies and world media systems.
Normal Grade Rules
3 units

RTVF 082. Introduction to Film History
The history and evolution of the motion picture from 1895 to 1945. Viewing of representative films, study and discussion of major world film movements, important directors, and key genres.
Normal Grade Rules
3 units

UPPER DIVISION

RTVF 110. Media and Culture
Critical survey of roles played by electronic media in shaping culture. Media institutions are examined regarding information they distribute, entertainment they provide and influence they bring. Analysis of media sources, messages and audiences. GE Area: S
Prerequisite: Passage of the Writing Skills Test (WST) or ENGL/LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.
Note: All SJSU Studies courses require completion of the WST and upper division standing.
Normal Grade Rules
GE: S
3 units

RTVF 111. Alternative Cinema
Uses films from previously marginalized national cinemas from around the world as primary sources to teach students to appreciate, understand and compare diverse cultures. Introduces students to alternative modes of filmmaking and analysis. GE Area: V. Passage of the Writing Skills Test (WST) or ENGL/LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended. Note: All SJSU Studies courses require completion of the WST and upper division standing.
Repeatable for credit
Normal Grade Rules
GE: V
3 units

RTVF 120. Intermediate Audio for Film & Television
Techniques of audio production and post production for film and television settings. Prerequisites: RTVF 020, RTVF 030 and RTVF 031, upper division standing or instructor consent. No concurrent enrollment with prerequisites. Misc/Lab: Lecture 2 hours /Activity 2 hours.
Normal Grade Rules
3 units

RTVF 121. KSJS-FM Radio Activity
Student participation in radio with KSJS-FM. Activities supervised by area faculty. Repeatable, but only 6 units may be used for graduation. Open to all students whether lower division or upper-division standing.
Repeatable for credit
Credit / No Credit
1-3 units

RTVF 122. KSJS Station Operation & Mgmt
Structure and operation of non-commercial radio station KSJS-FM. Theory and practice of radio management, programming, production, public service, sales and engineering. Repeatable, but only 6 units may be used for graduation.
Prerequisite: Appointment to KSJS management staff or instructor consent.
Misc/lab: Lecture 1 hour/Activity 4 hours
Repeatable for credit
Normal Grade Rules
3 units

RTVF 130. Intermediate Film & Television Production
Techniques of film and television production. Prerequisites: RTVF 020, RTVF 030 and RTVF 031, upper division standing or instructor consent. No concurrent enrollment with prerequisites. Misc/Lab: Lecture 2 hours/ Activity 2 hours.
Normal Grade Rules
3 units

RTVF 131A. Post Production: Color Correction
Post production course with emphasis on color grading and correction of film and television production projects.
Prerequisites: RTVF 130 or instructor consent.
Misc/Lab: Lecture 2 hours/Activity 2 hours
Normal Grade Rules
3 units

RTVF 131B. Post Production Editing & Delivery
Editing, post production and delivery techniques for film and television projects.
Prerequisite: RTVF 130 or instructor consent.
Misc/Lab: Lecture 2 hours/Activity 2 hours.
Normal Grade Rules
3 units

RTVF 132A. Introduction to Cinematography
First in-depth course in cinematography. Principles of motion picture photography explored through lecture, discussions, projects and screenings. Skills of the cinematographer developed by shooting exercises during and outside of class. Appreciation of the art of and technology of cinematography.
Prerequisite: RTVF 030 or Instructor consent.
Misc/Lab: Lecture 2 hours/Activity 2 hours
Normal Grade Rules
3 units

RTVF 132B. Advanced Cinematography
Advanced, in-depth course in cinematography consisting of mostly hands-on practicum, with lectures as needed. Dramatic scenes are filmed in realistic production shooting situations, both in the studio and on location. Scripts to be photographed are selected by the professor and the students based on the challenges they present. Prerequisite: RTVF 131A or Instructor consent. No concurrent enrollment with prerequisites. Misc/Lab: Lecture 2 hours/Activity 2 hours
Normal Grade Rules
3 units

RTVF 133. Film & TV Production Management

Analysis of film and television organization and programming concepts, including production management, decision-making processes, technical script breakdown, and its relation to budgeting and finance.

Normal Grade Rules
3 units

RTVF 135. RTVF Production: Special Projects

Principles, procedures and techniques used to produce an advanced-level radio, audio, television or film project. See department office for specific project information.

Prerequisite: RTVF 020, RTVF 030, upper division standing or instructor consent.

Misc/Lab: Lecture 2 hours/Activity 2 hours.

Repeatable for credit
Normal Grade Rules
3 units

RTVF 136. Advanced Film & Television Production

Creation, production and direction of senior-level project utilizing cinematic language, advanced technical skills, directing talent, and narrative storytelling.

Prerequisite: RTVF 120, RTVF 130; Upper division standing or instructor consent.

Misc/Lab: Lecture 2 hours/Activity 2 hours.

Normal Grade Rules
3 units

RTVF 160. Introduction to Screenwriting

Basic principles and practices in writing scripts for film and/or television.

Prerequisite: RTVF 020, RTVF 030 and TA 100W, upper division standing or instructor consent.

Repeatable for credit
Normal Grade Rules
3 units

RTVF 161. Advanced Screenwriting

Each student develops an original screenplay through several drafts in this workshop. Drawing on constructive feedback from classmates and instructor. The course focuses on dramatic structure, character and plot development as well as visual language of the screen.

Prerequisite: RTVF 160.

Normal Grade Rules
3 units

RTVF 180S. Individual Studies

Directed study (special production or research projects) in specified fields not covered by offered courses.

Prerequisite: Instructor Consent

Repeatable for credit
Normal Grade Rules
1-3 units

RTVF 181. Modern Film History

The history and evolution of the motion picture after 1945. Viewing of representative films, study and discussion of major world film movements, important directors, and key genres. Prerequisites: RTVF 082, upper division standing or instructor consent.

Normal Grade Rules
3 units

RTVF 183. Critical Studies & Research in RTVF

Critical and scholarly inquiry into established and emerging areas of criticism, theory and research in RTVF studies. Production of scholarly criticism and research.

Prerequisite: RTVF 010, RTVF 080, Upper Division standing or instructor consent.

Normal Grade Rules
3 units

RTVF 185. Special Topics in RTVF

Special topics in radio, television and film. Contact department office for specific topic information. Open to all students whether lower division or upper-division standing. Repeatable for up to 6 units when topic changes.

Repeatable for credit
Normal Grade Rules
3 units

RTVF 198. RTVF Internships, Portfolio, Career Prep

Supervised internships with approved radio, television, film or media organizations. Written evaluation submitted by sponsor and student after field work. Repeatable for credit up to 6 units.

Misc/Lab: Lecture 3 hours/Activity 9 hours.

Repeatable for credit
Normal Grade Rules
3 units

RTVF 199H. Honors Program

See TA 199H.

Repeatable for credit
Credit / No Credit
2-3 units

THEATRE ARTS

LOWER DIVISION

TA 005. Acting

Basic acting class for non-theatre arts majors. Exploration of inner and external resources for performance, analysis of text and character, guidelines for successful rehearsal and performance. Learning to be seen, heard, understood and believed. GE Area: C1

Normal Grade Rules
GE: C1
3 units

TA 010. Theatre Appreciation

Study of the historical and cultural contexts of theatre around the world. Seeing and critical writing about plays. Hands-on experiences in the arts and crafts of live theatre. GE Area: C1

Normal Grade Rules
GE: C1
3 units

TA 011. Script Analysis

Detailed analysis of dramatic and screenplay scripts related to performance and production.

Normal Grade Rules
3 units

TA 013. Great Comedies for Theatre

This course is designed to introduce students to comedic dramatic literature and the performance techniques to stimulate the proper audience response. GE Area: C2

Normal Grade Rules
GE: C2
3 units

TA 015. Voice and Diction

Voice production and articulation for the performer. Voice and speech improvement through guided exercises in posture/relaxation, respiration, phonation, resonance and articulation. Standard American diction taught through use of the International Phonetic Alphabet.

Misc/Lab: Lecture 2 hours/lab 3 hours.

Normal Grade Rules
3 units

TA 017. Intermediate Acting

Scene Study class based on Stanislavsky Method. Students rehearse and memorize contemporary scenes performed for critique by the instructor. Acting techniques will focus on analysis, internal methods and characterization for playing scenes. Lab exercises additionally will include disciplined stage movement and improvisation techniques.

Prerequisite: TA 5 and

Co/Prerequisite: TA 11

Misc/Lab: Lecture 2 hours/lab 2 hours.

Normal Grade Rules
3 units

TA 048. Voice & Movement for the Actor

Course focuses on using voice & movement to understand different stages of human life, in its biological and cultural configurations we bring to the stage. Voice and movement shapes, unites and differentiates our communications and expressions as performers. GE Area: E

Normal Grade Rules
GE: EE
3 units

TA 051A. Scenery and Props for the Performing Arts

Introduction to facilities, materials and tools; safety guidelines for production shop and stage. Standard construction techniques and production vocabulary.

Note: Lec and Misc/Lab

Normal Grade Rules
1 unit

TA 051B. Costume for the Performing Arts

Costume production laboratory introducing costume construction techniques and materials, basic alteration techniques, costume craft techniques; costume shop organization, management, personnel and equipment.

Misc/Lab: Activity 2 hours.

Normal Grade Rules
1 unit

TA 051C. Lighting & Sound for the Performing Arts

Supervised hands-on activity with individual instruction in basic techniques and tools used in lighting and sound for the stage.

Misc/Lab: Activity 2 hours.

Normal Grade Rules
1 unit

TA 055. Intro to Design for Theatre

An introduction to the expansive field of visual and audio design for the performing arts, including scenic design, costume design, lighting design, sound design, and video/projection design. In exploring the practice of these rapidly evolving forms, students will exercise strategies for applying creative, fine-arts based solutions to a variety of challenges. Students will learn how theatrical designers collaborate and respond to literary prompts, such as play scripts, with art and technology to create physiological environments that impart psychological and social meanings.

Students will also have opportunities to participate directly in university productions through a hands-on practicum (lab) component.

Misc/Lab: 2 hours of Activity

Normal Grade Rules
3 units

TA 064. Make-up for Performing Arts

Makeup techniques for stage, television, film and print. Course covers makeup design, makeup materials and two dimensional application techniques. Laboratory work on actual stage productions, video and film shoots.

Misc/Lab: Lecture/demonstration 2 hours/lab 2 hours.

Normal Grade Rules
3 units

TA 091. Scenic Painting & Props

Supervised hands-on activity with individual instruction in basic techniques and tools essential to successful stage production in scene painting for the theatre, as well as the many facets of being a property master for theatrical productions. Repeatable for credit up to 6 units.

Misc/Lab: Lecture 2 hours/lab 2 hour.

Repeatable for credit
Credit / No Credit
1-3 units

UPPER DIVISION

TA 100W. Writing Workshop: Theatre Arts

Development of skills appropriate to the theatre profession: criticism, research, publicity and promotion materials, and cover letter and resume composition. GE Area: Z

Prerequisite: A3 or equivalent second semester composition course (with a grade of C- or better); Completion of core GE, satisfaction of Writing Skills Test and upper division standing. Allowed Declared Majors: Radio/Television/Film, Theatre Arts, Dance, Animation/Illustration, Special Majors (BA).

Note: All SJSU Studies courses require completion of the WST and upper division standing. Must be passed with C or better to satisfy the CSU Graduation Writing Assessment requirement (GWAR).

Normal Grade Rules
GE: Z
3 units

TA 103. Musical Theatre

The repertoire of musical theatre with intensive training in appropriate acting, singing and dance techniques.

Prerequisite: Upper division standing.

Misc/Lab: Lecture 2 hours/lab 3 hours.

Repeatable for credit
Normal Grade Rules
3 units

TA 110. Advanced Acting

Preparation, analysis and presentation of styles ranging from Chekhov to Shakespeare are the basis of this advanced scene-study course. Exploration of roles to develop authority, characterization, range and clarity are at the core of this class. Repeatable once for credit.

Prerequisite: TA 11, TA 17 and instructor consent.

Misc/Lab: Lecture 2 hours/lab 3 hours

Repeatable for credit
Normal Grade Rules
3 units

TA 112. Rehearsal and Performance

Analysis and production of a dramatic work that presents unusual problems of background, interpretation, style or meaning. Lectures, discussions, readings; rehearsal of play and participation in other aspects of the final production.

Prerequisite: TA 15, TA 5, TA 17 or instructor consent.

Misc/Lab: Lab hours required.

Repeatable for credit
Normal Grade Rules
3 units

TA 113. Acting and Professional Career Prep

External techniques for playing a role and for beginning a professional career in acting for stage and film are the primary focus of this class. Exercises in the TV studio and theatre will focus on quick study, taking stage, commercial auditions and voice-over practice, along with resume/picture/portfolio selection, audition techniques, selecting an agent, finding work.

Prerequisite: TA11, TA 17 or instructor consent.

Misc/Lab: Lecture 2 hours/lab 2 hours.

Normal Grade Rules
3 units

TA 116. Directing

Study and discussion of and practice in the fundamental principles of play direction; stage composition, movement, business, tempo; directing procedures; play selection and interpretation; problems in styles, casting and rehearsal and performance.

Prerequisite: TA 11, TA 5 or TA 17; TA 105.

Misc/Lab: Lecture 2 hours/activity 2 hours.

Normal Grade Rules
3 units

TA 117. Practice in Acting or Directing

Director analyzes, casts, rehearses scenes. The actor performs in a variety of roles. Repeatable for credit when content changes.

Prerequisite: TA 17 or TA 16 and instructor consent.

Misc/Lab: Activity 6 hours

Repeatable for credit
Normal Grade Rules
1 unit

TA 120. Theatre History

Examines the historical roots, many manifestations, and diversity of theatrical performances with particular attention to theatre's role within and between cultures.

Prerequisite: TA 011 or instructor consent.

Normal Grade Rules
3 units

TA 121. Topics in Performance History

Examines relations between performance and unique historical/cultural conditions that motivate change or continuity in a specific area of performing arts. Not a historical survey, but a problem-centered course that focuses on developing the power to think historically about performance.

Prerequisite: TA 011 or instructor consent.

Normal Grade Rules
3 units

TA 127. Contemporary Theatre

European and American playwrights from 1950 to the present and important theatre practices for this period. GE Area: V

Prerequisite: Passage of the Writing Skills Test (WST) or ENGL/LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

Note: All SJSU Studies courses require completion of the WST and upper division standing.

Normal Grade Rules
GE: V
3 units

TA 128. Scriptwriting

Writing in dramatic form: plot structure, characterization, content and theme. Analysis of plays. Exercises in writing.

Prerequisite: Upper division standing or instructor consent.

Repeatable for credit
Normal Grade Rules
3 units

TA 129. Advanced Scriptwriting

Writing in dramatic form-plays, film scripts, television scripts. Study and discussion of models. Criticism of student writing.

Prerequisite: TA 128 or RTVF 1 (or equivalent) and instructor consent. Upper division standing or instructor consent.

Repeatable for credit
Normal Grade Rules
3 units

TA 131. Storytelling

Course focuses on Storytelling and Creative Dramatics to teach Multiple Subject Credential Students theatre techniques.

Prerequisite: Upper division standing.

Normal Grade Rules
3 units

TA 144. Shakespeare I

See ENGL 144.

Normal Grade Rules
4 units

TA 145. Shakespeare and Performance

See ENGL 145.

Normal Grade Rules
4 units

TA 151. Lighting Design for Performing Arts

Theory and practice of designing lighting for the performing arts. Presents broad-based understanding of the design process and responsibilities; the importance of collaboration and communication in the theatre; and the skill of articulately presenting design ideas visually and orally.

Prerequisite: Upper division standing, TA 51C or instructor consent.

Misc./Lab: Lecture 2 hours/Activity 2 hours

Repeatable for credit
Normal Grade Rules
3 units

TA 152. Studies in British Drama before 1800

See ENGL 152.

Normal Grade Rules
4 units

TA 153. Costume Design for Performing Arts

Theory and practice of designing costumes for the performing arts. Presents broad-based understanding of the design process and responsibilities; the importance of collaboration and communication in theatre; and the skill of articulately presenting design ideas visually and orally.

Prerequisite: TA 51B or instructor consent

Misc/Lab: Lecture 2 hours/Activity 2 hours.

Normal Grade Rules
3 units

TA 154. Scenic Design for Performing Arts

Theory and practice of designing scenery for the performing arts. Presents broad-based understanding of the design process and responsibilities; the importance of collaboration and communication in theatre; and the skill of articulately presenting design ideas visually and orally.

Prerequisite: TA 51A or instructor consent

Misc/Lab: Lecture 3 hours/Activity 3 hours

Normal Grade Rules
3 units

TA 158. Model Making & Drafting Film & Theatre

Explores the processes, methods, tools, and skills used for scale model making and drafting for stage and screen.

Prerequisite: Upper division standing or instructor consent.

Misc/Lab: Lecture 2 hours/lab 2 hours.

Repeatable for credit
Normal Grade Rules
3 units

TA 161. Theatre Design Topics

Discussion of theatre design including scenic, property, costume, makeup, lighting, sound and facility design. Subject matter varies depending on specialty of faculty.

Prerequisite: TA 105 and upper division standing.

Misc/Lab: Lecture 2 hours/activity 2 hours.

Repeatable for credit
Normal Grade Rules
3 units

TA 167. Theatre in Education

Materials, problems and techniques of producing formal drama with and for children at the school, community and professional levels.

Prerequisite: Upper division standing.

Repeatable for credit
Normal Grade Rules
3 units

TA 168. Stage Management

Planning, communication, organizational structure and stage management practices including responsibility, communication, audition and rehearsal supervision, audience services coordination and working relationship with performance and production staff. Health and safety issues for performers and technical staff. Repeatable for credit up to 6 units.

Misc/Lab: Lecture 2 hours/lab 1 hour.

Repeatable for credit
Normal Grade Rules
3 units

TA 170A. Acting and Directing for the Camera

Acting techniques, voice and microphone use, movement for camera, gesture and the frame, role analysis for non-sequential performance, concentration, relaxation. Preparation, performance and critique of taped scenes.

Prerequisite: RTVF 130 or TA 017.

Misc/Lab: Lecture 2 hours/Activity 2 hours.

Repeatable for credit
Normal Grade Rules
3 units

TA 170B. Advanced Acting and Directing for the Camera

Using the grammar of film and narrative storytelling to direct, produce and write contemporary film and television scenes. Use of single- and multi-camera techniques.

Prerequisite: TA 170A or RTVF 132.

Misc/Lab: Lecture 2 hours/Activity 2 hours.

Repeatable for credit
Normal Grade Rules
3 units

TA 172. The Arts in U.S. Society

See CA 172.

Normal Grade Rules
GE: S
3 units

TA 173. Thinking About Contemporary World Arts
See CA 173.
Normal Grade Rules
GE: V
3 units

TA 180. Individual Studies
Directed study in specified fields not covered by offered courses.
Prerequisite: Department chair consent.
Repeatable for credit
Credit / No Credit
1-3 units

TA 191. Activity Projects in Theatre Production
Supervised activity with individual instruction in scenic construction, lighting, sound, painting, properties, costuming and makeup for regularly-scheduled production of plays. Repeatable for credit.
Co/Prerequisite: TA 51A, TA 51B, & TA 51C or instructors consent.
Activity 6 hours
Repeatable for credit
Normal Grade Rules
1-3 units

TA 198. Internship
Supervised internships with approved radio, television or theatre organizations. Written evaluation submitted by sponsor and student after field work. Repeatable for credit up to 6 units.
Prerequisite: Junior or senior standing and instructor consent.
Misc/Lab: Lecture 3 hours/Activity 6 hours
Repeatable for credit
Normal Grade Rules
3 units

TA 199H. Honors Program
Demanding project demonstrating student's ability to do independent action and research. Written thesis or, in the case of the creative project, analysis and evaluation of the aesthetic problem; thesis to be defended orally by the student before a theatre arts staff committee. May be repeated once for credit.
Prerequisite: Senior standing/3.0 GPA; by invitation only.
Repeatable for credit
Credit / No Credit
2-3 units

GRADUATE

TA 225. Seminar in Shakespeare
See ENGL 225.
Repeatable for credit
Normal Grade Rules
GE: GWAR
4 units

TA 231R. Performing Presentational Aesthetics
See COMM 231R.
Normal Grade Rules
4 units

General Engineering Courses

GENERAL ENGINEERING

LOWER DIVISION

ENGR 005. Science of High Technology

Scientific principles underlying commonly used high technology devices and systems such as the computer, cell phone, IPODS, cameras, and the Internet. Emphasizes practical applications of scientific principles to contemporary engineering products and services. GE Area: B1

Normal Grade Rules
GE: B1
3 units

ENGR 008Q. Engineering Success

Combination of workshop and lab exercises emphasizing group interaction, communications skills and problem solving for incoming students. May be repeated for a total of 2 units.

Misc/Lab: Activity 2 hours.

Repeatable for credit
Credit / No Credit
1 unit

ENGR 010. Introduction to Engineering

Introduction to engineering through hands-on design projects, case studies, and problem-solving using computers. Students also acquire non-technical skills, such as team skills and the ability to deal with ethical dilemmas. GE Area: E

Prerequisite: Eligible for MATH 019 and Writing Enrollment Category W-I or W-II, or ENGL 1AF with a grade of CR, or ENGL 1A with a grade of C- or better. Engineering Majors Only

Misc/Lab: Lecture 2 hour/lab 3 hours.

Normal Grade Rules
GE: EE
3 units

ENGR 011. Intro to Engineering: Transfer Students

Ethical issues related to engineering. Information literacy and communication skills in engineering. Working on multidisciplinary teams on collaborative engineering projects.

Prerequisite: Upper division transfer student in engineering

Normal Grade Rules
1 unit

ENGR 025. The Digital World and Society

The secure, effective and ethical use of information technology. The effect of such technology on people and institutions. Technology-related challenges to society and policy. Frameworks for the analysis of information technology with respect to its cultural, historical, environmental, and spatial contexts. GE Area: D1

Normal Grade Rules
GE: D1
3 units

ENGR 060SL. Engineering Projects in Community Service

EPICS is a service-learning course where engineering students work in multidisciplinary teams to undertake community-identified engineering projects. Students will gain insight into design and development processes and perform and report upon tasks consistent with their level of discipline expertise.

Prerequisite: Engineering major; non-remedial

Repeatable for credit
Normal Grade Rules
1 unit

ENGR 090W. Technical Writing Workshop

Weekly writing and speaking practice to develop technical communication skills. Repeatable not for graduation credit.

Prerequisite: Referral by engineering faculty.

Repeatable for credit
Credit / No Credit
2 units

UPPER DIVISION

ENGR 100W. Engineering Reports

Regular technical writing assignments and company-focused oral presentations while integrating effects of environmental factors as they relate to products, systems and engineering processes. GE Area: R and Z

Prerequisite: ENGL 1B or equivalent second semester composition course (with a grade of C- or better); Completion of core GE, satisfaction of Writing Skills Test and upper division standing. Allowed Declared Majors: All Engineering, Aviation, Industrial Technology, Mathematics and Applied Mathematics.

Note: All SJSU Studies courses require completion of the WST and upper division standing. Must be passed with C or better to satisfy the CSU Graduation Writing Assessment requirement (GWAR).

Misc/Lab: Lecture 3 hours/lab 3hours.

Normal Grade Rules
GE: ZR
3 units

ENGR 102. Renewable Energy Engineering

Essentials of fluid dynamics and heat transfer. Solar thermal theory and applications. Photovoltaic generation. Biomass and biofuels. Fuel cells. Energy systems, generation and storage.

Prerequisite: CHEM 1A and (PHYS 71 or PHYS 52 or PHYS 2B); Upper division standing in engineering.

Normal Grade Rules
3 units

ENGR 108. Green Electronics

Scientific principles underlying electronic and computer devices for non-engineers. Energy efficiency of consumer devices. Electricity consumption of the electronics students use in their daily lives. Social impacts of energy efficiency. GE Area: R

Prerequisite: Passage of the Writing Skills Test (WST) or ENGL/LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

Note: All SJSU Studies courses require completion of the WST and upper division standing.

Normal Grade Rules
GE: R
3 units

ENGR 119. Energy and the Environment

See ENVS 119.

Normal Grade Rules
GE: R
3 units

ENGR 120. Programming Concepts for Behavioral and Social Science Applications

This course covers the application of Python programming to the fields of behavioral and social sciences, as well as basic building blocks of computers and the Web. This course also covers how programming is used in various careers.

Prerequisite: STAT 095, or MATH 30, or MATH 71

Normal Grade Rules
3 units

ENGR 121. Data Structures and Algorithms for Behavioral and Social Science Applications

Represent and analyze behavioral and social science data using Python and data structures such as classes, trees, and graphs; use related algorithms to solve behavioral and social science problems.

Prerequisite: ENGR 120 with C- or instructor consent

Normal Grade Rules
3 units

ENGR 122. Data Technology for Behavioral and Social Science Applications

Use R programming language to collect, analyze, and present data sets from behavioral and social science applications.

Prerequisite: ENGR 120

Normal Grade Rules
3 units

ENGR 157SL. Community Action/Community Service

See COMM 157SL.

Normal Grade Rules
GE: S
3 units

ENGR 160SL. Engineering Projects in Community Service UD

EPICS UD is a service-learning course where upper division engineering students work in multidisciplinary teams to undertake community-identified engineering projects. Students will gain insight into design and development processes and perform and report upon tasks consistent with their level of discipline expertise.

Prerequisite: Engineering major; upper division standing

Repeatable for credit
Normal Grade Rules
1 unit

ENGR 180. Individual Studies

Individual work on special topics, by arrangement.

Prerequisite: Upper division standing and instructor consent.

Allowed Declared Majors: Engineering. Not available to Open University Students.

Repeatable for credit
Credit / No Credit
1-3 units

ENGR 184. Business Strategy in Practice in Technology Enterprise

This course provides students with the practical tools and assessment for applying their business acumen. The first half introduces the students to standard business assessment tools that feed business strategies, such as marketing, business development and M & A. The second half of the course is comprised of developing the basic elements of a formal Business Plan and providing both comprehension and application levels of learning of business strategy.

Prerequisite: BUS 193 or ENGR 193 and BUS 181.

Normal Grade Rules
3 units

ENGR 194. Business Organization and Management of Technology Enterprise

This course provides a "top down" overview of how commercial business works, including the business components: Corporate Environments, Human Resources, Legal, Marketing, Customer Insights, Management/ Leadership. Communication and business soft skills will be covered providing a foundation for a solid business acumen. All class sessions focus on local and global perspectives.

Prerequisite: BUS 193 or ENGR 193.

Normal Grade Rules
3 units

ENGR 195A. Global and Social Issues in Engineering

Interdisciplinary seminar treating social and global impacts of technology and engineering. This integrated GE experience requires students to apply these concepts in their senior project classes. Students must enroll concurrently in their department senior project course Part A. GE Area: S when taken as part of Engineering Major sequence.

Prerequisite: ENGR 100W with a C or better. Engineering Majors only. Completion of Core General Education and upper division standing are prerequisites to all SJSU Studies courses.

Corequisite: Enrollment in major capstone course or equivalent.

Note: Meets GE Areas S and V when course is taken in combination with ENGR 195B and Engineering major specific sequence. Must be passed with a C or better to earn S and V

Repeatable for credit
Normal Grade Rules
GE: S
1 unit

ENGR 195B. Global and Social Issues in Engineering

Second course in a two-course sequence to support the integration of General Education Area S and Area V into the engineering major. Case study approach to the relationship of engineering to social, ethical and cultural aspects of the broader community both in the U. S. and worldwide. GE Area: V when taken as part of Engineering Major Sequence.

Prerequisite: ENGR 195A (with a grade of "C" or better). Engineering Majors Only Passage of the Writing Skills Test (WST) or ENGL/LLD 100A with a "C or better" (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

Corequisite: Enrollment in major capstone course or equivalent.

Note: To receive credit for GE Areas S and V, students must complete both ENGR 195A and ENGR 195B, each with a grade of C or better. They must also complete their senior project course sequence and earn a grade of C or better in each course.

Repeatable for credit
Normal Grade Rules
GE: V
1 unit

ENGR 195C. Interdisciplinary Senior Project I

Interdisciplinary team senior design projects. Proposal preparation with feasibility plans and specifications; oral and written reports; professional seminars. GE Area: S when taken as part of an engineering major sequence.

Prerequisites: ENGR 100W; eligible for senior project course in major.

Note: Meets GE Areas S and V when course is taken in combination with: ENGR 195D, ENGR 195A and ENGR 195B

Normal Grade Rules
GE: S
3 units

ENGR 195D. Interdisciplinary Senior Project II

Construction, testing, and evaluation of the design from ENGR 195C culminating in demonstrations and written and oral presentations to faculty, industry mentors and peers. GE Area: V when taken as part of an engineering major sequence.

Prerequisites: ENGR 195C with a grade of "C" or better.

Note: Meets GE Areas S and V when course is taken in combination with: ENGR 195C, ENGR 195A and ENGR 195B

Normal Grade Rules
GE: V
3 units

ENGR 195E. Interdisciplinary Computing Project

Culminating project experience for students to apply computing knowledge and skills to solving problems or generating insights in their chosen area of study such as behavioral and social sciences.

Prerequisite: ENGR 120 or Instructor Consent

Normal Grade Rules
3 units

ENGR 197. Cooperative Education Project

Part or full-time on-site paid work experience based on a pre-approved project assignment in area of student's career objective. Oral presentations, written final report and evaluation by project supervisor. Approved technical elective.

Prerequisite: Instructor consent.

Normal Grade Rules
3 units

ENGR 198. Technology and Civilization

See TECH 198.

Normal Grade Rules
GE: V
3 units

GRADUATE

ENGR 200W. Engineering Reports and Graduate Research

Graduate level technical writing workshop designed to develop advanced communication skills that will readily transfer to the engineer's professional needs, along with research methodologies, copyright issues, and proper documentation for the master's thesis project.

Prerequisite: Graduate standing and completion of an undergraduate writing course.

Note: This course satisfies graduate-level GWAR in this master's program.

ABC/No Credit
GE: GWAR
3 units

ENGR 201. Engineering Analysis

Mathematical techniques for solving engineering problems. Topics include linear systems analysis, probability and statistics, and differential equations. Applications include modeling and simulation, optimization, projection, experimental design. Several computer projects are required.

Prerequisite: Graduate standing or instructor consent.

Normal Grade Rules
3 units

ENGR 202. Systems Engineering

Large scale system design and development. Integrated approach including mission statement, synthesis of design concepts, tradeoff studies, risk assessment and interactions encountered in the optimal design, development, manufacture and test of systems.

Prerequisite: Graduate standing or instructor consent.

Normal Grade Rules
3 units

ENGR 203. Engineering Management

Students will develop contemporary expertise in the principles of engineering finance, management, IP, operations management, performance metrics, and their application to design, development, and commercialization of new products and services in dynamic environments.

Prerequisite: Graduate standing and instructor consent.

Normal Grade Rules
3 units

ENGR 206. Renewable Energy Systems

Advanced knowledge in renewable energy resources such as solar, wind, geothermal, biomass, waves and tidal energy. Solar resources and technologies, Integrated Resource Planning and System Operations, Enabling technologies and new energy use trends: Smart Grid, Demand Response, Energy Storage, and Electric Vehicles.

Prerequisite: Instructor consent

Normal Grade Rules
3 units

ENGR 212. Engineering Management in a Global Economy

Application of engineering methodologies and practices to manage projects and organizations in a global digital economy. Topics include shifting from a manufacturing, production, marketing, and supply chain to a service economy, premium manufacturing, ethics, and competitive soft skills.

Prerequisites: ENGR 203 or Instructor Consent.

Normal Grade Rules
3 units

ENGR 231. Fundamentals of Facility Management

Overview of facility managers financial and business responsibilities. Principles of real estate and property management, facility operations, maintenance activities, and human resource management. Includes sustainable development, environmental management, and corporate social responsibility.

Repeatable for credit
Normal Grade Rules
3 units

ENGR 232. Technology for Facility Management

Overview of current and emerging facility management technologies and how and when to apply them. Includes facility management automation, transactional and human-centric processes, building automation and control systems, BIM technologies, and GIS analysis.

Repeatable for credit
Normal Grade Rules
3 units

ENGR 233. Managing Facility Assets for Cost and Compliance

Fundamental skills for assessing condition indices of assets in high-tech factories/laboratories, large office buildings, and other modern facilities; quantifying costs and financial impacts; and providing decision support for asset replacement or maintenance and for lease negotiation. Includes ISO 55000 standards for facility management.

Repeatable for credit
Normal Grade Rules
3 units

ENGR 234. Facility Operations and Maintenance

Fundamental skills and management and assessment tools for facility maintenance and operations. Includes predictive facility maintenance management, facility maintenance methods and strategies, analysis of service providers, and analysis of facility systems, equipment, and grounds. Prerequisite: ENGR 231

Repeatable for credit
Normal Grade Rules
3 units

ENGR 236. Design for Manufacturability

Knowledge-based design, value engineering, DFM methodologies, robust design, process and materials selection, design constraints, design for assembly. Techniques of quality engineering, CAD/CAM integration and simultaneous engineering, cost estimating, activity-based costing, case studies, team projects.

Prerequisite: Principles of Design and Manufacturing Processes.

Normal Grade Rules
3 units

ENGR 240. Control Systems Design and Applications

Introduction to control system analysis, feedback control theory, control law design and implementation. Topics include system modeling and identification, computer simulation, frequency domain and state space design approaches, control law implementation, and commonly used sensors and actuators for control systems. CAD tools for control systems analysis, design and simulation are used throughout this course.

Prerequisite: Graduate Standing

Normal Grade Rules
3 units

ENGR 261. Battery Technologies I

ENGR 261 teaches fundamentals of battery technologies. Concepts and understanding of electrochemical interactions, kinetics and thermodynamics in batteries will be covered. Basic concepts, material development and modeling of lithium-ion batteries will be discussed as well as understanding of flow batteries. Advanced and future technologies for next generation batteries will be introduced.

Normal Grade Rules
3 units

ENGR 262. Battery Technologies II

This follow-up course will provide an in-depth look at batteries with a focus on cutting-edge research and development. Topics such as material synthesis techniques, science of electrode fabrication, advanced characterization techniques, battery life degradation mechanisms, design of battery electrodes, thermal management, and state-of-charge and state-of-health measurements will be covered.

Normal Grade Rules
3 units

ENGR 263. Battery Electrochemsitry

This course will cover the basics of electrochemistry, including thermodynamics, kinetics, mass transfer effects, reference electrodes, porous electrodes, dilute and concentrated solution theory, and electro-analytical methods, including voltammetry, coulometry and impedance spectroscopy.

Normal Grade Rules
3 units

ENGR 264. Battery Manufacturing

Lectures will cover the manufacturing of Li-ion cells and battery packs in detail and the basics steps in manufacturing, equipment, cost considerations, and quality issues related to manufacturing.

Normal Grade Rules
3 units

ENGR 265. Battery Control Systems

Learn how to design, analyze, and perform experiments for model and system validation work on battery control systems in electric vehicles, solar and/or wind renewable energy storage, and retrieval systems for the electric grid.

Normal Grade Rules
GE: GWAR
3 units

ENGR 271. Passive Optical Sensing

An introduction to passive optical sensing systems, including application areas, phenomenology and component/technology performance analysis. Detector types, principles, noise and sensor cooling issues will be addressed. Case studies and system analysis of complete passive optical sensing systems included.

Prerequisite: Instructor consent.

Normal Grade Rules
3 units

ENGR 281. Master's Project/Thesis Preparation Seminar

Preparation for project or thesis research, including development of scope, assembly of committee, preparation of schedule, completion of literature survey, completion of introductory chapter for final report, and research proposal examination at the end of the course.

Prerequisite: Complete common and option core courses, a grade of "B" or better in ENGR 200W or any GS&R approved course that satisfies the Graduate Writing Competency Requirement and approved candidacy form on file.

Misc/Lab: Lab 3 hours.

Mandatory CR/NC/RP
1 unit

ENGR 282A. Engineering for Teachers: Introduction to Engineering Design

A thematic approach to the study of relevant topics and concepts in engineering. Development of inquiry-based, hands-on classroom activities in engineering education. Design process, research and analysis, teamwork, communication methods, global and human impacts, engineering standards, and technical documentation.

Prerequisites: Instructor consent

Mandatory CR/NC/RP
3 units

ENGR 282B. Engineering for Teachers: Principles of Engineering

A thematic approach to the study of relevant topics and concepts in engineering. Communication, presentation skills and teamwork, visualization and sketching techniques, introduction to mechanical systems and mechanisms, basic thermodynamics, fluid control and hydraulic systems, control systems and feedback, robotics, engineering units, instruments, tools and measurements, statics, material properties and strength of materials

Prerequisites: Instructor consent

Mandatory CR/NC/RP
3 units

ENGR 282C. Engineering for Teachers: Digital Electronics

A thematic approach to the study of relevant topics and concepts in electronics engineering. Introduction to process and control of digital signals, design process for combinational and sequential logic design, teamwork, communication methods, engineering standards, and technical documentation.

Prerequisites: Instructor consent

Mandatory CR/NC/RP
3 units

ENGR 282D. Engineering for Teachers: Gateway to Technology Foundations

A project-based curricular approach to the teaching of technology, designed to challenge and engage the natural curiosity and imagination of middle school students. Introduction to mechanical and computer control systems, robotics and animation, and explorations of the importance of energy, including innovative ways to reduce, conserve and produce it using solar, thermal and wind power.

Prerequisites: Instructor consent

Mandatory CR/NC/RP
3 units

ENGR 282E. Engineering for Teachers: Gateway to Technology Specializations

A project-based curricular approach to the teaching of technology, designed to challenge and engage the natural curiosity and imagination of middle school students. Includes units on the impact of energy on our lives and the environment; the science behind aeronautics; design, build and test an

airfoil; the science of electricity, behavior and parts of atoms, and sensing devices; knowledge and skills in basic circuitry design and examine the impact of electricity on our lives.

Prerequisites: Instructor consent

Mandatory CR/NC/RP
3 units

ENGR 282F. Engineering for Teachers: Civil Engineering and Architecture

A thematic approach to the study of relevant topics and concepts in engineering. Development of inquiry-based, hands-on classroom activities in engineering education. History of and careers in civil engineering and architecture including residential and commercial design, aesthetics and building safety codes.

Prerequisites: Instructor consent

Mandatory CR/NC/RP
3 units

ENGR 282G. Engineering for Teachers: Aerospace Engineering

A thematic approach to the study of relevant topics and concepts in engineering. Development of inquiry-based, hands-on classroom activities in engineering education. Introduction to the study of relevant topics and concepts in aerospace engineering, including the history and physics of flight, flight navigation, aerospace design, materials and structures, propulsion, flight physiology, space travel and aerospace careers.

Prerequisites: Instructor consent

Mandatory CR/NC/RP
3 units

ENGR 282H. Engineering for Teachers: Biotechnical Engineering

A thematic approach to the study of relevant topics and concepts in engineering. Development of inquiry-based, hands-on classroom activities in engineering education and careers. Topics include biotechnical history and industry, impact of technology on human health and safety, forensics, biomedical, environmental and agricultural applications.

Prerequisites: Instructor consent

Mandatory CR/NC/RP
3 units

ENGR 282J. Engineering for Teachers: Computer Integrated Manufacturing

A thematic approach to the study of relevant topics and concepts in engineering. Development of inquiry-based, hands-on classroom activities in engineering education and careers. Topics include history of manufacturing, control systems, design for manufacturability, cost estimating, and elements of automation.

Prerequisites: Instructor consent

Mandatory CR/NC/RP
3 units

ENGR 282K. Engineering for Teachers: Engineering Design and Development

A thematic approach to the study of relevant topics and concepts in engineering. Development of inquiry-based, hands-on classroom activities in engineering education and careers. Topics include project management, research and development of problem solutions, prototyping and testing, project and process evaluation, documentation and presentation.

Prerequisites: Instructor consent

Mandatory CR/NC/RP
3 units

ENGR 295A. Master Project I

In-depth developmental engineering work relating to problems of interest to an individual or a group of students. Project includes proposal formulation, analysis, design, implementation, and testing.

Prerequisite: Graduate Advisor consent. Not available to Open University students.

Repeatable for credit
Mandatory CR/NC/RP
3 units

ENGR 295B. Master Project II

A continuation of ENGR 295A. Students complete the in-depth project, write a detailed project report and make a comprehensive presentation and demonstration of project.

Prerequisite: Admission to Candidacy of Master's Degree and CMPE 295A or CMPE 295W. Not available to Open University students.

Mandatory CR/NC/RP
3 units

ENGR 297C. Special Topics in Systems Engineering

Special seminars and discussions to augment regularly-scheduled graduate courses. Emphasis on systems, process, product, and service integration in short-life cycle product and service industries using systems, concurrent engineering, and cost of ownership principles.

Prerequisite: Instructor consent.

Normal Grade Rules
3 units

ENGR 297D. Special Topics in Emerging Technologies

Special topics in emerging technologies that emphasize new development in technologies, skills and knowledge which are suitable for the new technologies development such as but not limited to Machine Learning, Big Data Processing, Analytics, Data Analysis, and Information retrieval.

Prerequisite: Instructor consent.

Normal Grade Rules
1-3 units

ENGR 297E. Special Topics in Electronic Materials and Devices

Special Seminars and discussions to augment regularly-scheduled graduate courses. Emphasis on VLSI design computer-aided design, modeling, simulation and testing. Materials and processes includes characterizing and processing of electronic materials.

Prerequisite: Instructor's consent

Repeatable for credit
Normal Grade Rules
3 units

ENGR 297G. Battery Technology 1

Basic and fundamentals about battery technologies. Cover the concepts and understanding of electrochemical, kinetics and thermodynamics in batteries. Discussion on basic concepts on material development and modeling of lithium-ion batteries as well as understanding of flow batteries. Introduction to advanced and future technologies for next generation batteries.

Prerequisite: Graduate standing or instructor's consent

Repeatable for credit
Normal Grade Rules
3 units

ENGR 297M. Special Topics in Engineering Management

Special seminars and discussions to augment regularly-schedule graduate courses. Emphasis on engineering management fundamentals, product development and marketing, finance management, managing people and organizations and communication, planning, estimation, tracking metrics, risk analysis, e-business, project and change management.

Prerequisite: Graduate standing or instructor's consent

Normal Grade Rules
3 units

ENGR 298. Master's Project

Completion of an in-depth project, a detailed project report, followed by a comprehensive presentation and demonstration of project.

Prerequisite: ENGR 281, satisfaction of English Proficiency requirement, advancement to candidacy.

Misc/Lab: Lab 6 hours.

Mandatory CR/NC/RP
2 units

ENGR 298I. MSE Internship

Student will be employed in an industry as an intern, working in an engineering area to their MSE option. This course supplements and supports the student's program of study.

Prerequisite: Students must have graduate standing.

Mandatory CR/NC/RP
1-3 units

ENGR 299. Master's Thesis

Master's thesis work in engineering.

Prerequisite: Admission to candidacy for master's degree; written contract with thesis advisor and graduate coordinator.

Misc/Lab: Lab 9 hours.

Repeatable for credit
Mandatory CR/NC/RP
1-6 units

UPPER DIVISION

ENGR 1081W. Basic Writing Workshop

Weekly writing to improve grammar and punctuation skills needed for student success. Repeatable for up to 6 units.

Notes: No Degree Credit.

Misc/Lab: Activity 3 hours.

Repeatable for credit
No Degree Credit
1 unit

ENGR 1290R. Culminating Experience Supervision

This course covers the same topics and has the same objectives as ENGR298/ENGR299.

Prerequisite: Student must have been enrolled in ENGR298 or ENGR299 in a previous semester.

Note: No Degree Credit.

Repeatable for credit
No Degree Credit
1 unit

SJSU SAN JOSÉ STATE UNIVERSITY

Academic Year 2019-2020

Course Descriptions

v1
July 1, 2019

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DESCRIPTION CONTENTS

Geography Courses

GEOGRAPHY

LOWER DIVISION

GEOG 001. Geography of Natural Environments
Atmospheric, biologic and geologic processes that create the natural environments of the world. Discovery of local, regional and global patterns in the location and distribution of environmental phenomena, and the human modifications of natural environments. GE Area: B1

Normal Grade Rules
GE: B1
3 units

GEOG 010. Cultural Geography
The human population studied through the perspective of cultural groups, their institutions and geographic distributions, how different people occupy, use, and modify their environment, and the interaction of individuals from one group with those of another. GE Area: D1

Normal Grade Rules
GE: D1
3 units

GEOG 012. Global Geography
Comparative geography of our world: regions and countries, natural environments and resources, settlements and land use, cultural diversity, economic and political patterns. GE Area: D2

Normal Grade Rules
GE: D2
3 units

UPPER DIVISION

GEOG 100W. Writing Workshop
Development of skills required for geographical research and writing. GE Area: Z

Prerequisite: A3 or equivalent second semester composition course (with a grade of C- or better); Completion of core GE, satisfaction of Writing Skills Test and upper division standing.

Note: Must be passed with C or better to satisfy the CSU Graduation Writing Assessment requirement (GWAR).

Normal Grade Rules
GE: Z
3 units

GEOG 105. Urban Geography
Spatial patterns in the urban environment: City function and morphology; population patterns and functional zonation; analysis of recent changes.

Prerequisite: Upper division standing or instructor consent.

Normal Grade Rules
3 units

GEOG 107. Mapping the World
Finding, preparing, and using maps, satellite and aerial images, and spatial data to create effective presentations. Includes a basic introduction to geographic visualization through cartography, geographic information systems, and remote sensing for professionals outside geography.

Prerequisite: Upper division standing or instructor consent.

Normal Grade Rules
3 units

GEOG 110. Urbanization in the Global South
This course explores issues and debates that relate to urbanization in the developing world. Students will gain a general understanding of the concept of urbanization in the developing world, and what are some of the issues, challenges, and policy responses found in these urban environments.

Prerequisite: Completion of the WST and core GE. Upper division standing

Pre/co-requisite: 100w

Normal Grade Rules
3 units

GEOG 112. Nations, Cultures, and Territorial Disputes
In a world with rapidly diminishing resources new conflicts are emerging based on factors such as ethnicity, economic opportunity, religion, and nationalism. Explore global circumstances leading to conflict. GE Area: V

Prerequisite: Passage of the Writing Skills Test (WST) or ENGL/LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

Note: All SJSU Studies courses require completion of the WST and upper division standing.

Normal Grade Rules
GE: V
3 units

GEOG 113. Global Cities
This course introduces various aspects of global cities, including debates over global cities, urban culture, new urban landscapes, and class/socio-economic disparity. The class includes case studies regarding global cities throughout the world that aim to explore the diversity and/or similarities of the global city formation process.

Normal Grade Rules
3 units

GEOG 115. Global Development
Exploration of contemporary global economy using variety of analytical approaches developed by geographers. Provides geographic perspective on world economy and environmental issues within a spatial context.

Prerequisite: Upper division standing. GEOG 101 recommended.

Normal Grade Rules
3 units

GEOG 117. Advanced Economic Geography
This is an advanced course in Economic Geography that explores the contemporary insights provided by geographers researching various dimensions of economy and space.

Prerequisite: Junior or Senior Standing

Normal Grade Rules
3 units

GEOG 120. Food Supply and Agricultural Systems
Geography of world agriculture and nutritional needs of a growing world population. Comparison of traditional and modern agricultural systems in their use of resources and technologies. Effectiveness in meeting demands and sustainability.

Prerequisite: Upper division standing or instructor consent.

Normal Grade Rules
3 units

GEOG 121. Population and Global Change
Impact of population changes on countries, regions, and their environments. Demographic comparisons of developed and developing societies from perspectives of land use, economics and politics.

Prerequisite: Upper division standing.

Normal Grade Rules
3 units

GEOG 123. Geography for K-12 Teachers
Geography for future K-12 teachers. Topics include mapping, places, and regions, and themes of human, physical and historical geography. Overview of geography in the California K-12 Frameworks as well as the geography in the California teacher credential examinations.

Prerequisite: Upper division standing or instructor consent.

Normal Grade Rules
3 units

GEOG 124. Topics in Physical Geography
Interactions between humans and environment from a geographical perspective.

Prerequisite: GEOG 1 or instructor consent.

Repeatable for credit
Normal Grade Rules
3 units

GEOG 125. Selected Topics in Human Geography
Changing topics in human geography.

Prerequisite: Upper division standing.

Repeatable for credit
Normal Grade Rules
3 units

GEOG 130. Natural Resources

Geography of economic, environmental, political and technological factors that define natural resources and affect their availability and use. Focus on water, food-producing and energy resources.

Prerequisite: Upper division standing or instructor consent.

Normal Grade Rules
3 units

GEOG 132. Creating Built Worlds

See ANTH 132.

Normal Grade Rules
3 units

GEOG 135. Qualitative Methods in Geographical Research

Development of skills required for geographical research and writing. Library research, oral presentations, variety of writing assignments dealing with diverse geographic problems.

Prerequisite: ENGL 2.

Normal Grade Rules
3 units

GEOG 140. The United States

Geography of the U.S. emphasizing the continuing changes of America's places and regions. Themes include environmental, culture, economic, and social geographies at community, regional and national scales.

Prerequisite: Upper division standing or instructor consent.

Normal Grade Rules
3 units

GEOG 145. California

Origins and patterns of California's diverse landscapes, including the geography of natural environments and resources, economic regions, land use, cultural patterns, political trends and the future.

Normal Grade Rules
3 units

GEOG 150. Central and South America and the Caribbean

Geography of Mexico, Central America, Caribbean, and South America. Themes include environmental, historical, political, and economic geographies at the scales of the region, its countries, and selected cities.

Prerequisite: Upper division standing or instructor consent.

Normal Grade Rules
3 units

GEOG 155. Europe

Geography of Western and Central Europe. Themes include environmental, historical, political, and economic geographies at the scales of the region, its countries, and selected cities. Particular emphasis is given to the increasing economic and political unity through the European Union.

Prerequisite: Upper division standing or instructor consent.

Normal Grade Rules
3 units

GEOG 160. East and South Asia

Geography of Eastern, Southeastern, and Southern Asia. Themes include environmental, historical, political, and economic geographies at the scales of the region, its countries, and selected cities. Particular emphasis is given to comparing and analyzing the variable rates of economic progress across the region.

Prerequisite: Upper division standing or instructor consent.

Normal Grade Rules
3 units

GEOG 161. City Life

See SOCI 161.

Normal Grade Rules
3 units

GEOG 165. National Parks

An exploration of the history, philosophy, and science of park and wilderness preservation. Includes site visits to selected parks and wilderness areas.

Prerequisite: Upper division standing or instructor consent.

Normal Grade Rules
3 units

GEOG 168. Sub-Saharan Africa

Regional study of environments, as well as cultural, economic and political geography of Africa south of the Sahara. Special attention given to geographic factors in the progress of less developed countries.

Normal Grade Rules
3 units

GEOG 170. Introduction to Mapping and Geographic Information Systems

Foundations of the mapping sciences and geographic information systems. Basics of earth measurement, location and mapping. Thematic map display and analysis. Application through a variety of laboratory experiences.

Prerequisite: Geog 1 or instructor consent.

Misc/Lab: Lecture 2 hours/lab 3 hours.

Normal Grade Rules
3 units

GEOG 171. Advanced Geographic Information Systems

Maps as tools of geographic expression and research. Introduction to spatial analysis through geographic information systems. Data collection and description; measuring absolute and relative location, patterns, interaction and association.

Prerequisite: GEOG 1, GEOG 170 or instructor consent.

Misc/Lab: Lecture 2 hours/lab 3 hours.

Normal Grade Rules
3 units

GEOG 172. Cartography: Compilation and Presentation

Techniques of compilation, design, construction and production. Lab projects applying computer graphics and geographic information systems to the effective presentation of geographic themes and information.

Prerequisite: GEOG 1 and GEOG 170 or instructor consent.

Misc/Lab: Lecture 2 hours/lab 3 hours.

Normal Grade Rules
3 units

GEOG 173. Cartography: Dynamic and Interactive Mapping

Design and implementation of dynamic and interactive presentations for visualizing geographic information. Lab projects creating animated and multimedia presentations. Designing user-interfaces for interactive mapping systems.

Prerequisite: GEOG 170, GEOG 172 or instructor consent.

Misc/Lab: Lecture 2 hours/lab 3 hours.

Normal Grade Rules
3 units

GEOG 175. Geographic Information Systems: Project Development

Creation of geographic information system databases and application software to solve specific problems in such areas as resource and facilities management, demographic analysis and planning.

Prerequisite: Geog 170 or instructor consent.

Misc/Lab: Lecture 2 hours/lab 3 hours.

Normal Grade Rules
3 units

GEOG 178. Geographic Information Systems Project

Develop geographic database, web mapping, interactive mapping, and/or remote sensing solutions to a GIS problem. Identification of appropriate methods, and design, implementation, testing, and documentation of solution.

Prerequisites: GEOG 170 and GEOG 171; 3 units from GEOG 173, GEOG 175, GEOG 181, or GEOG 182; or instructor consent.

Misc/Lab: Lecture 3 hours/lab 4 hours.

Normal Grade Rules
3 units

GEOG 180. Individual Studies

Student-initiated in-depth study of a mutually agreeable topic conducted under faculty guidance.

Prerequisite: Supervisor and department chair approval.

Repeatable for credit
Credit / No Credit
1-4 units

GEOG 181. Remote Sensing: Basic Theory and Image Interpretation

Acquisition, interpretation and applications of imagery obtained from both airborne and satellite platforms. Includes visual interpretation and analysis of airphotos and non-photographic images, such as radar and thermal infrared. Remotely-sensed imagery as a source for mapping and geographic information systems.

Prerequisite: GEOG 170 or instructor consent.

Misc/Lab: Lecture 2 hours/lab 3 hours.

Normal Grade Rules
3 units

GEOG 182. Remote Sensing: Digital Analysis

Digital image systems and application to earth resource problems. Emphasis on non-photographic sensors, including digital manipulation and image enhancement. Integration of digital imagery with geographic information systems.

Prerequisite: GEOG 170 or instructor consent.

Misc/Lab: Lecture 2 hours/lab 3 hours/field trips.

Normal Grade Rules
3 units

GEOG 186. Field Study in Physical Geography

Field research methods in physical geography, including biogeography, hydrology, soils, geomorphology, and human-environment studies. Mapping, GPS, landscape remote sensing, and field measurements. Local field trips and projects tailored to class interests.

Prerequisite: 6 units of upper division geography courses.

Credit / No Credit
3 units

GEOG 187. Field Study in Human and Historical Geography

Introduction to field methods in human and historical geography. Field trips, archival research, and student projects provide practical and applied skills and an informed view of the relationships between people and their environments.

Prerequisite: 6 units of upper division geography courses.

Credit / No Credit
3 units

GEOG 195. Spatial Analysis

Quantitative analysis of geographic information, including spatial statistics and analytical mapping; application of descriptive and inferential statistics to geographic problems.

Prerequisite: GEOG 170 and GEOG 171 or instructor consent.

Normal Grade Rules
3 units

GEOG 197. Geography Internship

Work/activity with professional application in off-campus establishment or agency. Course requirements and units determined in consultation with faculty advisor and work/activity supervisor.

Prerequisite: 12 units of geography.

Repeatable for credit
Credit / No Credit
1-6 units

GEOG 199. Senior Seminar

Capstone course examining the history of geographic thought and themes with emphasis on critical assessment of issues affecting current trends; objective of placing undergraduate experience in a professional context.

Prerequisite: Senior standing in geography.

Credit / No Credit
3 units

GRADUATE

GEOG 210. Geographic Thought and Theory

Critical inquiry into the historical and philosophical development of modern geographical concepts and theories.

Normal Grade Rules
3 units

GEOG 239. Geographic Information Technology

Research in application of technology to the design and implementation of computer mapping, remote sensing, and geographic information systems. Includes spatial database design issues, spatial processing algorithms, and cartographic visualization. Research project and paper. May be repeated for credit when offered as a different technology.

Prerequisite: Instructor consent.

Note: This course satisfies graduate-level GWAR in this master's program.

Repeatable for credit
Normal Grade Rules
GE: GWAR
3 units

GEOG 240. Qualitative Research Methods

Rigorous analysis of methods used by social scientists in assessing notions of human and physical geography. Application of determined qualitative techniques including participant observation, semi-structured interviews, focus groups, participatory action, oral histories, textual analysis, social survey. Project development and evaluation.

Prerequisite: Graduate level or instructor permission

Normal Grade Rules
GE: GWAR
3 units

GEOG 279. Geographic Information Science Applications

Research in applications of geographic information science in such areas as urban spatial analysis, environmental analysis, geo-demographic analysis, regional analysis, facilities management, and geographic education. Research project and paper. May be repeated for credit when offered as a different technology.

Prerequisite: Instructor consent.

Repeatable for credit
Normal Grade Rules
GE: GWAR
3 units

GEOG 282. Advanced Geographic Techniques

Specific topics in display and analysis of geographic information. Possible topics include advanced spatial analysis, cartographic representation, user-interface design, internet map server technology. May be repeated for credit when offered as a different technique.

Prerequisite: GEOG 170 or instructor consent.

Note: This course satisfies graduate-level GWAR in this master's program.

Repeatable for credit
Normal Grade Rules
GE: GWAR
3 units

GEOG 286. Geographic Information Systems: Project Management

Principles of project management applied to geographic information systems projects. Requirements assessment, estimating, scheduling, system design, and acceptance testing. Students will negotiate, plan and execute projects for outside agencies. May be repeated when course content changes

Prerequisite: GEOG 175 or instructor consent.

Repeatable for credit
Normal Grade Rules
3 units

GEOG 290. Seminar in Research Design for Geographic Information Science

Introduction to research in geographic information science. Includes definition of research problems, design of research project, identification of appropriate methodologies for acquiring, organizing and analyzing data, and presentation of research results. Research paper.

Prerequisite: Instructor consent.

Normal Grade Rules
3 units

GEOG 298. Special Study

Advanced individual research and projects unavailable in other department offerings conducted under the supervision of a faculty member.

Prerequisite: Approval of supervising faculty member and department chair.

Repeatable for credit
Mandatory CR/NC/RP
1-4 units

GEOG 299. Master's Thesis or Project
Prerequisite: Approved master's degree candidate.
Repeatable for credit
Mandatory CR/NC/RP
1-6 units

SJSU SAN JOSÉ STATE UNIVERSITY

Academic Year 2019-2020

Course Descriptions

v1
July 1, 2019

ALL DATES, FEES & INFORMATION SUBJECT TO CHANGE WITHOUT NOTICE

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DESCRIPTION CONTENTS

Geology Department Courses

GEOLOGY

LOWER DIVISION

GEOL 001. General Geology
Examination of geologic processes and materials, including volcanoes, earthquakes, rock formation, oceans, streams, and plate tectonics and their importance to society. GE Area: B1 and B3

Misc/Lab: Lecture 3 hours/Lab 3 hours and field trips.

Normal Grade Rules
GE: B1B3
4 units

GEOL 001L. General Geology Laboratory
Supplement to general lecture courses in Earth science or geology.

Pre/Corequisite: GEOL 2, GEOL 1, GEOL 6 or GEOL 111.

Misc/Lab: Lab 3 hours.

Normal Grade Rules
1 unit

GEOL 002. Geology for Engineers
This course provides a foundational introduction to geology as applied to civil engineering. The course focuses on learning and applying knowledge of geologic processes to civil engineering works, decision making, and evaluating the suitability of areas for urban infrastructure based upon geologic evidence and reasoning. Fieldtrips are required and may include weekends.

Prerequisite: Enrolled as Civil Engineering Major

Normal Grade Rules
3 units

GEOL 003. Planet Earth
Origins and processes of Earth's interconnected physical and chemical systems, including aspects of astronomy, geology, meteorology, and oceanography. Impacts of these systems on humans, and of humans on the systems. GE Area: B1

Normal Grade Rules
GE: B1
3 units

GEOL 004L. Earth Systems Lab
Hands-on investigations, measurements, and analysis of Earth's materials, processes, and hazards. Supplements general lecture courses in Geology. GE Area: B3

Misc/Lab: Lab 3 hours.

Normal Grade Rules
GE: B3
1 unit

GEOL 005. Human Development and the Natural World
Introductory course examining the role of the natural world on the physiological, social, and psychological development of human beings within the context of the environmental, social, and academic community system. GE Area: E

Normal Grade Rules
GE: EE
3 units

GEOL 006. Geology of California
California's geology, illustrating physical processes, landscapes, geologic history and resources. California's seismic, volcanic, landslide and flooding hazards, and their impact on society. GE Area: B1

Misc/Lab: Lecture 3 hours/field trips.

Normal Grade Rules
GE: B1
3 units

GEOL 007. Earth, Time and Life
Earth's geosphere: processes that act on it and materials that comprise it; how rocks and fossils are used to interpret the history of Earth's geosphere, atmosphere, oceans, and life forms. GE Area: B1 and B3

Misc/Lab: Lecture 3 hours/lab 3 hours.

Normal Grade Rules
GE: B1B3
4 units

GEOL 008. The Age of the Dinosaurs
Scientific overview of the Mesozoic Era, or "age of dinosaurs." The course will focus on the evolution of dinosaurs and other contemporaneous life forms, as well as the mass extinction events that mark the beginning and end of the Mesozoic. GE Area: B2

Normal Grade Rules
GE: B2
3 units

GEOL 009. Earth Disasters
Exploration of natural disasters related to earth processes, including earthquakes, volcanoes, landslides, tsunamis, flooding, and climate change, and their impacts on society. GE Area: B1 and B3

Misc/Lab: Lecture 2 hours/lab 3 hours.

Normal Grade Rules
GE: B1B3
4 units

GEOL 028. Geology Outdoors
Hands-on introduction to geology in a variety of field settings. Develop your observational skills at several of California's spectacular geologic attractions. Includes one-day field trips, a multi-day field trip, and short written reports.

Prerequisite: Completion of or co-enrollment in GEOL 3, GEOL 4L, and GEOL 7.

Credit / No Credit
1 unit

UPPER DIVISION

GEOL 100W. Writing Workshop
Advanced writing, including planning and preparation of scientific reports. Improvement of skills needed for writing scientific reports, project proposals and resumes through practice and evaluation. GE Area: Z

Prerequisite: A3 or equivalent second semester composition course (with a grade of C- or better); Completion of core GE, satisfaction of Writing Skills Test and upper division standing. Completion of or co-enrollment in GEOL 125, or instructor consent.

Note: Must be passed with C or better to satisfy the CSU Graduation Writing Assessment requirement (GWAR).

Normal Grade Rules
GE: Z
3 units

GEOL 103. Earth Systems and the Environment
Fundamental earth/space science concepts. Emphasis on active learning and guided inquiry. Recommended for students preparing for multiple subject credential. GE Area: R

Prerequisite: PHYS 001 or CHEM 030A, Passage of the Writing Skills Test (WST) or ENGL/LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

Note: Departmental consent required. All SJSU Studies courses require completion of the WST and upper division standing.

Normal Grade Rules
GE: R
3 units

GEOL 104. Earth Science Teacher Enhancement
A thematic approach to the study of regionally significant topics, including earthquakes, landslides and volcanoes. Development of hands-on classroom activities. Normally offered through University Continuing Education. Field trips.

Prerequisite: Teaching credential and instructor consent.

Repeatable for credit
Credit / No Credit
0.5-3 units

GEOL 105. General Oceanography
Scientific examination of the impact of oceans on global society, and human impacts on the oceans, through classroom discussions, computer exercises and field trips. GE Area: R

Prerequisite: Passage of the Writing Skills Test (WST) or ENGL/LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

Misc/Lab: Lecture 3 hours/field trips.

Note: All SJSU Studies courses require completion of the WST and upper division standing.

Normal Grade Rules
GE: R

3 units

GEOL 107. Prehistoric Life

Integrated interdisciplinary examination of the fossil record, including information from the fields of paleontology, genetics and cosmology that aids in the understanding of organic evolution and periodic massive extinctions. GE Area: R

Prerequisite: Passage of the Writing Skills Test (WST) or ENGL/LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

Note: All SJSU Studies courses require completion of the WST and upper division standing.

Normal Grade Rules
GE: R
3 units

GEOL 108. Water, Ecosystems and Society

Interdisciplinary investigation of hydrologic systems and their interactions with biologic communities and with society. Streams, lakes, estuaries, groundwater and the safety and protection of water resources.

Prerequisite: Upper division standing.

Misc/Lab: Lecture 3 hours/field trips.

Normal Grade Rules
3 units

GEOL 111. Geology and the Environment

The effect of Earth processes on humans and their structures. Environmental problems related to earthquakes, landslides, minerals, energy, water and urban growth. GE Area: R

Prerequisite: Passage of the Writing Skills Test (WST) or ENGL/LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

Note: All SJSU Studies courses require completion of the WST and upper division standing.

Misc/Lab: Lecture 3 hours/field trips.

Normal Grade Rules
GE: R
3 units

GEOL 112. Hazards, Risks of Earthquakes and Volcanoes

How, where and why earthquakes and volcanic eruptions occur. Analysis of hazards posed by earthquakes and volcanoes. Risks incurred by humankind due to these hazards. Minimizing risk; economic, social and political problems associated with earthquakes. GE Area: R

Prerequisite: Passage of the Writing Skills Test (WST) or ENGL/LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

Note: All SJSU Studies courses require completion of the WST and upper division standing.

Normal Grade Rules
GE: R
3 units

GEOL 120. Fundamentals of Mineralogy

Laboratory course designed to give students basic skills for identifying minerals and basic understanding of geologic processes that form minerals. Emphasis is on hand specimen and microscope identification.

Prerequisite: GEOL 001 and GEOL 007.

Misc/Lab: Lecture 2 hours / Lab 3 hours

Normal Grade Rules
3 units

GEOL 122. Petrology

Identification of minerals and rocks in hand sample and under the microscope. Processes of formation, description, and classification of igneous, sedimentary and metamorphic rocks.

Prerequisite: GEOL 120; completion of or co-enrollment in CHEM 1A.

Misc/Lab: Lecture 3 hours/lab 3 hours.

Normal Grade Rules
4 units

GEOL 124. Sedimentology and Stratigraphy

Study of the origin and description of sediment and sedimentary rocks; study of the formation, sequence, and correlation of stratified rocks. GE Area: R

Prerequisite: GEOL 001 and GEOL 007.

Misc/Lab; Lecture 2 hours/lab 3 hours.

Normal Grade Rules
GE: R
3 units

GEOL 125. Structural Geology

Recognition, interpretation and representation of structures of the Earth's crust. Analysis of basic principles of rock deformation.

Prerequisite: Math 19, Geol 1, Geol 7, Geol 28

Misc/Lab: Lecture 3 hours/lab and field 3 hours.

Normal Grade Rules
4 units

GEOL 127. Tectonics

Description of large-scale features of the Earth's crust and upper mantle and the processes which formed them. Emphasis on plate tectonics and its implications for the evolution of North America.

Prerequisite: GEOL 100W, GEOL 122, GEOL 124, GEOL 125.

Normal Grade Rules
3 units

GEOL 129A. Introductory Field Geology

Introductory level field methods, field mapping and interpretation of geologic and tectonic history. Students stay at camp sites that vary from year to year. Field Trip Fees Required.

Prerequisite: Geol 120, 122, 124 and 125 or permission of instructor

Normal Grade Rules
2 units

GEOL 129B. Advanced Field Geology

Geologic field mapping and interpretation of geologic and tectonic history. Students stay at camp sites that vary from year to year.

Prerequisite: Geol 122, 124, 125, or Permission of Instructor

Misc/Lab: Lab 6-12 hours.

Repeatable for credit
Normal Grade Rules
4 units

GEOL 129C. Intermediate Field Geology

Intermediate level field methods, field mapping and interpretation of geologic and tectonic history. Students stay at camp sites that vary from year to year.

Prerequisite: Geol 120, 122, 124 and 125 or permission of instructor

Normal Grade Rules
2 units

GEOL 130. Marine Geology

Introduction to the geology of continental margins and ocean basins. Discussions focus on crustal structures and the effect of plate tectonics and oceanographic processes on modern marine sedimentation.

Prerequisite: GEOL 001 or GEOL 007; GEOL 3 with instructor approval.

Misc/Lab: Lecture 3 hours/lab 3 hours.

Normal Grade Rules
4 units

GEOL 134. Geomorphology

Earth's surficial processes and landforms; effects of tectonics, climate and geology; landscape evolution. Landform interpretation using maps; surface water hydrology; applications.

Prerequisite: GEOL 001 and GEOL 007, or instructor consent; 1 year of college calculus and physics recommended.

Misc/Lab: Lecture 3 hours/lab 3 hours.

Normal Grade Rules
4 units

GEOL 135. Geochemistry

Application of geochemical and thermodynamic principles to solution of geologic problems. Topics include: equilibrium-disequilibrium reactions, major and trace element behavior, isotope systematics and modern analytical methods.

Prerequisite: GEOL 122 and CHEM 1B (or equivalent).

Misc/Lab: Lecture 3 hours/lab 3 hours.

Normal Grade Rules
4 units

GEOL 137. Introduction to GPS/GIS for Geologic Applications

Introduction to digital geologic mapping and analysis using Trimble GPS and ArcView GIS.

Prerequisite: GEOL 1 and GEOL 7, or instructor consent. Computer literacy assumed.

Misc/Lab: Lecture 2 hours/lab 3 hours.

Normal Grade Rules
4 units

GEOL 138. Hydrogeology

Geological principles of the occurrence, accumulation and migration of water; groundwater as a manageable resource; groundwater geochemistry and contaminant transport.

Prerequisite: GEOL 125 or instructor consent.

Recommend: MATH 32 and GEOL 135.

Misc/Lab: Lecture 3 hours/lab 3 hours.

Normal Grade Rules
4 units

GEOL 140. Principles of Engineering Geology

Qualitative and quantitative analysis of geologic factors influencing site selection, development and use; methods of data collection, interpretation and presentations.

Prerequisite: GEOL 125.

Misc/Lab: Lecture 3 hours/lab 3 hours.

Normal Grade Rules
4 units

GEOL 142. Paleontology

Study of the major groups of invertebrate fossils and their use in geological studies; principles of stratigraphy, including seismic stratigraphy.

Prerequisite: GEOL 001 and GEOL 007.

Misc/Lab: Lecture 2 hours/lab and field trips 3 hours.

Normal Grade Rules
4 units

GEOL 143. Active Tectonics

This course will introduce students to the interdisciplinary field of Active Tectonics. The aim of the course is to provide students with a comprehensive and quantitative understanding of the tectonic and surficial processes that shape the Earth's surface.

Prerequisites: Geol 1, 7, and 28. Geol 137 recommended.

Misc/Lab: Lecture 4 hours/Lab 3 hours

Normal Grade Rules
4 units

GEOL 145. Earth System Science

Exploration of the interconnected systems and processes that have driven Earth's evolution over time and continue to function today. Capstone course that includes course projects and labs.

Prerequisite: GEOL 001, GEOL 007 or instructor consent

Co-requisite: One semester of Chemistry

Normal Grade Rules
4 units

GEOL 147. Introduction to Applied Geophysics

Introduction to modern geophysical techniques with emphasis and environmental applications. Field techniques and case histories.

Prerequisite: PHYS 2A and PHYS 2B (or equivalent). GEOL100W. GEOL 1, GEOL 7

Misc/Lab: Lecture 2 hours/lab 3 hours.

Normal Grade Rules
4 units

GEOL 150. Field Studies in Natural History

See BIOL 150.

Repeatable for credit
Normal Grade Rules
GE: B3
1-2 units

GEOL 168A. Global Climate Change I

See COMM 168A.

Normal Grade Rules
6 units

GEOL 168B. Global Climate Change II

See COMM 168B.

Normal Grade Rules
GE: RSV
3 units

GEOL 174. Hazardous Materials

See CHE 174.

Normal Grade Rules
3 units

GEOL 180. Individual Studies

Advanced lab or field work.

Prerequisite: Instructor consent. Not available to Open University Students

Repeatable for credit
Credit / No Credit
1-3 units

GEOL 184. Directed Reading

Reading of books, journals and papers chosen to fill gaps in training. Evaluation through weekly reports and conference.

Prerequisites: Not available to Open University Students

Repeatable for credit
Credit / No Credit
1-3 units

GRADUATE

GEOL 204. Earth Systems Science for Teachers

Peer teaching and leadership instruction in earth science. Demonstrations, classroom activities, field projects and teaching strategies for K-12 teacher groups.

Prerequisite: Teaching credential and instructor consent.

Repeatable for credit
Normal Grade Rules
3 units

GEOL 213. Advanced Igneous and Metamorphic Petrology

Igneous and metamorphic processes and the evolution of the lithosphere. Application of field, petrographic and chemical data to models of petrogenesis. Laboratory emphasizes microscope studies and computer modeling.

Prerequisite: GEOL 121 (or equivalent).

Misc/Lab: Lecture 3 hours/lab 3 hours; field trips.

Note: This course satisfies graduate-level GWAR in this master's program.

Normal Grade Rules
GE: GWAR
4 units

GEOL 214. Sedimentary Petrology and Petrography

Petrographic study of sedimentary rocks with application of petrographic information to reconstructions of source terranes, depositional conditions and diagenesis. Discussion of nature and origin of carbonate and terrigenous components is emphasized.

Prerequisite: GEOL 124 and GEOL 213 or instructor consent.

Misc/Lab: Lecture 3 hours/lab 3 hours.

Normal Grade Rules
4 units

GEOL 222. Advanced Sedimentary Geology

Analysis of sedimentary facies, patterns of facies architecture and major controls on evolution of sedimentary basins.

Prerequisite: GEOL 123 and GEOL 127.

Misc/Lab: Lecture 3 hours/lab 3 hours; field trips.

Normal Grade Rules
4 units

GEOL 231. Advanced Structural Geology

Analysis of deformed rocks with emphasis on deformation mechanisms, small-scale structures, shear zones, faults and folds. Techniques of strain analysis and analyzing structure on maps are emphasized in the laboratory.

Prerequisite: GEOL 125.

Misc/Lab: Lecture 3 hours/lab 3 hours.

Note: This course satisfies graduate-level GWAR in this master's program.

Normal Grade Rules
GE: GWAR
4 units

GEOL 234. Advanced Geomorphology

We will investigate the role of geomorphology in affecting large-scale processes such as mountain uplift and the global climate. Coursework will include the manipulation of data sets from the Himalayas, topographic analysis of the Sierra Nevada, and modelling with Matlab.

Prerequisite: GEOL 134 or equivelant

Misc/Lab: Lecture 3 hours/lab 3 hours; 3-day field trip required.

Note: This course satisfies graduate-level GWAR in this master's program.

Normal Grade Rules
GE: GWAR
4 units

GEOL 237. Advanced GIS/GPS Mapping

Advanced methods of ArcGIS mapping and analysis using published digital datasets and/or student-generated Differential GPS files. Topics vary, depending on student interest, but are generally limited to natural sciences.

Prerequisite: GEOL 137 or instructor consent.

Misc/Lab: Lecture 4 hour/Lab 3 hours

Normal Grade Rules
4 units

GEOL 238. Advanced Hydrogeology

Numerical methods in groundwater modeling, vadose zone monitoring and transport and geochemistry of natural and contaminated waters.

Prerequisite: GEOL 138 or instructor consent.

Misc/Lab: Lecture 3 hours/lab 3 hours; field trips.

Note: This course satisfies graduate-level GWAR in this master's program.

Normal Grade Rules
GE: GWAR
4 units

GEOL 242. Advanced Paleontology

The lecture portion of this course will be conducted as a seminar; students will read and discuss classic and important newer papers on macroevolutionary theory and paleobiology. In the lab portion of this course, students will use fossil samples to develop and test scientific hypotheses that will be part of a semester-long project.

Prerequisites: Suitable background in geology or evolutionary biology.

Misc/Lab: Lecture 4 hours/Lab 3 hours.

Normal Grade Rules
4 units

GEOL 255. Advanced Geology

Selected topics in geology. Topics change with each offering.

Prerequisite: Suitable background in geology.

Misc/Lab: Lecture 3 hours/lab 3 hours.

Repeatable for credit
Normal Grade Rules
4 units

GEOL 285. Seminar

Fundamental problems in geology. Topics change with each offering. May be repeated when content changes.

Prerequisite: Instructor consent.

Misc/Lab: Discussion 2 hours.

Repeatable for credit
Normal Grade Rules
2 units

GEOL 298. Research

Advanced individual study in geology.

Prerequisites: Not available to Open University Students.

Repeatable for credit
Mandatory CR/NC/RP
1-4 units

GEOL 299. Master's Thesis

Prerequisite: Admission to candidacy for the master's degree. Not available to Open University Students

Repeatable for credit
Mandatory CR/NC/RP
1-4 units

UPPER DIVISION

GEOL 1290R. Culminating Experience Supervision

Continued work on thesis.

Prerequisite: Outstanding RP grade in a preceding semester in a thesis class

No Degree Credit
1 unit

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DESCRIPTION CONTENTS

SJSU SAN JOSÉ STATE UNIVERSITY

Academic Year 2019-2020

Course Descriptions

v1
July 1, 2019

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DESCRIPTION CONTENTS

Global Studies Courses

GLOBAL STUDIES

LOWER DIVISION

GLST 001A. Introduction to Global Studies
Introduces students to the scope of global studies as seen from the social and cultural perspectives. Readings based on the best critical studies of globalization and its outcomes. Occasionally, visiting professors will give new academic approaches to this field.

Normal Grade Rules
3 units

GLST 001B. Introduction to Global Studies
Presents scientific ways for understanding global phenomena and for developing policy to achieve positive outcomes of globalization. Interdisciplinary approaches require new analytical models. Visiting professors will collaborate with instructor. GE Area: B2

Normal Grade Rules
GE: B2
3 units

UPPER DIVISION

GLST 100W. Writing Workshop
See GEOG 100W.

Normal Grade Rules
GE: Z
3 units

GLST 143. Gender, Power, Intnl Dev
Explore issues of poverty, gender, economic transformations, inequality while examining the history of development. Consider various meanings given to development by women and men, primarily as residents of particular regions, but also as aid workers, policy makers, and government officials. Explore the underlying political, economic, social, and gender dynamics that make "development" an ongoing problem world-wide. GE Area: V

Prerequisite: Upper Division. Passage of the Writing Skills Test (WST) or ENGL/LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

Corequisite: Any 100W

Normal Grade Rules
GE: V
3 units

GLST 156. Technology of the Modern World
Analysis of development and global diffusion of technology in the 20th and 21st centuries. Interrogates historical narratives of modern technology, reflecting on broader ethical, political, human significance of modern technology. Ecological impacts of technologies. Power, problems, promise of technology.

Normal Grade Rules
3 units

GLST 162. Contemporary Global Issues
Interdisciplinary approach to contemporary global issues. Understanding and analyzing global issues are the focus of the course. Students will explore, analyze, and articulate the unique challenges each of the issues pose to the global community in ways that will foster student's ability to understand and evaluate causes, consequences, and responses to global challenges.

Pre-requisite: Upper Division standing or Instructor Consent

Normal Grade Rules
3 units

GLST 164. Advanced Seminar in Global Citizenship
Designed to encourage and inspire students to develop their own understanding of the concept of global citizenship and to develop informed perspectives related to concerns of the global community. Students will be asked to consider the impact they may have, as well as their individual and collective responsibilities, as global citizens, within their local, national, and global communities.

Pre-requisite:Upper Division Standing or Instructor Consent

Normal Grade Rules
3 units

GLST 167. Changing Ecologies of Globalization
Environmental and human issues and challenges 1492 to present. Global environmental shifts & relationship to social, demographic, cultural, political change. Human interaction with natural environment. GE Area: R

Prerequisite: Passage of WST; completion of Core GE; Upper division standing

Corequisite: GEOG 100W (if not already completed)

Normal Grade Rules
GE: R
3 units

GLST 179. Capstone Seminar in Global Studies
Course is designed for majors to help them to gain coherence in their theoretical knowledge, factual grounding, international living, personal aptitudes, and career aspirations. It will also give them experience in interdisciplinary research through preparation of a major scholarly paper. The format includes discussion, group analysis, visiting professors, and individual work.

Prerequisite: Completion of GLST 1A, senior standing.

Normal Grade Rules
3 units

GLST 187. Special Topics
Selected topics in Global Studies. Topics vary and will be announced each semester.

Prerequisite: Upper division standing.

Repeatable for credit
Normal Grade Rules
3 units

GLST 188. Special Topics in International Experiences
Study of modern history, government, immigration and impacts on development of diverse communities. Study of effects of immigration, economics, biases, and other factors on community development, as well as comparing and contrasting US and other cultural perspectives. Course offered as FLP in countries outside the U.S. GE Area: V

Prerequisites: Passage of the Writing Skills Test (WST) or ENGL/LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

Note: All SJSU Studies courses require completion of the WST and upper division standing.

Repeatable for credit
Normal Grade Rules
GE: V
3 units

GLST 189. Global Experience
Required for Global Studies majors. Completion of Global Studies sponsored faculty-led international educational study, semester-long residence abroad, for formal study, research, service learning, or internship. Students will develop their programs with the advice and approval of the GLST advisor and the International Programs and Service office. Students may transfer in additional credits from approved study, with prior approval of the GLST advisor.

Prerequisite: Completion of GLST 1A, junior standing.

Repeatable for credit
Credit / No Credit
1-3 units

Health Science and Recreation Department Courses

HEALTH PROFESSIONS

UPPER DIVISION

HPRF 134. Complementary and Alternative Health Practices

Philosophical, historical, clinical, and scholarly aspects of complementary and alternative medicine and associated health practices used in the US, with emphasis on scientific clinical investigation and evidence based efficacy.

Prerequisite: Completion of Core GE or instructor consent.

Normal Grade Rules
3 units

HPRF 135ITL. Health issues in a multicultural society-international experience

See HS 135ITL.

Normal Grade Rules
3 units

HPRF 180. Individual Studies

Individual work on special topics by arrangement.

Prerequisite: Upper division standing, instructor consent and division director approval.

Repeatable for credit
Credit / No Credit
1-5 units

GRADUATE

HPRF 260. Multidisciplinary Health Promotion in Later Life

See NUFS 260.

Normal Grade Rules
3 units

HEALTH SCIENCE

LOWER DIVISION

HS 001. Understanding Your Health

Introductory course on the interdependence of the physiological, social and psychological factors influencing the healthy well-being of individuals throughout the life span. Emphasis is on identifying and utilizing both university and community resources to assist in personal and educational development. GE Area: E

Normal Grade Rules
GE: EE
3 units

HS 015. Human Life Span

Emphasizes growth and development of the individual from conception to death - perspective on biological, cultural, sociological and psychological changes and continuities during the human life span. Special attention will be given to socioeconomic status, gender and ethic variations. GE Area: D1

Normal Grade Rules
GE: D1
3 units

HS 025. Health Team Building

Develops skills to work effectively on a health team. Learning to plan, implement and evaluate health programs; understanding the dynamic forces operating in groups; integrating and applying theory and practice.

Normal Grade Rules
3 units

HS 067. Introductory Health Statistics

A practical introduction to the statistical methods used in health, health care, biomedical, and public health settings. Concepts are illustrated with concrete examples that demonstrate how principles operate and are applied to common health problems. GE Area: B4

Prerequisite: Math Enrollment Category M-I or M-II, or completion of a GE Area B4 course with a grade of C- or better.

Normal Grade Rules
GE: B4
3 units

HS 074. Healthy Communities

Transdisciplinary introduction to community health. Strategic analysis of local communities, evidence-based interventions, impact of environmental changes at individual, family, neighborhood, and community levels. Focus on healthy policies, built environment, leisure, equity, and integration of recreation and population health approaches.

Pre-requisites: Successful Completion of HS 001 or RECL 10

Normal Grade Rules
3 units

UPPER DIVISION

HS 100W. Writing Workshop

Development of skills in scientific and technical writing. How to write a critical review of published writing, a business letter, a scholarly paper, and give an oral presentation. GE Area: Z

Prerequisite: A3 or equivalent second semester composition course (with a grade of C- or better); Completion of core GE, satisfaction of Writing Skills Test and upper division standing.

Note: Must be passed with C or better to satisfy the CSU Graduation Writing Assessment requirement (GWAR).

Normal Grade Rules
GE: Z
3 units

HS 101B. Computer Applications for Professionals

See NUFS 101B.

Normal Grade Rules
3 units

HS 103. Introduction to Health Policy

Examination of historical and current policies related to public health, stakeholders in health policy making and advocacy, and health policy frameworks for conducting policy analysis and policy making.

Co-requisites: Any 100W, HS/HPRF 100W preferred.

Normal Grade Rules
3 units

HS 104. Community Health Promotion

Examination of community health issues, needs and assets, core determinants, enabling factors, and levels of intervention. Introduction to community approaches to disease prevention and health promotion, risk and resilience, social capital, and social change to promote community health.

Prerequisite: HS1, HS15, HS67, HS74.

Corequisite: HS 114

Normal Grade Rules
3 units

HS 105. Current Issues in Nutrition

See NUFS 105.

Normal Grade Rules
3 units

HS 106. Concepts in Peer Health Education

Exploration of peer and lay health education as an effective health promotion strategy. Emphasis on college health and the skills and knowledge to be a successful peer health educator in a university setting. Interactive, skills-based seminar includes service-learning at SJSU.

Normal Grade Rules
3 units

HS 107. Aging and Society

See GERO 107.

Normal Grade Rules
GE: S
3 units

HS 108. Health in Later Life

See GERO 108.

Normal Grade Rules
3 units

HS 111. Medical Ethics

See PHIL 111.

Normal Grade Rules
3 units

HS 114. Applications in Community Health Promotion

Application of community health promotion and disease prevention through service learning. Collaborate with community-based partners to improve health and reduce disparities.

Prerequisite: HS 74. Upper Division Standing, Major/Minors Only.

Corequisite: HS 104

Credit / No Credit
3 units

HS 117. Social Policy and Services in Aging

See GERO 117.

Normal Grade Rules
3 units

HS 118. Long Term Care Services

See GERO 118.

Normal Grade Rules
3 units

HS 122. Women in the Second Half of Life

See GERO 122.

Normal Grade Rules
3 units

HS 126. Drugs, Brain and Behavior

See PSYC 126.

Normal Grade Rules
3 units

HS 135. Health Issues in a Multicultural Society

Multidisciplinary interpretation and evaluation of consumer health issues. Impact of cultural variables (including communication methods, socioeconomic status and traditional beliefs) on health and illness. Interaction of individuals in families and other groups. GE Area: S

Prerequisite: Passage of the Writing Skills Test (WST) or ENGL/LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

Note: All SJSU Studies courses require completion of the WST and upper division standing.

Normal Grade Rules
GE: S
3 units

HS 135ITL. Health issues in a multicultural society-international experience

This course examines culturally related consumer health issues including the impact of cultural variables on health and illness. The course is designed to improve student understanding and competency in the area of self, society, and equality in international settings.

Corequisite: Completion of, or co-registration in, 100W is strongly recommended.

Normal Grade Rules
3 units

HS 137. Families, Aging, and Diversity

See GERO 137.

Normal Grade Rules
3 units

HS 140. Human Sexuality

See ANTH 140.

Normal Grade Rules
GE: S
3 units

HS 145. Community Mental Health

Comprehensive analysis of community mental health using a socio-ecological framework. Intersection of race, socioeconomic status, gender, sexual orientation, and mental health is examined. Emphasis is on prevention and recovery.

Prerequisite: Any 100W or instructor consent.

Normal Grade Rules
3 units

HS 158. Health Communications

Introduction to, and application of, health communication concepts, theories, and principles to specific health topics. Students will gain a broad understanding of the role of communication and its complexity as it relates to disease prevention and health promotion.

Prerequisite: HS 1, HS 15, and HS 67 with a grade of C or better in each. Health Science Majors/Minors only

Misc/Lab: Lecture 3 hours/lecture 3 hours.

Normal Grade Rules
3 units

HS 159. Health Program Planning

Students develop a community health plan that is based on an assessment of needs and community assets. The plan includes interventions that reflect "Best Practices" and recognize the value of partnerships, media advocacy and policy advocacy.

Prerequisite: Upper division standing. Any 100W, (HS/HPRF 100W preferred), HS 104 and HS 161 with a grade of C or better in each.

Misc/Lab: Lecture 3 hours/lecture 3 hours.

Normal Grade Rules
3 units

HS 161. Epidemiology

The study of population-based risks of infectious and noninfectious diseases and how these risks relate to cause, treatment and prevention. Restricted to Majors and minors.

Prerequisite: Completion of HS 1, HS 15, and HS 67 with a grade of C or better. Upper division standing. Public Health Majors and Minors only or instructor consent.

Misc/Lab: Lecture 3 hours/lecture 3 hours.

Normal Grade Rules
3 units

HS 162. Health Care Organization and Admin

Exploration of health economics, financing, insurance theory and contemporary trends in health care organization, management and administration.

Co-requisite: HS/HPRF 100W or other 100W course. Restricted to Public Health Majors and Minors only or instructor consent.

Normal Grade Rules
3 units

HS 164. Health Services and Social Marketing

Introduction to marketing principles and concepts as applied in community health education and health services settings. Examination of difference between strategic business marketing and social marketing for health, through examples of successful health education and health services programs. Restricted to Public Health Majors or instructor consent.

Prerequisite: HS 158 with a grade of C or better. Public Health Majors only.

Misc/Lab: Lecture 3 hours/lecture 3 hours.

Normal Grade Rules
3 units

HS 165. The Health Professional

Preparation for entry into community health professions with an emphasis in four areas; (1) settings and roles, (2) skills for practice, (3) ethics, and (4) leadership and professional associations.

Prerequisite: senior standing, HS majors in Final Semester and minors only.

Misc/Lab: Lecture 3 hours/lecture 3 hours.

Normal Grade Rules
3 units

HS 166A. Field Experience Seminar

Theory and practice in a community health agency, health care facility or industry.

Prerequisite: Senior standing, Public Health majors and minors in their final semester only.

Corequisite: HS 166B

Credit / No Credit
3 units

HS 166B. Fieldwork Experience

Supervised work experience in an official or voluntary health agency, health care facility or industrial setting: short-term projects, observation of agency or facility dynamics and individual skills development.

Prerequisite: Senior standing, Public Health Majors and Minors in their final semester only.

Corequisite: HS 166A.

Credit / No Credit
3 units

HS 167. Biostatistics

Statistical analysis of health and biological data covering measurement scales, random sampling, data quality, data storage descriptive and exploratory techniques, probability distributions, estimation and hypothesis testing, includes an integrated lab activity.

Prerequisite: HS 67 with a minimum grade of C. HS Majors only.

Misc/Lab: Lecture 2 hours/activity 2 hours

Normal Grade Rules
3 units

HS 168. Health Education Theory and Methods

Explores the foundations and applications of health education theory. Students will study models of individual, interpersonal and community health behavior. They also will learn methods for applying theory in research and health education practice.

Prerequisite: HS 104.

Normal Grade Rules
3 units

HS 169. Diversity, Stress and Health

See KIN 169.

Normal Grade Rules
GE: S
3 units

HS 170. Health Care Economics

Study of the economics of health care and understanding cost-benefit, cost-effectiveness ratio and decision tree analysis for health care.

Prerequisite: HS 162 with a minimum grade of C.

Normal Grade Rules
3 units

HS 171. Managed Health Care

Study of managed health care and its growth and impact on the organization and delivery of health services in the United States.

Prerequisite: HS 162 with a grade of C or better.

Normal Grade Rules
3 units

HS 172. Contemporary Environmental Health Issues

Examines the complex and interdependent relationship between environment and health outcomes. Advances scientific understanding of evolution and biodiversity, ecosystems, population dynamics, sustainability of earth's resources, pest management, solid and hazardous waste, water and air pollution, climate change, and environmental/occupational exposures. GE Area: R

Prerequisites: Passage of the Writing Skills Test (WST) or ENGL/LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

Note: All SJSU Studies courses require completion of the WST and upper division standing.

Normal Grade Rules
GE: R
3 units

HS 173. Comparative Healthcare Systems

A comprehensive examination of the structure of healthcare systems in selected countries worldwide. Specific attention is paid to the developmental history of the national healthcare systems, financing, and delivery infrastructure. The impact of international relations is also examined.

Prerequisite: HS 162 with grade of 'C' or higher.

Note: HS 173 required for students completing the Health Science, Option 4, Health Services Administration Concentration.

Normal Grade Rules
3 units

HS 174. Fundamentals of Health Information Tech

Introduction to the principles and practices of health information technology to administer healthcare systems and promote public health. Focus on best practices, case-based learning, and global comparisons of innovative systems.

Prerequisite: HS 162 with a grade of C or better

Normal Grade Rules
3 units

HS 175. Legal/Ethical Aspects, Healthcare Admin

Exploration of legal and ethical issues facing the health care industry, government regulation, patient rights, and corporate/administrative responsibility.

Prerequisite: HS 162

Note: HS 175 required for students completing the Health Science, Option 4 Health Services Administration Concentration. To register, students must have completed HS 162 with grade of 'C' or higher.

Normal Grade Rules
3 units

HS 176. Introduction to Global Health

Examination of global distribution of disease and wellbeing. Explore connections between global health and social/economic development. Multidisciplinary approach to critical problems including HIV/AIDS, malaria, complex humanitarian emergencies, and disasters. Addresses ethics and leadership in global health.

Prerequisite: Upper Division Standing

Normal Grade Rules
3 units

HS 180. Individual Studies

Individual work on special topics by arrangement.

Prerequisite: Upper division standing, instructor consent and department chair approval. Not available to Open University Students.

Repeatable for credit
Credit / No Credit
1-4 units

HS 184. Directed Reading

Directed reading in journals and books of authorities in the field of health.

Prerequisite: Upper division standing and department chair consent. Not available to Open University Students.

Repeatable for credit
Credit / No Credit
1-4 units

GRADUATE

HS 200. Contemporary Practice in Public Health

Introduction to the philosophy, ethics, historical roots, and approaches of contemporary public health education and health promotion. Emphasis is on frameworks and strategies used in practice.

Repeatable for credit
Normal Grade Rules
2 units

HS 201. Groups and Training: Theory and Practice

Addresses the study of group theories, dynamics, and processes in professional context of public health. Students will experience and evaluate team processes such as stages of group development, facilitation, successful communication, conflict, power and influence, problem-solving, and decision-making.

Normal Grade Rules
2 units

HS 205A. Quantitative Methods for Public Health Practice I

Integrated approach to the disciplines of Biostatistics and Epidemiology. Develops quantitative skills to evaluate data and make evidence-based decisions. Covers conduct and design of epidemiologic studies, basic biostatistical analyses, biostatistical software, and foundational knowledge of exposure and outcome assessment.

Normal Grade Rules
3 units

HS 215. Qualitative Methods for Public Health Practice

Introduction to qualitative methods, with focus on theory, data collection, and analysis. Students will collect qualitative data and analyze that data using software. Additional topics include research ethics, study design, and community-based participatory research.

Normal Grade Rules
3 units

HS 261. Principles of Epidemiology

Introduction to epidemiologic concepts and methods with applications to public health practice for students intending to engage in, collaborate in, or interpret the results of epidemiologic studies in the scientific appraisal of community health.

Prerequisite: HS 167 or equivalent.

Normal Grade Rules
3 units

HS 262. Health Policy and Organization

Health policy and the organization of health services, with a focus on the United States. Health policy analysis, the policy-making process, health care economics, insurance theory, comparative health systems, and health care quality.

Normal Grade Rules
3 units

HS 263. Principles and Skills of Health Administration

Application of administrative concepts and skills in health systems agencies. Includes decision-making, communication, funding, budgeting, marketing, personnel management, labor relations, planning, evaluation and health promotion.

Normal Grade Rules
2 units

HS 265. Environmental Health

Investigation of environmental health issues: risk evaluation, risk management, hazardous materials, occupational health and safety, plus air, water and noise pollution. Learning fundamentals of managing environmental health problems.

Repeatable for credit
Normal Grade Rules
3 units

HS 267. Computational Public Health Statistics

Methods of public health and biostatistical data collection, management, analysis and reporting using microcomputers, including the detection and control of confounding factors.

Prerequisite: HS 167 or instructor consent.

Normal Grade Rules
3 units

HS 269. Applied Data Analysis

Overview of quantitative and qualitative data analysis and reporting. Application of basic quantitative analysis concepts introduced in computational statistics and research courses. Specific emphasis of interpretation of qualitative data including data reduction, text management, coding, content analysis, and data trustworthiness.

Prerequisites: HS 295

Pre/Corequisites: HS 267

Repeatable for credit
Normal Grade Rules
3 units

HS 271. Theoretical Foundations of Public Health

Role of theory in shaping practice, research and evaluation that facilitates social change and promotes health across the spectrum of prevention, including individual, community, organization, and policy levels.

Normal Grade Rules
3 units

HS 272. Health Promotion Planning and Evaluation

Theory and practice of developing community health programs. Focus on program planning within the context of strategic planning, problem/needs assessment, setting of program goals and objectives, approaches to program evaluation and grant writing.

Prerequisite: HS 271.

Note: This course satisfies graduate-level GWAR in this master's program.

Normal Grade Rules
GE: GWAR
3 units

HS 276. Community Organization and Health Promotion

Advanced study of the principles, practices and ethical considerations underlying community organization, health promotion, empowerment and advocacy. Includes examination of the change process and introduction to the skills and tools of effective public health organizing.

Normal Grade Rules
3 units

HS 277. Multicultural Communication for Health Professionals

Theories and skills of multicultural communication necessary for effective professional practice with diverse clients, communities, staff and colleagues. Examination of concepts and indicators of cultural competence begins with intensive self-study and concludes with community examples.

Normal Grade Rules
3 units

HS 291A. Fieldwork Seminar

Preparation for fieldwork placement, with emphasis on (1) self-assessment of strengths, competencies, professional objectives, and fieldwork priorities; (2) identification of fieldwork site and negotiation of Memorandum of Understanding; and (3) planning for professional development.

Prerequisite: HS 200, HS 201, HS 271, HS 272 or instructor consent.

Repeatable for credit
Normal Grade Rules
1 unit

HS 291B. Fieldwork Practicum

Application of theory and skills to health education practice, research, and/or policy under the supervision of a preceptor.

Prerequisite: HS 200, HS 201, HS 271, HS 272, HS 291A or instructor consent. Not available to Open University Students.

Corequisite: HS 291P

Repeatable for credit
Credit / No Credit
1-2 units

HS 291D. Work Experience Practicum

Supervised work experience in community, health care organization, or worksite settings.

Prerequisites: HS 200, HS 201, HS 271, HS 272, HS 291A.

Mandatory CR/NC/RP
2 units

HS 291P. Professional Development

Strategically selected professional development activities to supplement experiences during fieldwork and advance public health career objectives.

Prerequisite: HS 291A

Credit / No Credit
1 unit

HS 293. Public Health Leadership

Preparation for leadership in public health. Emphasis is on: policy and politics of health advocacy, ethics in public health education, and final self-assessment of skills for practice and continuing education priorities.

Prerequisite: HS 291A and HS 291B or instructor consent.

Repeatable for credit
Normal Grade Rules
3 units

HS 295. Research Methodology

This course provides basic principles of research, both quantitative and qualitative. Novice researchers are familiriarized with research methodology. Candidates engage in evaluating public research, and develop and write a feasible proposal ready for implementation as a research project.

Prerequisite: STAT 095 (or equivalent).

Normal Grade Rules
3 units

HS 298. Graduate Project

Development and analysis of independent activity in the field of community health education, health administration or school health.

Prerequisite: Approved graduate project proposal and instructor consent. Not available to Open University Students.

Notes: More than one semester may be required to complete activity.

Repeatable for credit
Mandatory CR/NC/RP
3 units

HS 299. Master's Thesis

Supervised original research in the field of community health education.

Prerequisite: Approved master's thesis proposal and instructor consent. Not available to Open University Students.

Notes: One to two semesters and 3 to 6 units required.

Repeatable for credit
Mandatory CR/NC/RP
3 units

UPPER DIVISION

HS 1290R. Culminating Experience Supervision

Continued work on dissertation, thesis, or project or in preparation for comprehensive exams beyond the minimum required units for cases in which final deliverables are still in progress and all other degree requirements except the culminating experience have been fulfilled.

Prerequisite: Outstanding RP grade in a preceding semester in a project or thesis class, or RFP in progress

No Degree Credit
1-3 units

RECREATION

LOWER DIVISION

RECL 010. Creating a Meaningful Life

Study how a meaningful life relates to the freedom to pursue happiness. Examines personal, social, and cultural bases for a creative and successful lifestyle. Learn to recognize and foster creative potential for lifelong personal growth, meaningful rewards, and leisure enjoyment. GE Area: E

Normal Grade Rules
GE: EE
3 units

RECL 015. Human Life Span

See HS 015.

Normal Grade Rules
GE: D1
3 units

RECL 090. Foundations of Recreation Parks & Tourism

Field of parks and recreation; history of development of the recreation profession; survey of recreation and leisure services.

Normal Grade Rules
3 units

RECL 094. The Outdoor Recreation Experience

Students will explore, understand, and experience firsthand the value,meaning, and benefits of a variety of outdoor recreation activities. Socio-cultural and ecological systems will be examined as they relate to the delivery of outdoor recreation experiences in both the public and private sector.

Normal Grade Rules
3 units

RECL 097. Event Planning

Principles of event planning with emphasis on development and integration of operational strategies in recreation and hospitality management. Application of programming techniques and exploration of career opportunities in event management.

Misc/Lab: Lecture 2 hours/activity 3 hours.

Normal Grade Rules
3 units

UPPER DIVISION

RECL 100W. Writing Workshop

Developing and enhancing written communication skills in the recreation and leisure profession in the following areas: scientific/technical writing, administrative writing, public-relations-related writing and funding proposals. GE Area: Z

Prerequisite: A3 or equivalent second semester composition course (with a grade of C- or better); Completion of core GE, satisfaction of Writing Skills Test and upper division standing.

Note: All SJSU Studies courses require completion of the WST and upper division standing. Must be passed with C or better to satisfy the CSU Graduation Writing Assessment Requirement (GWAR).

Normal Grade Rules
GE: Z
3 units

RECL 110. Leisure, Life and Contemporary Society

Explore conceptual foundations of play, recreation and leisure and their importance in physical, social, psychological and spiritual development across the lifespan. Assess the roles of existing services in enhancing quality of life across social, cultural, economic and environmental realms.

Prerequisite: Upper division standing.

Normal Grade Rules
3 units

RECL 111. Leisure, Culture, and Identity

Perspectives of leisure as a source of self-expression and social control related to cultural beliefs, values, and practices and institutionalized social systems. Observation, analysis and critique of history and social structures, leisure and culture, and personal opportunities for change. GE Area: S

Prerequisite: Completion of core GE, successful completion of Writing Skills Test, upper division standing.

Note: All SJSU Studies courses require completion of the WST and upper division standing.

Normal Grade Rules
GE: S
3 units

RECL 112. Foundations of Recreation Therapy

Fundamentals of the profession; history, delivery models, theory and practice of Recreation Therapy as a treatment modality for persons whose functional abilities are impaired. Exposure to ADA facility assessment, inclusion, and impact of social attitudes through didactic and experiential learning.

Prerequisite: Upper division standing.

Normal Grade Rules
3 units

RECL 113. Leisure: Philosophy and Education

Examination of philosophical, historical, psychological, and wellness foundations for education for leisure. Learning systems to facilitate the process of change through leisure opportunities for wellness.

Prerequisite: Upper division standing.

Normal Grade Rules
3 units

RECL 130. Event Marketing in Recreation Enterprises

Develop competence in event promotion and marketing. Explore marketing fundamentals, such as targeting an audience, creating promotional materials and pricing to cover event costs as well as event sponsorship. The role of social media in special themed events will be surveyed.

Prerequisite: RECL 097

Normal Grade Rules
3 units

RECL 132. Recreation Program Planning

Learn to plan and implement programs and events for diverse individual, group and community recreation experiences using contemporary needs assessment, outcomes oriented goal setting, program/event selection, leadership techniques and evaluation tools.

Normal Grade Rules
3 units

RECL 133. Principles of Recreation Leadership

In-service training workshops to develop skills in planning, implementation and evaluation processes. Self-awareness, communication and group process.

Prerequisite: Upper division standing.

Misc/Lab: Lecture 4 hours/Activity 2 hours

Normal Grade Rules
4 units

RECL 135. Planning and Managing Rec Areas & Facil

Content includes legal principles and risk management, as well as fundamentals of facility design and preventive maintenance in recreation, park, and tourism settings. This is a problem-based learning course, including case study, problem solving, project applications, and working with stakeholders.

Normal Grade Rules
3 units

RECL 136. Principles of Recreation and Park Admin

In the context of leadership roles and responsibilities in the field of recreation and park administration, course examines issues related to the organization and administration of human resources, finances, areas and facilities, programs, risk management, and liability.

Prerequisites: Upper Division Standing

Normal Grade Rules
3 units

RECL 140A. Spec Interventions in RT:Aquatic Therapy

Develop in-depth knowledge and skills related to the facilitation and supervision of a complex Recreation Therapy intervention. Includes equipment use, clinical application of each aspect of the activity or equipment, contraindications, safety, facilitation techniques, costs, industry standards, and evidence-based practices.

Repeatable for credit
Normal Grade Rules
1 unit

RECL 140B. Spec Inter in RT: Behavior Interventions

Theory and practice of interventions that positively affect healthy behaviors. Implementing prevention strategies including activity modification, assessment of harmful or disruptive behaviors, and identifying cause and effect relationships. Learn and practice teaching appropriate behaviors, increasing appropriate behaviors, decreasing inappropriate behaviors.

Repeatable for credit
Normal Grade Rules
1 unit

RECL 140C. Spec Inter in RT: Adventure Tx

Theoretical, hard, and soft skills related to adventure therapy interventions. Demonstrate skill development through facilitation. Learn diverse interventions and clinical application, modification, contraindications, and safety precautions for each based on psychiatric diagnosis served.

Repeatable for credit
Normal Grade Rules
1 unit

RECL 143. Festivals and Community Special Events

Principles and applications for effective management of festivals, fairs and community special events; including planning, marketing, financing, evaluating, logistics, consumer behavior, corporate sponsorship, licensing agreements, risk management, and sustainable practices.

Normal Grade Rules
3 units

RECL 144. Natural and Cultural Resource Interpretation in Recreation and Parks

Explore the interpretive approach to communicating value and vision of nature, outdoor recreation and tourism sites. Gain skills to develop and conduct activities such as guided walks, interpretive programs and fireside chats. Learn fundamentals of creating interpretive media such as brochures, displays, and exhibits as well as e-media.

Normal Grade Rules
3 units

RECL 148. Biofeedback Principles and Practices

Conceptual and historical review of Biofeedback theory and practice. Experiential engagement with software, instrumentation, data interpretation and personal reflection. Assessment, treatment, evaluation, and case studies applied to medical and non-medical practices.

Normal Grade Rules
3 units

RECL 150. For-Profit Enterprises in Recreation

Development of knowledge and skills relating to the variety and types of for-profit recreation enterprises, including planning for and management of commercial ventures, development of corporate identity and market niche, and forecasting of trends and shifts in consumer culture.

Prerequisite: Upper division standing.

Normal Grade Rules
3 units

RECL 151. Planning and Development of Tourism and Event Enterprises

Practices utilized in private profit, nonprofit and commercial sectors for planning, developing and operating leisure, tourism, and event enterprises. Management functions and consumer behavior related to products and services.

Prerequisite: Upper division standing.

Normal Grade Rules
3 units

RECL 152. Non-Profit Leadership & Management

Introduction to the historical and philosophical foundations of the Non-Profit sector. Provides a basic understanding of key issues in managing contemporary nonprofit organizations including: organizational behavior; board development; fund-raising; boundary-spanning skills; and developing leadership skills for social innovation and entrepreneurship.

Prerequisite: Upper Division Standing.

Normal Grade Rules
3 units

RECL 153. Youth Development and Services

Surveys the field of youth development, its historical roots, sociocultural and psychological development, and contemporary innovations. Develop knowledge of the institutional and programmatic factors that lead to positive developmental outcomes for youth in leisure and human service organizations.

Prerequisite: Upper Division Standing

Normal Grade Rules
3 units

RECL 155. Outdoor Recreation Systems

Overview of outdoor recreation in the United States. Study of the historic, social, economic and political factors influencing natural resource protection. Includes a survey of organizations that manage visitors and protected areas to provide quality outdoor recreation experiences.

Prerequisite: Upper Division Standing.

Normal Grade Rules
3 units

RECL 156. Principles of Sustainable Travel and Tourism

Examination of travel and tourism as it relates to tourist motivations, hospitality and destination management. The impact of tourism on the physical, cultural and economic environment.

Prerequisite: Upper division standing.

Normal Grade Rules
3 units

RECL 157. Sustainable Recreation & Ecotourism

Course examines cultural, ethical, environmental and social science issues, and uses applied research methods to achieve competence in making programmatic and resource management decisions for recreational and tourism purposes.

Prerequisite: Upper division standing

Normal Grade Rules
3 units

RECL 158. Cultural and Heritage Tourism

Heritage experiences leading to deeper cultural understanding are essential in the tourism segment of recreation. Exploration of culture and heritage using the lens of growth, popularity or compression will be examined. Discussion on practices and concerns associated with cultural heritage-based tourism.

Normal Grade Rules
3 units

RECL 160. Evaluation and Research in Recreation

Students will learn about the systematic process for evaluation or research. The course focuses on three main areas: Criteria and research questions, evidence and data (data collection and data analysis), and judgment and interpretation. The course is for students interested in basic information about systematic inquiry using evaluation and research design, data collection and analysis, and data reporting.

Prerequisite: RECL 090, RECL 100W, RECL 110

Corequisite: RECL 136.

Normal Grade Rules
3 units

RECL 165. Senior Seminar in Recreation
A capstone experience designed to help students synthesize and further develop skills acquired in program planning and development, implementation, and evaluation. Emphasis placed on negotiation of all phases of designing and facilitating meaningful recreation experiences in a variety of agencies and communities.

Prerequisite: Completion of 36 units of RECL coursework including RECL 90, RECL 97, RECL 110 and RECL 113. Major form completed and signed by HSR advisor and chair. Senior standing.

Normal Grade Rules
3 units

RECL 169. Practicum in Recreation Therapy
Supervised 100 hour competency-based field learning in approved health agency (e.g., hospital, community health, municipal). Learning exposes the learner to different populations, interventions, terminology, resources. Learner will observe job task skills, apply knowledge, and gain abilities of Recreation Therapy practice.

Pre-requisites: RECL 90

Credit / No Credit
1 unit

RECL 170A. Pre-Intern Workshop
Introduces and prepares upper division majors for senior internship. Includes career goal clarification, resume development and interviewing through both workshops and online delivery.

Prerequisites: RECL 090, RECL 100W, RECL 110.

Corequisites: RECL 136, RECL 137.

Credit / No Credit
1 unit

RECL 170B. Internship in Recreation
Supervised 40-hour per week internship (minimum of 12 weeks) in one of a variety of approved agencies (leisure services, park and recreation, or tourism/commercial recreation).

Prerequisites: Upper division standing; RECL 136, RECL 160, RECL 170A.

Credit / No Credit
10 units

RECL 170C. Internship in Recreation Therapy
Supervised 40-hour per week internship (minimum 15 weeks, 600 hours) occurring in approved health agencies. Supervisor must have a valid CTRS credential. Student will develop competencies as identified in the NCTRC Job Task Analysis and ATRA Standards of Practice.

Credit / No Credit
10 units

RECL 180. Individual Studies
Individual work investigating special topics/problems through research, applied projects, and/or field experiences. Assessment by project(s) and/or paper(s).

Prerequisites: Upper division standing, supervising instructor approval, and department chair consent.

Repeatable for credit
Credit / No Credit
1-4 units

RECL 184. Directed Reading
Directed reading in journals and books by authorities in Hospitality, Recreation, Tourism and related fields. Assessment by project(s) and/or paper(s).

Prerequisite: Upper division standing, supervising instructor approval, and department chair consent.

Repeatable for credit
Credit / No Credit
1-4 units

RECL 185. Leisure, Recreation and Aging
Theory and practice related to the role of leisure services in maximizing the quality of life for older adults. Interrelationship of leisure and other supportive services for older adults in community and institutional settings.

Prerequisite: Upper division standing.

Normal Grade Rules
3 units

RECL 187. Leisure Education in Recreation Therapy
Overview of leisure education as it is used both in medical and non-medical settings to improve functioning and wellbeing among diverse clientele. Students will learn historical, philosophical, and contemporary conceptual foundations, evidence-based and practical applications to service delivery.

Normal Grade Rules
3 units

RECL 193. RT Interventions for People with Physical Conditions
Theoretical foundations, research, and evidenced based Recreation Therapy interventions for persons with physical, intellectual, and developmental disabilities and other chronic conditions. Focuses on rehabilitation, community reintegration, day programs, and inclusion.

Prerequisite: Upper division standing

Normal Grade Rules
3 units

RECL 197. Recreation Therapy in Mental Health
Application of theory, models, concepts and facilitation processes used in Recreation Therapy and related professions for people with mental health conditions. Experiential learning and facilitation of leisure education, clinical interventions, and behavioral change processes used in medical and non-medical settings.

Prerequisite: Upper division status, RECL 112 and RECL 113.

Misc/Lab: Lecture 2 hours/activity 2 hours.

Normal Grade Rules
3 units

RECL 198. Rec Therapy Assessment and Documentation
Clinical procedures utilized in Recreation Therapy whereby habilitation/rehabilitation is the primary goal; client assessment, development of behavioral objectives and treatment plans, evaluation, documentation, medical terminology, and charting procedures are covered. Extensive skill development regarding critique and development of assessment tools.

Normal Grade Rules
3 units

RECL 199. Advanced Practices in Recreation Therapy
The application and examination of concepts, techniques, research, and legal issues utilized by advanced practitioners and managers. Includes trends and issues related to clinical supervision, reimbursement, quality improvement, legislation, comprehensive program design, and applied research that produces evidenced based practice.

Prerequisite: RECL 112.

Normal Grade Rules
3 units

GRADUATE

RECL 200. Foundations of Recreation and Tourism
Basic philosophical, historical, and scientific foundations and developments in leisure, recreation and tourism; analyses of the significance of leisure in modern societies; critical review of major and classical writings in the field with special attention to academic writing.

Corequisite: RECL 110

Normal Grade Rules
3 units

RECL 202. Evaluation and Assessment in Recreation and Tourism
Acquires knowledge and principles of evaluating selected areas in recreation and tourism services. Through use of analytical tools and processes, students learn how to write evaluation report to meet stakeholders' information and decision-making needs.

Prerequisite: RECL 200.

Normal Grade Rules
3 units

RECL 203. Seminar in Recreation-Park Administration
A discussion of selected problems and their possible solutions dealing with personnel administration, planning of recreation and park areas and facilities, program organization, public relations, financial procedure, legal aspects of recreation, etc.

Normal Grade Rules
3 units

RECL 204. Research Methods in Recreation and Tourism

A critical examination of the various approaches and methods used in research; a survey of research design, data collection, data coding, and analysis in the recreation, tourism and related fields.

Prerequisite: RECL 202 or instructor consent.

Normal Grade Rules
3 units

RECL 205. Finance in Recreation

Examination of bases, sources and strategies for financing and marketing of recreation programs and services. Includes public, private-for-profit, nonprofit and commercial leisure service agencies.

Normal Grade Rules
3 units

RECL 210. Contemporary Theories in Recreation and Tourism

Reviews theoretical and empirical social science literature in recreation and tourism. Review, interpretation and evaluation of contemporary research in recreation, leisure, tourism, and related fields.

Prerequisite: RECL 200.

Normal Grade Rules
3 units

RECL 211. Therapeutic Recreation Practices

Development and analysis of individualized program plans based upon selected theoretical foundations; emphasis on assessment, program design, follow-up services. Major service delivery systems studied in depth with regard to implications for leisure service delivery affecting disabled or ill individuals.

Normal Grade Rules
3 units

RECL 212. Facilitation and Intervention in Therapeutic Recreation

Theories of intervention and facilitation integrated with methodology to recognize the interdependence of the individual and the environment. Direct and enabling technique application to the therapeutic recreation profession analyzed for situational effectiveness.

Normal Grade Rules
3 units

RECL 213. Advanced Professional Therapeutic Recreation Practices

Professional practices, including in-service and pre-service training, consultation and group facilitation; processes for addressing professional trends and issues, including credentialing, legislative processes, interdisciplinary service delivery and networking.

Prerequisite: RECL 211 and RECL 212.

Normal Grade Rules
3 units

RECL 215. International Tourism Trends and Issues

Analyze international tourism concepts, trends, and issues associated with development. Study goals and procedures for basic and applied tourism research and introduce varied information sources for independent research. Adopt a culturally sensitive perspective for interpreting information related to different cultures.

Normal Grade Rules
3 units

RECL 216. Marketing for Tourism and Recreation

Study of characteristics which define cultural groups around the world. Learn to adjust marketing approaches, materials, and technology to accommodate the different ways people communicate to attract specific markets. Includes field-based market research.

Normal Grade Rules
3 units

RECL 217. Information Technology and Tourism

Analysis of concepts, trends, and issues associated with technology and tourism development. History and applications of various information technologies in tourism businesses. Trends in technology and the impact on the travel industry.

Normal Grade Rules
3 units

RECL 218. Tourism Planning and Development

Review, analysis, and application of concepts, strategies, techniques, and approaches associated with destination tourism planning, development, and management. Emphasis is on integrated and sustainable tourism planning and development models at global, national, regional, and local/community levels.

Normal Grade Rules
3 units

RECL 219. Cultural and Heritage Tourism

Introduction to the concerns and issues involved in studies of heritage, tradition, historic preservation, public archaeology, and heritage tourism.

Normal Grade Rules
3 units

RECL 265. Graduate Research Seminar

Presentation, discussion, and evaluation of leisure research.

Prerequisite: RECL 200, RECL 202, or instructor consent.

Normal Grade Rules
3 units

RECL 270. Graduate Internship in Recreation and Tourism

A 12-week, 15 hours per week of applied management experience in a leisure service or tourism organization under the joint supervision of a faculty advisor and an organizational representative.

Prerequisite: RECL 200, RECL 202, RECL 204.

Normal Grade Rules
3 units

RECL 298. Special Studies

Individual work investigating special topics/problems through research and/or applied projects.

Prerequisite: RECL 202

Repeatable for credit
Mandatory CR/NC/RP
1-3 units

RECL 299. Master's Thesis

Supervised thesis in the field of recreation or tourism.

Prerequisite: Admission to candidacy for the master's degree; RECL 202

Repeatable for credit
Mandatory CR/NC/RP
1-6 units

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History Department Courses

HISTORY

LOWER DIVISION

HIST 001A. World History to 1500
Introduces students to the world's regions and civilizations as interconnected entities. HIST 1A examines the growth and development of traditional civilizations to 1500. HIST 1B surveys the transformation of civilizations since 1500.

Normal Grade Rules
3 units

HIST 001B. World History from 1500
Introduces students to the world's regions and civilizations as interconnected entities. HIST 1A examines the growth and development of traditional civilizations to 1500. HIST 1B surveys the transformation of civilizations since 1500.

Normal Grade Rules
3 units

HIST 010A. Western Civilization
History and culture of Europe; social and political structures; roles of individuals and groups; relationships among ideas, institutions, society and culture; to 1648. GE Area: D2

Normal Grade Rules
GE: D2
3 units

HIST 010B. Western Civilization
History and culture of Europe; social and political structures; roles of individuals and groups; relationships among ideas, institutions, society and culture; 1648 to present. GE Area: D2

Normal Grade Rules
GE: D2
3 units

HIST 015. Essentials of U.S. History
Treatment of essentials of U.S. history. Satisfies the American Institutions requirement in U.S. history (US1) and the Core GE requirement in Social Sciences: Comparative Systems, Cultures, and Environments (D2). GE Area: D2 and American Institution Requirement: US1

Normal Grade Rules
GE: M12
3 units

HIST 020A. History of the American People
Survey of continuity and change in society, culture, institutions and environment. Origins through slavery conflict. American Institutions: US1

Normal Grade Rules
GE: US1
3 units

HIST 020B. History of the American People
Survey of continuity and change in society, culture, institutions and environment. Emergence of modern society and world power status. American Institutions: US1

Normal Grade Rules
GE: US1
3 units

HIST 050. Historical Process: Understanding Historical Reasoning
Modes and skills of practical logic and reasoning through study of historical method. Historical problems examined to that end. GE Area: A3

Normal Grade Rules
GE: A3
3 units

HIST 099. History Fundamentals
An introduction to the skills, technology and technique of history reading, writing and research. It is a prerequisite to History 100W. Sophomores and transferring juniors are required to take this course.

Prerequisite: Open to History and Social Science Teacher Preparation majors only; lower or upper division standing.

Normal Grade Rules
3 units

UPPER DIVISION

HIST 100W. History Writers' Workshop
Development of skills required for the art and practice of historical research and writing. Library research, oral reports and written exercises dealing with a variety of historical problems. GE Area: Z

Prerequisite: HIST 099 required or Department permission. History majors only. A3 or equivalent second semester composition course (with a grade of C- or better); Completion of core GE, satisfaction of Writing Skills Test and upper division standing.

Note: All SJSU Studies courses require completion of the WST and upper division standing. Must be passed with C or better to satisfy the CSU Graduation Writing Assessment Requirement (GWAR).

Normal Grade Rules
GE: Z
3 units

HIST 102. Historiography
Critical study of the writings of great historians.

Prerequisite: HIST 099 and HIST 100W.

Normal Grade Rules
4 units

HIST 103. History of the Modern Middle East
Survey from late 18th century to the present. Topics include imperialism and dissolution of the Ottoman Empire; World War I, the Mandate System, and the growth of nationalism; secularism versus fundamentalist Islam; formation of the state of Israel and the Israeli-Palestinian conflict; the Iranian Revolution; U.S.-Middle East relations and thee quest for oil; the changing status of women.

Prerequisites: Upper Division Standing or Instructor Consent

Normal Grade Rules
4 units

HIST 104. Advanced Topics in Ancient History
An investigation in depth of selected periods or topics in Ancient history. Repeatable for credit when topic changes up to 8 units.

Prerequisites: Upper division standing or instructor consent

Repeatable for credit
Normal Grade Rules
4 units

HIST 109A. History of China
Traditional society from earliest times to 1800.

Prerequisite: Upper Division Standing

Normal Grade Rules
4 units

HIST 109B. History of China
China's revolutions and ongoing modernization.

Prerequisite: Upper division standing or instructor consent

Normal Grade Rules
4 units

HIST 110A. History of Japan
Development of state and society from prehistoric times to 1750. Major topics include the controversy over the origins of the Japanese people; the adaptation of Chinese cultural, religious, and political models; the role of the emperor in state formation; the classical era of Japanese culture during the Heian period; the rise of the samurai elites; and the development of military rule under the shoguns.

Prerequisite: Upper division standing or consent of instructor.

Normal Grade Rules
4 units

HIST 110B. History of Japan
Since 1750 emphasizing the process of modernization.

Prerequisite: Upper division standing or instructor consent

Normal Grade Rules
4 units

HIST 111. Special Topics in Jewish Studies
See JWSS 111.

Repeatable for credit
Normal Grade Rules
3 units

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HIST 112. Ancient West to 500 BCE

Political, social and cultural history of the Ancient West (Europe, the Middle East and North Africa, from ca. 15,000 BCE to 500 BCE.

Prerequisites: Upper division standing

Normal Grade Rules
4 units

HIST 113A. Economic History of the United States

See ECON 113A.

Normal Grade Rules
4 units

HIST 113B. Economic History of Europe

See ECON 113B.

Normal Grade Rules
4 units

HIST 114. The Ancient West, 500 BCE-400 CE

Political, social, and cultural history of the Ancient West (Europe, the Middle East, and North Africa), from ca. 500 BCE to 400 CE.

Prerequisites: Upper division standing or instructor consent

Normal Grade Rules
4 units

HIST 121A. Medieval Worlds, 400-1000

This course surveys European Medieval History from the late fourth century through the first millennium. It examines the political, economic, social, cultural, and religious changes that constituted the transformation of the antique world into a unique "European" civilization.

Prerequisites: Upper division standing

Normal Grade Rules
4 units

HIST 121B. Medieval Worlds, 1000-1500

From 1000 - 1500 emphasizing growth of papal power, commercial revolution and revival of urban life, twelfth century Renaissance, interactions between the European, Byzantine, and Islamic worlds, and late medieval transformations leading to modernity

Prerequisites: Upper division standing

Normal Grade Rules
4 units

HIST 122. The Renaissance and Reformation

The European world in transition from 1400-1600.

Prerequisite: Upper Division Standing

Normal Grade Rules
4 units

HIST 124. Early Modern Europe

The European world in transition from 1580 to 1750. A continuation of History 122, exploring the central place of the princely court in the transformation of politics, religion, art, culture, science, technology and philosophy. Introduction to the Enlightenment.

Prerequisite: Upper Division Standing

Normal Grade Rules
4 units

HIST 126. Advanced Topics in Medieval History

An investigation in depth of selected periods or topics in Medieval history. Repeatable for credit when topic changes for up to 12 units.

Prerequisites: Upper division standing or instructor consent

Repeatable for credit
Normal Grade Rules
4 units

HIST 132. Advanced Topics in World History

Aspects of world history under various topics. Repeatable for credit when topic changes for up to 12 units.

Prerequisites: Upper division standing or instructor consent

Repeatable for credit
Normal Grade Rules
4 units

HIST 143. Europe, 1750-1900

Major political, economic, social and cultural themes of European history from the Enlightenment to 1900.

Prerequisites: Upper division standing

Normal Grade Rules
4 units

HIST 144. Europe, 1900-1945

A history of political, economic, social and cultural developments in Europe during the era of the two world wars.

Prerequisites: Upper division standing

Normal Grade Rules
4 units

HIST 145. Europe and the World Since 1945

Political, economic and social developments since World War II, with emphasis on Europe.

Prerequisites: Upper division standing

Normal Grade Rules
4 units

HIST 146. Advanced Topics in European History

An investigation in depth of selected periods or topics in European history. Repeatable for credit when topic changes up to 12 units.

Prerequisites: Upper division standing

Repeatable for credit
Normal Grade Rules
4 units

HIST 153. History of Women in Europe

Changes in women's private and public roles in diverse national, class, religious, ethnic and racial contexts from Ancient Greece to Modern Europe. GE Area: V

Prerequisite: Completion of Core GE, satisfaction of Writing Skills Test and upper division standing. For students who begin continuous enrollment at a CCC or a CSU in Fall 2005 or later, completion of, or corequisite in a 100W course is required.

Note: All SJSU Studies courses require completion of the WST and upper division standing.

Normal Grade Rules
GE: V
3 units

HIST 155. 20th Century World

Global perspectives on a century of scientific progress that also saw the violent deaths of millions, with emphasis on the decline of traditional imperialism and the ideological contention that led to World War II and the Cold War. GE Area: V

Prerequisite: Completion of core GE, satisfaction of Writing Skills Test and upper division standing. For students who begin continuous enrollment at a CCC or a CSU in Fall 2005 or later, completion of, or corequisite in a 100W course is required.

Note: All SJSU Studies courses require completion of the WST and upper division standing.

Normal Grade Rules
GE: V
3 units

HIST 162. Colonial Latin America

The course covers the colonial administration and society of the Spanish and Portuguese colonies in the New World. I also look at social, economic, and political conditions of the Iberian Peninsula and of the Amerindian empires on the eve of the conquest. The course concludes with an overview of the independence movements in Hispanic America and Brazil.

Pre-requisites: Upper division standing or instructor consent

Normal Grade Rules
4 units

HIST 163. Modern Latin America, 1800-Present

Latin America since 1800. Focus on major political changes, such as independence, wars, popular uprisings, and systems of government. Also economic and cultural affairs, especially when they disrupt existing societies, and outstanding leaders who charted their nations' destinies.

Prerequisites: Upper division standing or instructor consent

Normal Grade Rules
4 units

HIST 167. Advanced Topics in Latin American History

An investigation in depth of selected periods or topics in Latin American history. Repeatable for credit when topic changes up to 12 units.

Prerequisites: Upper division standing or instructor consent

Repeatable for credit
Normal Grade Rules
4 units

HIST 170. Topics in American History

An investigation in depth of selected periods or problems. Repeatable for credit when topic changes. American Institutions Requirement: US1

Prerequisite: Upper division standing.

Note: No credit for history majors or minors.

Repeatable for credit
Normal Grade Rules
GE: US1
3 units

HIST 170S. Topics in American History: American Identities and Institutions

An investigation in depth of selected periods or problems. This topic focuses on historical relationships between social groups and the political, social, economic and cultural institutions they created. GE Area: S and American Institutions Requirement: US1

Prerequisites: Passage of the Writing Skills Test (WST) or ENGL/LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

Note: All SJSU Studies courses require completion of the WST and upper division standing.

Normal Grade Rules
GE: USS
3 units

HIST 171. U.S. Constitutional & Legal History

Origins and evolution of the United States Constitution and federal system from the American Revolution to the present. Prerequisite: Upper division standing or instructor consent.

Normal Grade Rules
4 units

HIST 173. New World Encounters, 1400-1750

Examines the first wave of European expansion, from 1400-1750, through the prism of cultural and religious interactions. Explores how Europeans, Africans, and Indians understood each other during European exploration, conquest, and colonization of the "New World".

Prerequisite: Upper division standing or instructor consent.

Notes: Offered only occasionally.

Normal Grade Rules
4 units

HIST 174. Colonial & Revolutionary America

Investigates the socio-political development of British North America from the 1600s to the era of the American Revolution. Examines how mentalities, voluntary and involuntary immigration, demographic catastrophes, rebellions, and religious revivals shaped the British Atlantic.

Prerequisites: Upper division standing

Normal Grade Rules
4 units

HIST 175. Inventing America, 1800-1860

The history of the United States from 1800-1860. Topics include the rise of democratic political culture, industrialization, the emergence of a market economy, pivotal changes in institutions such as the family and church and the redefinition of key American values.

Prerequisites: Upper division standing

Normal Grade Rules
4 units

HIST 176. The Civil War and Reconstruction

Course takes a topical approach, examining the political, social, economic, military, and ideological dimensions of the Civil War and Reconstruction. Focus will be on the war and its aftermath as a revolutionary experience rather than solely as a military struggle.

Prerequisite: Upper division standing or instructor consent.

Normal Grade Rules
4 units

HIST 177. Industrial America, 1877-1920

Economic, social, and political history from the end of Reconstruction to the achievement of women's suffrage. Topics include the triumph of industrial capitalism, labor conflict, women's suffrage, Populism/Progressivism, race/ethnicity, and World War I.

Prerequisites: Upper division standing or instructor consent

Normal Grade Rules
4 units

HIST 178. Crash, Depression and War, 1920-1950

The United States from the "Roaring Twenties" through the Great Crash, the Great Depression, the New Deal, World War II, the home front, the Atomic Age, and the beginning of the Cold War.

Prerequisites: Upper division standing or instructor consent

Normal Grade Rules
4 units

HIST 179. Cold War America, 1950-Present

Modern history of the United States since 1950 including the Cold War, the Korean and Vietnam wars, the Civil Rights Movement, postwar society, culture, economics and politics.

Prerequisites: Upper division standing or instructor consent

Normal Grade Rules
4 units

HIST 180. Individual Studies

Individual work on special topics by arrangement.

Prerequisite: History majors or minors.

Repeatable for credit
Credit / No Credit
1-4 units

HIST 181. Advanced Topics in American History

An investigation in depth of selected periods or topics in American history. Repeatable for credit when topic changes up to 12 units.

Prerequisites: Upper division standing or instructor consent

Repeatable for credit
Normal Grade Rules
4 units

HIST 184. Directed Reading

Directed reading on a specific topic in history.

Prerequisite: History major/minor and instructor and department chair consent.

Repeatable for credit
Credit / No Credit
1-4 units

HIST 188. History of Women in the United States

A multi-faceted history of women in the United States from colonial times to the present. GE Area: S

Prerequisite: Passage of the Writing Skills Test (WST) or ENGL/LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

Note: All SJSU Studies courses require completion of the WST and upper division standing.

Repeatable for credit
Normal Grade Rules
GE: S
3 units

HIST 189A. California History to 1900

Topics include Native American civilizations, Spanish discovery and missions, the Mexican era, the American conquest, the Gold Rush, Chinese immigration, the railroad, growth, development, politics and class conflict. American Institutions Requirement: US3

Prerequisite: Upper division standing or instructor consent.

Notes: Satisfies American Institutions requirement in California government.

Normal Grade Rules
GE: US3
4 units

HIST 189B. California History Since 1900

Social, political, and economic history of California since 1900. American Institutions Requirement: US3

Prerequisite: Upper division standing or instructor consent

Notes: Satisfies American Institutions requirement in California government.

Normal Grade Rules
GE: US3
4 units

HIST 197. Introduction to Public History

Introduction to preservation and presentation of history to the community and to roles historians play in public agencies. Exploration of archives, museums and historic sites. Required for admission to Public History internship.

Prerequisite: Upper division standing or consent of instructor.

Normal Grade Rules
4 units

HIST 199. Public History Internship

Supervised placement in historical organizations, public institutions and community agencies concerned with preservation of history. May be repeated for 6 unit maximum.

Prerequisite: Instructor consent.

Repeatable for credit
Credit / No Credit
3 units

GRADUATE

HIST 200. Graduate Methodology, Research and Writing

An orientation to history graduate study focusing on the critical advanced writing, library, research and historiographical skills needed for success as a graduate student and professional historian. Includes an overview of current methodologies and trends in the field.

Normal Grade Rules
4 units

HIST 209. Colloquium in Ancient and Medieval Europe

Intensive readings, discussions and reports on Ancient and Medieval Europe. For areas and field of emphasis see the schedule of classes. May be repeated when content changes.

Prerequisites: Graduate standing or instructor consent

Note: This course satisfies graduate-level GWAR in this master's program.

Repeatable for credit
Normal Grade Rules
GE: GWAR
4 units

HIST 210A. Advanced Colloquium United States History

Intensive readings, discussions, and reports on American history in the seventeenth and eighteenth centuries. Repeatable for credit once with different instructor.

Prerequisites: Graduate standing

Repeatable for credit
Normal Grade Rules
4 units

HIST 210B. Advanced Colloquium United States History

Intensive readings, discussions, and reports on American history in the nineteenth century. Repeatable for credit once with different instructor.

Prerequisites: Graduate standing

Note: This course satisfies graduate-level GWAR in this master's program.

Repeatable for credit
Normal Grade Rules
GE: GWAR
4 units

HIST 210C. Advanced Colloquium United States History

Intensive readings, discussions, and reports on American history in the twentieth century. Repeatable for credit once with different instructor.

Prerequisites: Graduate standing

Repeatable for credit
Normal Grade Rules
4 units

HIST 211. Advanced Colloquium in Modern Europe

Intensive readings, discussions and reports. Topics have included the French Revolution, the Holocaust in Europe and issues of marginalization of gender and class during the modern period. May be repeated with different instructor or topic.

Prerequisites: Graduate standing or instructor consent

Note: This course satisfies graduate-level GWAR in this master's program.

Repeatable for credit
Normal Grade Rules
GE: GWAR
4 units

HIST 220. Advanced Colloquium in World History

Intensive readings, discussions and reports in Asian, African, European and North and South American history, in one of three eras: ancient and classical eras (before 1000), between 1000 and 1750 or since 1750. May be repeated with different instructor or topic.

Prerequisites: Graduate standing or instructor consent

Repeatable for credit
Normal Grade Rules
4 units

HIST 221. Seminar in World History

An intensive study of some area, problem or period in world history. Topics have included World War II, the Atlantic Economy, World Slavery, British Imperialism. Repeatable for up to 8 units when course content changes.

Prerequisite: Graduate Standing

Repeatable for credit
Normal Grade Rules
4 units

HIST 230. Seminar in Ancient and Medieval Europe

An intensive study of some areas, problem or period in Ancient or Medieval Europe. Individual research with oral and written reports. May be repeated for up to 8 units with different instructor or topic.

Prerequisite: Graduate Standing

Note: This course satisfies graduate-level GWAR in this master's program.

Repeatable for credit
Normal Grade Rules
GE: GWAR
4 units

HIST 240. Seminar in Pre-Twentieth Century Europe

An intensive study of some area, problem or period in European history before 1900. Topics have included economic, social and gender differences in Industrial Europe and social theories of Max Weber. May be repeated when content changes.

Prerequisite: Instructor consent.

Note: This course satisfies graduate-level GWAR in this master's program.

Normal Grade Rules
GE: GWAR
4 units

HIST 241. Seminar in Twentieth Century Europe

An intensive study of some area or problem. Individual research with oral and written reports. Topics have included the Cold War, European diplomacy and international security.

Prerequisite: Graduate standing

Note: This course satisfies graduate-level GWAR in this master's program.

Normal Grade Rules
GE: GWAR
4 units

HIST 272. Seminar in American Diplomatic History

An intensive analysis of some chronological period, area or major problem in American diplomatic history. Individual research with oral and written reports.

Prerequisite: Graduate standing

Note: This course satisfies graduate-level GWAR in this master's program.

Repeatable for credit
Normal Grade Rules
GE: GWAR
4 units

HIST 274. Seminar in US Social & Cultural History

Intensive study of some phase of American social, cultural, and/or intellectual history. Individual research with oral and written reports. Topics have included class, race, ethnic, and gender differences. May be repeated when content changes. Repeatable for up to 8 units when topic changes.

Prerequisite: graduate standing or instructor consent.

Repeatable for credit
Normal Grade Rules
4 units

HIST 276. Seminar in Early American History

An intensive study of some phase in, or problem of, American history from colonial period through the Civil War. Topics have included American independence from British control, the development of the industrial North and the colonization of the West. May be repeated when content changes.

Prerequisite: Instructor consent.

Note: This course satisfies graduate-level GWAR in this master's program.

Repeatable for credit
Normal Grade Rules
GE: GWAR
4 units

HIST 280. Seminar in Recent American History

An intensive study of some phase or problem in the period from the Civil War to the present. Individual research with oral and written reports. May be repeated when content changes.

Prerequisite: Graduate standing or instructor consent.

Note: This course satisfies graduate-level GWAR in this master's program.

Repeatable for credit
Normal Grade Rules
GE: GWAR
4 units

HIST 283. Seminar in California and Western History

An intensive study of an area, phase or period of history associated with California or the West. Individual research with oral and written reports. May be repeated for credit when course content changes.

Prerequisite: Graduate standing and instructor consent.

Note: This course satisfies graduate-level GWAR in this master's program.

Repeatable for credit
Normal Grade Rules
GE: GWAR
4 units

HIST 288. Seminar in the History of Women in the United States

An intensive study of some phase of the history of women in the United States. Individual research with oral and written reports.

Prerequisite: Graduate Standing

Note: This course satisfies graduate-level GWAR in this master's program.

Repeatable for credit
Normal Grade Rules
GE: GWAR
4 units

HIST 298. Special Study

Advanced individual research.

Prerequisite: Instructor consent and approval by graduate advisor.

Notes: More than 3 units only in areas where graduate courses not normally offered.

Repeatable for credit
Mandatory CR/NC/RP
1-6 units

HIST 299. Master's Thesis or Project

Open only to approved master's candidates in history. Reserved for students under Plan A.

Repeatable for credit
Mandatory CR/NC/RP
3-6 units

UPPER DIVISION

HIST 1290R. Culminating Experience Supervision

This course is offered in special sessions for 1 unit. It is repeatable up to 12 times. It is required of, and limited to, graduate students who have an outstanding RP grade in a preceding semester in a project or thesis class. If one has an outstanding RP, this course must be taken unless the student is enrolled in any other course. By outstanding, it is meant that the RP grade has not been changed to any other grade, including a CR or NC. The RP grade in the project or thesis course remains on the official record until a culminating memo has been submitted by the graduate advisor to the Office of Graduate Admissions & Program Evaluations and the course instructor of the class in which an RP was received has petitioned for a grade change to CR. This course receives no degree credit and therefore cannot be used on the candidacy form or to fulfill graduation requirements.

Prerequisite: HIST 299

Note: No Degree Credit

Repeatable for credit
No Degree Credit
1 unit

JEWISH STUDIES

LOWER DIVISION

JWSS 010A. Elementary Hebrew

See HEBR 010A.

Normal Grade Rules
3 units

JWSS 010B. Elementary Hebrew

See HEBR 010B.

Normal Grade Rules
3 units

JWSS 015A. Intermediate Hebrew

See HEBR 015A.

Normal Grade Rules
3 units

JWSS 015B. Intermediate Hebrew

See HEBR 015B.

Normal Grade Rules
3 units

JWSS 090. Bible History and Literature

See RELS 090.

Normal Grade Rules
GE: C2
3 units

UPPER DIVISION

JWSS 102A. Advanced Hebrew

See HEBR 102A.

Normal Grade Rules
3 units

JWSS 102B. Advanced Hebrew

See HEBR 102B.

Normal Grade Rules
3 units

JWSS 111. Special Topics in Jewish Studies

Special Topics in Jewish Studies. Topics vary and will be announced each semester. Repeatable for credit when topic changes.

Prerequisite: Upper division standing.

Repeatable for credit under different subtitles.

Repeatable for credit
Normal Grade Rules
3 units

JWSS 126. Holocaust Literature

See ENGL 126.

Normal Grade Rules
GE: V
3 units

JWSS 144. Middle Eastern Politics

See POLS 144.

Normal Grade Rules
4 units

JWSS 180. Individual Studies

Directed studies in relevant fields not covered by courses offered.

Prerequisite: Instructor consent and program coordinator.

Repeatable for credit
Credit / No Credit
1-3 units

SOCIAL SCIENCE EDUCATION

UPPER DIVISION

SSED 184I. Student Teaching for Social Science Individualized Interns

Supervised student teaching in social science class(es) in the public school where the student is employed as an Individualized Intern. Repeatable for a total of 12 units.

Prerequisite: Admission to Single Subject Credential Program; social science advisor and Single Subject Coordinator consent.

Repeatable for credit
Credit / No Credit
2-4 units

SSED 184Y. Student Teaching II - Classroom Teaching

Minimum 80-120 class periods of classroom, teaching lab or field teaching in appropriate single subjects, grades K-12 and related teaching activities/seminar.

Prerequisite: SSED 378 with a passing grade of "B" or better (B- not acceptable) and joint approval of major and Education departments.

Repeatable for credit
Credit / No Credit
4-6 units

SSED 184Z. Student Teaching III - Classroom Teaching

Notes: May be in different subject/school and will be at a different grade level.

See SSED 184Y.

Repeatable for credit
Credit / No Credit
4-6 units

SSED 378. Social Science Methods

For prospective secondary teachers who plan to teach in the social science field. A prerequisite to student teaching.

Normal Grade Rules
3 units

SOCIAL SCIENCES

LOWER DIVISION

SOCS 015. Statistical Applications in the Social Sciences

See SOCI 015.

Normal Grade Rules
GE: B4
3 units

UPPER DIVISION

SOCS 137. California History for Teachers

Interdisciplinary course to prepare future teachers to teach California history from a wide range of social science perspectives. Includes the diverse history of California's people, politics, and cultures and their impact on the nation and the world. Create and implement teaching strategies for use in classrooms.

Notes: Not acceptable for Economics majors, except double majors; acceptable for Economics minors.

Normal Grade Rules
3 units

SOCS 138. US History for Teachers

Interdisciplinary course to prepare future teachers to teach the United States history from a wide range of social science perspectives. Study of the diverse history of the people, politics, and cultures of the US while examining movements for social justice. Students create and implement engaging strategies for use classrooms. GE Area: S

Prerequisite: Passage of the Writing Skills Test (WST) or ENGL/LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

Note: All SJSU Studies courses require completion of the WST and upper division standing.

Normal Grade Rules
GE: S
3 units

SOCS 139. World History for Teachers

This interdisciplinary course is intended to prepare future teachers to teach world history from a wide range of social science perspectives. Students will compare the diverse ideas, values, and histories of various world cultures. Students will create and implement engaging teaching strategies for use in their own future classrooms. GE Area: V

Prerequisite: HIST 015A and HIST 015B or AAS 033A and AAS 033B. Passage of the Writing Skills Test (WST) or ENGL/LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

Note: All SJSU Studies courses require completion of the WST and upper division standing.

Normal Grade Rules
GE: V
3 units

SOCS 177. Sociology of Education

See SOCI 177.

Normal Grade Rules
3 units

SOCS 185. Teaching in a Diverse Society

See CCS 185.

Normal Grade Rules
3 units

SOCS 195. Social Science Teacher Preparation

In this capstone course Social Science Teacher Preparation majors will synthesize their learning about the theory and practice of Social Science education through the completion of a major portfolio project. Required for majors.

Prerequisites: SOCS 177; completed graduation application; or instructor consent.

Normal Grade Rules
3 units

Hospitality, Tourism, and Event Management Courses

HOSPITALITY MANAGEMENT

LOWER DIVISION

HSPM 001. Introduction to Hospitality Management

Overview of structure and financial performances of hospitality industry; food and lodging, resorts, tourism enterprises, attractions and related operations. Focus on orientation to customer service, cultural/economic trends and career opportunities.

Normal Grade Rules
3 units

HSPM 011. Restaurant Management

Overview of food and beverage with emphasis on food quality.

Prerequisites: HSPM 001; HSPM 065.

Corequisite: HSPM 001

Normal Grade Rules
3 units

HSPM 012. Cost Control in Hospitality

Food, beverage and payroll systems, including standards determination; variable, semi-variable and fixed costs; the operating budget; income and cost control and menu pricing. Cost control simulation exercises implemented through software programs.

Prerequisites: HSPM 001, BUS1 020N.

Co-Requisite: HSPM 11 and HSPM 65

Normal Grade Rules
3 units

HSPM 020. Sanitation and Environmental Issues in the Hospitality Industry

See NUFS 020.

Normal Grade Rules
2 units

HSPM 022. Catering and Beverage Management

See NUFS 022.

Normal Grade Rules
2 units

HSPM 023. Culinary Concepts

Food and beverage production techniques; preparation of food and beverage with emphasis on quality standards.

Misc/Lab: Lecture 1 hour/Lab 6 hours.

Normal Grade Rules
3 units

HSPM 065. Professional Seminar in Hospitality Mgmt

Designed for students who have declared a major in the Hospitality, Tourism and Event Management degree. The topics selected will facilitate the student's entry into the academic program and the profession of hospitality management.

Corequisite: HSPM 001.

Normal Grade Rules
1 unit

HSPM 086. Special Events Management in Hospitality

Hands-on experience in the operation, coordination, and management of special events as they relate to hospitality and tourism. Students develop management skills and experience in planning and execution of a major event.

Repeatable for credit
Normal Grade Rules
3 units

UPPER DIVISION

HSPM 100W. Writing Workshop

Developing and enhancing written communication skills in the hospitality, recreation and tourism professions in the following areas: scientific/technical writing, administrative writing, public-relations-related writing and funding proposals. GE Area: Z

Prerequisites: A3 or equivalent second semester composition course (with a grade of C- or better); Completion of core GE, satisfaction of Writing Skills Test and upper division standing.

Note: Must be passed with C or better to satisfy the CSU Graduation Writing Assessment requirement (GWAR).

Normal Grade Rules
GE: Z
3 units

HSPM 101. Multicultural & Intl Issues Hospitality

Multicultural/international issues in the hospitality industry; historical, socioeconomic, cultural and linguistic variables presented in relationship to these issues.

Prerequisite: HSPM 001.

Normal Grade Rules
3 units

HSPM 102. Hotel & Lodging Operations

Principles of organization, management and decision models applied to the tasks and challenges of hotel operations. Involves techniques of problem solving (including planning, organizing, staffing, directing and controlling operations) in areas of front office operations, housekeeping, food/beverage and personnel.

Prerequisites: HSPM 001, HSPM 065 or instructor consent. HSPM Majors and Minors only.

Corequisite: HSPM 001.

Normal Grade Rules
3 units

HSPM 103. Facility Planning and Design in Hospitality & Tourism

Development, planning, and maintenance of hospitality/tourism facilities. Topics include real estate economics, income generation, lease and management contracts, project development sequencing, space and building operations planning, financing, asset management, industry practices, renovation, environmental impact and public relations.

Prerequisite: Upper division standing

Normal Grade Rules
3 units

HSPM 104. Hospitality Marketing

Applying marketing principles, theories, and concepts in developing marketing strategies for hospitality, recreation and tourism organizations in a dynamic business environment. Emphasis is placed on marketing mix, market segmentation and analysis, sales planning, and public relations.

Prerequisite: HSPM 001, HSPM 065, BUS 20 or BUS 20N

Normal Grade Rules
3 units

HSPM 105. Finance in Hospitality

This course provides an introduction to the fundamentals of hotel and restaurant finance and develops an understanding of the strategic roles and financial analysis and finance play in internal management decision-making.

Prerequisites: HSPM 001,HSPM 65, BUS1 020 or BUS1 020N, HSPM 102

Normal Grade Rules
3 units

HSPM 107. Legal Aspects of Hospitality Management

Introduction to fundamental legal issues and concepts related to the fields of hospitality, recreation and tourism. Content will include legal process, source of law, organization structure, and a survey of selected legal principles from the areas of employment, public health and safety, contract, negligence, premise liability, personal property, environmental and constitutional law.

Prerequisite: HSPM 011, HSPM 65, BUS1 020 or BUS1 020N.

Normal Grade Rules
3 units

HSPM 108. Hospitality Information Systems

Focuses on the application of various information systems to the management of facilities, programs, services, finances and accounting, products, marketing and sales, human resources and other major functions of hospitality, recreation, and tourism organizations/agencies.

Prerequisite: HSPM 1, HSPM 65, Bus 20 or 20N, HSPM 102

Normal Grade Rules
3 units

SJSU SAN JOSÉ STATE UNIVERSITY

Academic Year 2019-2020

Course Descriptions

v1
July 1, 2019

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DESCRIPTION CONTENTS

HSPM 111. Customs and Courtesies in Hospitality

An exploration of a variety of customs and courtesies that demonstrate the influences of history, traditions, social customs, religious beliefs, language, and other cultural elements on hospitality service etiquette and manners in different cultures and countries.

Normal Grade Rules
3 units

HSPM 121. Hospitality Leadership and Management

This course acquaints students with the theory and practice of management and leadership principles in a hospitality operation. Topics include: manager's roles, leadership principles, goal setting, power and empowerment, communication skills, coaching and team building, diversity, career planning, and organizational development.

Prerequisite: HSPM 001, HSPM 065

Normal Grade Rules
3 units

HSPM 130. Hospitality Event Production

Planning and execution of a hospitality event. Topics include strategic planning, event design, event project management, event related technology, financial management, human resources, event marketing, and on-site management.

Normal Grade Rules
3 units

HSPM 134. Human Resource Management

Explores HR functions in business settings with a focus on development of knowledge and skills needed by managers. Supervisor's role within organizations with emphasis on recruitment, selection, staff training and development, legal issues, performance appraisal, motivational strategies, public relations, and maintenance of effective environments.

Prerequisite: HSPM 001, HSPM 065, BUS1 20 or BUS1 20N

Normal Grade Rules
3 units

HSPM 140. Meeting, Convention and Event Industry

Leisure service system planning through explanation of the scope and segmentation of the conference, convention and event market. Strategies in planning, developing and implementing meeting and convention services.

Prerequisite: HSPM 001, HSPM 065, BUS1 020 or BUS1 020N

Normal Grade Rules
3 units

HSPM 141. Resort and Club Management

Management and operation of resort and private club properties from their historical development to their economic and environmental impact; marketing and managing of services provided by these facilities within the leisure industry.

Prerequisite: Upper division standing.

Normal Grade Rules
3 units

HSPM 142. Tradeshow Event & Meeting Mgnt

Management and operations of tradeshows from business, economic and hospitality service perspectives; understanding the marketing, fiscal, and evaluative processes necessary to provide large scale meetings including hotel negotiations, food service, contract negotiation, and onsite management.

Prerequisites: HSPM 140 or instructor consent.

Normal Grade Rules
3 units

HSPM 143. Tourism Destination Marketing and Management

Principles of destination marketing and management in formulating strategies to promote tourism in a variety of locations. Appraising a destination's potential and developing a destination's products/services and marketing campaign to attract both business and leisure travelers.

Prerequisite: HSPM 1, HSPM 11, HSPM 102, HSPM 130

Normal Grade Rules
3 units

HSPM 148. Wine Appreciation

Introduces the student to the significance of wine in the dining experience. The class will study the wine-making process, wine grape varieties, health and legal issues of wine and include in-class evaluation of wine.

Prerequisite: Upper division standing.

Normal Grade Rules
3 units

HSPM 149. Beer Appreciation

Examining the history, business and economic impact of beer from its international brewery markets to the small craft beer distributors. Explore beer styles, regions, brewing processes and food pairings through weekly tastings and sensory applications of the principles of beer making.

Normal Grade Rules
3 units

HSPM 152. Hotel Catering and Banquet Management

Overview of hotel group sales, convention services, catering sales and banquet operations. Learn tools and applications necessary to be successful in providing catering and banquet operations for hotel, restaurant, or corporate events.

Prerequisites: HSPM 001, HSPM 11, HSPM 12, HSPM 065, HSPM 102

Normal Grade Rules
3 units

HSPM 154. Revenue Management

Formulating tactical pricing decisions to maximize revenues for hospitality organizations. Topics include: history of revenue management, reservation systems, forecasting demand, inventory control, cost analysis, pricing strategy, channel management, revenue management tactics, and applications.

Prerequisites: HSPM 001, HSPM 065, BUS1 020 or BUS1 020N, HSPM 102

Normal Grade Rules
3 units

HSPM 161. Cruise Operations and Management

This course examines the major aspects of cruise operations and management including history, global cruise market, economic significance, geography of cruising, itinerary design, anatomy of a cruise ship, operations, sales and marketing procedures, passenger services, event planning and management, and career opportunities.

Prerequisite: HSPM 1, 65, 11, 102

Normal Grade Rules
3 units

HSPM 168. Gaming Management

Introduction to the casino's external environments and the casino's impact on the consumer and the local economy. Topics cover the history of gaming and gaming development, casino organization and operation, the mathematics of casino games, and casino management.

Prerequisite: HSPM 1 or instructor consent

Normal Grade Rules
3 units

HSPM 175. Entrepreneurship in Hospitality

Explores the entrepreneurial opportunities available in the public, non-profit, and private sectors by examining the process of creating, planning, and managing hospitality, recreation, and tourism ventures, programs, and services.

Prerequisite: HSPM 001, HSPM 065, BUS1 020 or BUS1 020N. Senior Standing.

Normal Grade Rules
3 units

HSPM 177. Hospitality Service Management

Develop skills in setting formal service standards and procedures to deliver customer experience and evaluate service quality for hospitality businesses. Topics include service experience design, psychological/social characteristics of customer satisfaction, service delivery processes, consumer/server encounters, service quality, and service recovery.

Prerequisite: HSPM 001, HSPM 011, HSPM 065, HSPM 102, HSPM 130, Senior Standing

Normal Grade Rules
3 units

HSPM 180. Individual Studies
Investigation of special problems, including research project and/or field experience.

Prerequisite: Instructor consent. Not available to Open University Students

Credit / No Credit
1-3 units

HSPM 184. Directed Reading
Directed reading in journals and books by authorities in Hospitality, Recreation, Tourism and related fields. Assessment by project(s) and/or paper(s).

Prerequisite: Upper division standing, supervising instructor approval, and department chair consent. Not available to Open University Students.

Repeatable for credit
Credit / No Credit
1-4 units

HSPM 186. Strategic Management
A capstone course focuses on the development and evaluation of management strategies with special emphasis on hospitality, recreation and tourism fields.

Prerequisite: HSPM 001, HSPM0 65, BUS1 020 or BUS1 020N, Senior Standing.

Normal Grade Rules
3 units

HSPM 191A. Internship Level 1
Supervised professional broad-based work experience in hospitality management industry for a total of 200 hours. Prerequisite: HSPM 001, HSPM 065, HSPM Major only. Not available to Open University Students.

Mandatory CR/NC/RP
2 units

HSPM 191B. Internship Level 2
Supervised professional in-depth work experience in hospitality management industry for total of 300 hours. Prerequisites: HSPM 001, HSPM 065, BUS1 020 or 020N, HSPM Major only. Not available to Open University Students.

Credit / No Credit
3 units

HOSPITALITY, TOURISM AND EVENT MANAGEMENT

GRADUATE

HTEM 201. Contemporary Issues
Current trends and issues within major sectors of tourism industry. Includes transportation, lodging, food and beverage services, event management, and destination management. Focus on challenges faced by hospitality, tourism and event management organizations

Normal Grade Rules
3 units

HTEM 202. Marketing Research in HTEM
Fundamental principles, processes, and roles of marketing research. Research design, research ethics, and qualitative and quantitative research methods. Research proposal development

Normal Grade Rules
3 units

HTEM 212. Strategic Use of IT
Strategic application of information technologies for competitive advantage in hospitality, tourism and event management. Analysis, assessment, and ethics of IT.

Normal Grade Rules
3 units

HTEM 213. Sustainable Operations
Concepts and principles of sustainable operations as applied to hospitality and tourism organizations. Socio-cultural, economic and environmental dimensions of sustainable development, positive and negative impacts of development, corporate social responsibility, and current trends and issues.

Normal Grade Rules
3 units

HTEM 215. International Luxury Hospitality Mgmt
Overview of the power of luxury brands. Strategies and skills for managing international luxury brands. Historical trends and marketing practices.

Normal Grade Rules
3 units

Humanities Department Courses

AMERICAN STUDIES

LOWER DIVISION

AMS 001A. American Cultures to 1877
American culture examined through political, literary, artistic, economic and social development. American values, ideas and institutions from popular culture as well as traditional sources. GE Area: C1 and D2, meets additional GE Areas when taken as sequence.

Note: Entire sequence satisfies GE Areas C1,2; D2,3; U.S. History, U.S. Constitution and California Government US1,2,3.

Misc/Lab: Lecture 3 hours/lecture 3 hours

Normal Grade Rules
GE: M4
6 units

AMS 001B. American Cultures 1877 to present
American culture examined through political, literary, artistic, economic and social development. American values, ideas and institutions from popular culture as well as traditional sources. GE Area: C2 and D3, meets additional GE when taken in sequence.

Prerequisite: AMS 1A.

Note: Entire sequence satisfies GE Areas C1,2; D2,3; U.S. History, U.S. Constitution and California Government US1,2,3.

Misc/Lab: Lecture 3 hours/lecture 3 hours

Normal Grade Rules
GE: M5
6 units

UPPER DIVISION

AMS 100W. Writing in the Humanities
See HUM 100W.

Normal Grade Rules
GE: Z
3 units

AMS 129. How the World sees the United States
Comparative analysis of the cultural meaning of "America" outside the United States from the perspectives of global interdependence and transnationalism, and including both pro- and anti-American views through history.

Prerequisite: Upper division standing

Normal Grade Rules
3 units

AMS 159. Nature and World Cultures
The influence of industrialization and globalization on earth and the environment as seen through culture. GE Area: V

Prerequisite: Passage of the Writing Skills Test (WST) or ENGL/LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

Note: All SJSU Studies courses require completion of the WST and upper division standing.

Normal Grade Rules
GE: V
3 units

AMS 160. Special Topics in Humanities
See HUM 160.

Repeatable for credit
Normal Grade Rules
3 units

AMS 169. The American Dream
The American search for identity and meaning, the struggle for equality and success, in relation to myths, illusions and realities reflected in history, literature and the arts. GE Area: S

Prerequisite: Passage of the Writing Skills Test (WST) or ENGL/LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

Note: All SJSU Studies courses require completion of the WST and upper division standing.

Normal Grade Rules
GE: S
3 units

AMS 179. American Popular Culture
Music, sports, fashion, popular literature, television and other arts and activities that are main forms of influence, entertainment and escape. Expressions of American attitudes and ideas as important influences upon evolving culture and consciousness.

Prerequisite: Upper division standing.

Normal Grade Rules
3 units

AMS 180. Individual Studies
Supervised study of a particular aspect of American culture not covered in a regular course offering.

Prerequisite: Instructor consent.

Repeatable for credit
Credit / No Credit
1-4 units

AMS 190. Senior Seminar in Humanities
See HUM 190.

Normal Grade Rules
3 units

ASIAN STUDIES

LOWER DIVISION

ASIA 019. Music in World Cultures
See MUSC 019.

Normal Grade Rules
GE: C1
3 units

ASIA 070C. Arts of Asia
See ARTH 070C.

Normal Grade Rules
GE: C1
3 units

UPPER DIVISION

ASIA 102. Chinese Culture
See CHIN 102.

Normal Grade Rules
4 units

ASIA 104. Asian Philosophy
See PHIL 104.

Normal Grade Rules
GE: V
3 units

ASIA 109A. History of China
See HIST 109A.

Normal Grade Rules
4 units

ASIA 109B. History of China
See HIST 109B.

Normal Grade Rules
4 units

ASIA 110A. History of Japan
See HIST 110A.

Normal Grade Rules
4 units

ASIA 110B. History of Japan
See HIST 110B.

Normal Grade Rules
4 units

ASIA 114. Legacy of Asia
See HUM 114.

Normal Grade Rules
GE: V
3 units

ASIA 115. The Emerging Global Culture
See ANTH 115.

Normal Grade Rules
GE: V
3 units

ASIA 122. English as a World Language
See LING 122.
Normal Grade Rules
GE: V
3 units

ASIA 133B. Relationship Marketing: Pacific Rim
See BUS2 133B.
Normal Grade Rules
3 units

ASIA 140. Chinese Culture and Politics Through Literature
See CHIN 140.
Normal Grade Rules
GE: V
3 units

ASIA 142. Contemporary Buddhism and its Roots
See RELS 142.
Normal Grade Rules
3 units

ASIA 144. Chinese Traditions
See RELS 144.
Normal Grade Rules
3 units

ASIA 145. Asian Politics
See POLS 145.
Normal Grade Rules
4 units

ASIA 148B. Improvisational Traditions of the World - Asia
See MUSC 148B.
Normal Grade Rules
2 units

ASIA 160. East and South Asia
See GEOG 160.
Normal Grade Rules
3 units

ASIA 177. Anthropology of Asia
See ANTH 177.
Repeatable for credit
Normal Grade Rules
3 units

ASIA 193B. East Meets West in Art
See ARTH 193B.
Normal Grade Rules
GE: V
3 units

ASIA 194A. Art of China
See ARTH 194A.
Normal Grade Rules
3 units

ASIA 195. Art of Japan
See ARTH 195.
Normal Grade Rules
3 units

CREATIVE ARTS

LOWER DIVISION

CA 060. Creativity Matters
Study why creativity matters to you from imagining possible career paths to improving communication, expressing ideas, and flourishing over the course of ones lifetime. Creativity is not just for artists and inventors! It is a human faculty that matters for life. GE Area: E
Normal Grade Rules
GE: EE
3 units

CA 070. Visual & Media Arts for K-8 Teachers
Introductory and interdisciplinary course in the Visual Arts and Media Arts designed for students interested in teaching in K-8 classrooms. Basic techniques and processes a prospective teacher needs in the Visual Arts and Media Arts to instruct students. Students actively engage in the art forms as well as explore standards-based instructional strategies, classroom management strategies, and aesthetic inquiry. Introduction to Arts Education research, advocacy, and community arts resources.
Normal Grade Rules
3 units

CA 075. Performing Arts for K-8 Teachers
Basic dance, theatre, and music techniques and processes a prospective teacher needs to create dance/movement, vocal and instrumental music, creative dramatics and formal theatre with K-8 students. Students actively engage in the three arts disciplines, as well as explore standards-based instructional strategies, classroom management strategies, and aesthetic inquiry. Students are introduced to Performing Arts Education research, advocacy, and community arts resources.
Normal Grade Rules
3 units

CA 095. Introduction to Queer Arts
Exploration of the ways that LGBTQ individuals and groups have used the arts, in various times and places, to make their lives, communities, and selves meaningful and to resist the domination of non-queer cultures. GE Area: C1
Normal Grade Rules
GE: C1
3 units

UPPER DIVISION

CA 124. Literature and Religious Experience
See RELS 124.
Repeatable for credit
Normal Grade Rules
3 units

CA 134. Religion Film & Media
See RELS 134.
Normal Grade Rules
3 units

CA 139. Teaching Diversity through Art
See ART 139.
Normal Grade Rules
3 units

CA 150. Field Experience in the Arts
See ARED 150.
Normal Grade Rules
3 units

CA 172. The Arts in U.S. Society
Study of American arts and artists in their aesthetic, social, and political contexts, focusing on 20th and 21st centuries. Arts examined include architecture, poetry, music, visual arts, dance, theatre, performance art, and fiction. Special emphasis on issues of cultural diversity. GE Area: S
Prerequisite: Passage of the Writing Skills Test (WST) or ENGL/LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.
Note: All SJSU Studies courses require completion of the WST and upper division standing.
Normal Grade Rules
GE: S
3 units

CA 173. Thinking About Contemporary World Arts
An interdisciplinary course on contemporary arts and culture which investigates connections between arts disciplines and world cultures. The course uses critical and creative thinking as the lens to focus on issues in the arts, especially personal and cultural identities. GE Area: V
Prerequisite: Passage of the Writing Skills Test (WST) or ENGL/LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.
Note: All SJSU Studies courses require completion of the WST and upper division standing.
Normal Grade Rules
GE: V
3 units

CA 174. Special Topics Seminar
In-depth study of historical and/or contemporary topics in the interdisciplinary creative arts. Content changes each semester.
Course repeatable when content changes
Prerequisite: Upper division standing
Repeatable for credit
Normal Grade Rules
3 units

CA 175. Seminar in Creative Process

An exploration of the creative process across the creative domains and of the use of practice-based research in the humanities and creativity studies.

Prerequisite: CA60 or upper division standing

Repeatable for credit
Normal Grade Rules
3 units

CA 176. Creativity and Creative Leadership

A course focusing on mastering current theories about creativity, adapting theoretical knowledge for an individual/personal strategy, and embodying both the knowledge and strategy in a collaborative project.

Prerequisite: Instructor consent.

Normal Grade Rules
3 units

CA 177. Interdisciplinary Arts for Teaching

Creativity in teaching and learning-a course designed for prospective teachers; connections between the various arts disciplines, integrating other core subjects taught in California's classrooms.

Normal Grade Rules
3 units

CA 178. Senior Seminar in Creative Arts

A capstone seminar in two sections. First, students present and facilitate discussion of a major book or topic in creative arts or, when appropriate, humanities. Second, students devote themselves to senior projects (a written thesis or work in other media).

Prerequisite: CA 172 or CA 173.

Normal Grade Rules
3 units

CA 180. Individual Studies

Individual work on special topics, by arrangement.

Prerequisite: Coordinator approval.

Notes: Mixed grading.

Repeatable for credit
Credit / No Credit
1-4 units

CA 190. Field Work/Internship

Pre-professional experience in arts management/program design/implementation in a public setting.

Prerequisite: Coordinator approval.

Repeatable for credit
Credit / No Credit
1-3 units

CA 194. Community Building through Arts Orgs

In-depth study of strategies and methods for building community through creative arts organizations, both for-profit and non-profit.

Prerequisite: Upper Division Standing

Normal Grade Rules
3 units

HUMANITIES

LOWER DIVISION

HUM 001A. World Cultures and Societies-Honors

Prehistory to the seventeenth century. Courses cover political, historical, social-institutional, philosophical, and literary thought and the arts of the ancient world. GE Areas: C1 and C2.

Prerequisite: Application to program

Note: Entire four-semester sequence (HUM 1A/1B and 2A/2B) satisfies GE Areas A1, A2, A3 (C- or better required); C1, two C2; D2, D3; and all of American Institutions, US1, US2, US3.

Misc/Lab: Lecture 3 hours/lecture 3 hours.

Normal Grade Rules
GE: M8
6 units

HUM 001B. World Cultures and Societies-Honors

Prehistory to the seventeenth century. Courses cover political, historical, social-institutional, philosophical, and literary thought and the arts of the ancient and medieval world. GE Area: A2 and D3

Prerequisite: Hum 1A

Note: Entire four-semester sequence (HUM 1A/1B and 2A/2B) satisfies GE Areas A1, A2, A3 (C- or better required); C1, two C2; D2, D3; and all of American Institutions, US1, US2, US3.

Misc/Lab: Lecture 3 hours/lecture 3 hours.

Normal Grade Rules
GE: M15
6 units

HUM 002A. Honors - Modern World Cultures

Seventeenth century to the present. Courses cover political, historical, social-institutional, philosophical, and literary thought and the arts of the modern world. GE Areas: A1 (C- or Better) and D2.

Prerequisite: HUM 1B.

Note: Entire four-semester sequence (HUM 1A/1B and 2A/2B) satisfies GE Areas A1, A2, A3 (C- or better required); C1, two C2; D2, D3; and all of American Institutions, US1, US2, US3.

Misc/Lab: Lecture 3 hours/lecture 3 hours.

Normal Grade Rules
GE: M14
6 units

HUM 002B. Honors - Modern World Cultures

Seventeenth century to the present. Courses cover political, historical, social-institutional, philosophical, and literary thought and the arts of the modern and contemporary world. GE Areas: A3 (C- or better) and C2. American Institutions: US1, US2, and US3.

Prerequisite: HUM 2A

Note: Entire four-semester sequence (HUM 1A/1B and 2A/2B) satisfies GE Areas A1, A2, A3 (C- or better required); C1, two C2; D2, D3; and all of American Institutions, US1, US2, US3.

Misc/Lab: Lecture 3 hours/lecture 3 hours.

Normal Grade Rules
GE: M13
6 units

HUM 080. Reading the World

By studying the history, philosophy, and science of reading, we build a transdisciplinary, critical approach to the value of reading comparative, historical, and cross-cultural texts. Activities and writing assignments enable students to understand the logical construction of arguments to become reflexive participants in reading. GE Area: A3

Normal Grade Rules
GE: A3
3 units

HUM 090. Bible History and Literature

See RELS 090.

Normal Grade Rules
GE: C2
3 units

HUM 099. Death, Dying and Religions

See RELS 099.

Normal Grade Rules
GE: EE
3 units

UPPER DIVISION

HUM 100W. Writing in the Humanities

Advanced workshop in composition and reading for the critical and comparative study of the humanities and interdisciplinary arts. Students explore and practice the thinking and writing skills that help us communicate insight, critique, interpretation, description, and analysis of arts, literature, history, and culture, including expository writing and library research. Readings and objects of study include a range of topics and at least two different art forms. GE Area: Z

Prerequisite: A3 or equivalent second semester composition course (with a grade of C- or better); Completion of core GE, satisfaction of Writing Skills Test and upper division standing.

Note: Must be passed with C or better to satisfy the CSU Graduation Writing Assessment requirement (GWAR).

Normal Grade Rules
GE: Z
3 units

HUM 101. Human Life: Let's Think About It

Introduction to interdisciplinary comparative and creative studies. A range of methodologies will be explored through two contrasting subjects. Students learn and synthesize approaches - geography, history, literature, arts, and social science - to achieve a holistic understanding of the topics.

Prerequisites: Upper Division Standing.

Normal Grade Rules
3 units

HUM 111. Special Topics in Jewish Studies

See JWSS 111.

Repeatable for credit
Normal Grade Rules
3 units

HUM 114. Legacy of Asia

Interdisciplinary focus on continuity and change in China and India as these ancient civilizations responded to challenges throughout their history. GE Area: V

Prerequisite: Passage of the Writing Skills Test (WST) or ENGL/LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

Note: All SJSU Studies courses require completion of the WST and upper division standing.

Normal Grade Rules
GE: V
3 units

HUM 119. Myths, Heroes, and Global Cultures

This course examines cultural developments in Europe, Asia and Africa during the ancient era and middle ages, roughly 700 B.C.E. to 1400 C.E, and the roles of pivotal figures, both mythic and historical, whose actions and ideas created our understanding of the early world.

Prerequisite: Upper division standing or permission of instructor

Normal Grade Rules
3 units

HUM 120. Renaissance, Reason and Romanticism

This course will examine the cultural, artistic, philosophical, and political developments in the Western world and certain aspects of world cultures during the Renaissance, Enlightenment and Romantic eras, approximately 1400 through 1850.

Prerequisite: Upper division standing or permission of instructor

Normal Grade Rules
3 units

HUM 121. Introduction to Comparative Literature

See COLT 121.

Normal Grade Rules
4 units

HUM 122. Topics in Comparative World Literature

See COLT 122.

Normal Grade Rules
4 units

HUM 124. Literature and Religious Experience

See RELS 124.

Repeatable for credit
Normal Grade Rules
3 units

HUM 126. Holocaust Literature

See ENGL 126.

Normal Grade Rules
GE: V
3 units

HUM 128. Perspectives on the Twentieth Century: The West in a Global Context

Literature and the arts of selected world cultures contextualized in significant events and concepts of the twentieth century, such as two world wars, totalitarian systems, the revolt against colonial powers, modernity and postmodernity, and the global challenge to western hegemony. GE Area: V

Prerequisite: Completion of core GE, satisfaction of Writing Skills Test and upper division standing. For students who begin continuous enrollment at a CCC or a CSU in Fall 2005 or later, completion of, or corequisite in a 100W course is required.

Note: All SJSU Studies courses require completion of the WST and upper division standing.

Normal Grade Rules
GE: V
3 units

HUM 134. Religion Film & Media

See RELS 134.

Normal Grade Rules
3 units

HUM 141. Medieval Literature

See ENGL 141.

Normal Grade Rules
4 units

HUM 142. Contemporary Buddhism and its Roots

See RELS 142.

Normal Grade Rules
3 units

HUM 144. Chinese Traditions

See RELS 144.

Normal Grade Rules
3 units

HUM 148. Children's Dance

See DANC 148.

Normal Grade Rules
3 units

HUM 155. Pagan Traditions

See RELS 155.

Normal Grade Rules
3 units

HUM 159. Nature and World Cultures

See AMS 159.

Normal Grade Rules
GE: V
3 units

HUM 160. Special Topics in Humanities

Comparative studies of vital issues and enduring ideas (ethical, political, social, cross-cultural, etc.). Content varies each semester and with each instructor. Repeatable for up to 9 units of credit when course topic changes.

Prerequisite: Upper Division Standing

Repeatable for credit
Normal Grade Rules
3 units

HUM 168A. Global Climate Change I

See COMM 168A.

Normal Grade Rules
6 units

HUM 168B. Global Climate Change II

See COMM 168B.

Normal Grade Rules
GE: RSV
3 units

HUM 169. The American Dream

See AMS 169.

Normal Grade Rules
GE: S
3 units

HUM 177A. Advanced Honors in Integrated Science, Social Science, and Humanities

SJSU Studies Honors cultivates scientific study of the physical universe and life form, explores individuals and groups in the USA regarding diversity equality, and institutional inequalities and practices, and develops appreciation for human cultures and their diverse development globally over time. Meets SJSU Studies R,S and V with successful completion of sequence (C or Better).

Prerequisite: WST essay score 8; all college GPA 3.0

Co-requisite: 100W pre- or co-requisite strongly recommended

Misc/Lab: Lecture 6 hours/Lecture 6 hours

Normal Grade Rules
6 units

HUM 177B. Advanced Honors in Integrated Science, Social Science, and Humanities
SJSU Studies Honors cultivates scientific study of the physical universe and life form, explores individuals and groups in the USA regarding diversity equality, and institutional inequalities and practices, and develops appreciation for human cultures and their diverse development globally over time. GE Area: R, S and V

Prerequisite: Completion of Hum 177A with C or better.

Misc/Lab: Lecture 3 hours/Lecture 3 hours

Normal Grade Rules
GE: RSV
3 units

HUM 179. American Popular Culture
See AMS 179.

Normal Grade Rules
3 units

HUM 180. Individual Studies
Directed reading and thesis by arrangement.

Prerequisite: Department chair consent.

Repeatable for credit
Credit / No Credit
1-3 units

HUM 183C. Art of Islam 13th-19th Century
See ARTH 183C.

Normal Grade Rules
3 units

HUM 190. Senior Seminar in Humanities
Readings, discussions and individual research projects relating to an interdisciplinary theme selected by the instructor.

Pre/Corequisite: Upper Division Standing, Passage of WST. Any 100W class.

Normal Grade Rules
3 units

HUM 191. Religion in America
See RELS 191.

Normal Grade Rules
GE: S
3 units

LIBERAL STUDIES TEACHER PREP

LOWER DIVISION

LSTP 010. Chronicles of Education
This course uses chronicles, or narratives, to expand traditional views about the sites where education takes place and to articulate the educational forces that shape individuals and societies. GE Area: C2

Normal Grade Rules
GE: C2
3 units

LSTP 085A. Fieldwork in Humanities A
Part of a 3-course series (HUM 85A, B, C) that provides prospective K-8 teachers to California's public school classrooms with initial exposure to the elementary classroom setting. HUM 85A combines readings and field experience to familiarize students with the duties and responsibilities that elementary teaching entails. Coursework involves 10 hours of volunteering in a public-school classroom with a credentialed teacher and online assignments.

Normal Grade Rules
1 unit

LSTP 085B. Fieldwork in Humanities B
Part of a 3-course series (HUM 85A, B, C) that provides prospective K-8 teachers to California's public school classrooms with initial exposure to the elementary classroom setting. HUM 85B provides a dual focus on diversity in the classroom and the development of a teaching philosophy. Readings and field experience familiarize students with the various manifestations of diversity (cultural, linguistic, ability) in the classroom and prepare students to create a teaching philosophy that is responsive to the realities of today's diverse classrooms. Coursework involves 10 hours of volunteering in a public-school classroom with a credentialed teacher and online assignments.

Normal Grade Rules
1 unit

LSTP 085C. Fieldwork in Humanities C
Part of a 3-course series (HUM 85A, B, C) that provides prospective K-8 teachers to California's public school classrooms with initial exposure to the elementary classroom setting. HUM 85C focuses on ethnography as a means of gaining a deeper understanding of classroom observations and classroom dynamics. It combines readings on conducting classroom ethnographies with field experience to produce "Ethnographic Snapshots". Coursework involves 10 hours of volunteering in a public-school classroom with a credentialed teacher and online assignments.

Normal Grade Rules
1 unit

UPPER DIVISION

LSTP 139. Education and (In)Equality
Education and (In)Equality explores the ways in which education cultivates free and empowered individuals that shape democratic egalitarian societies. It also explores the ways education can be used to oppress, dominate, and perpetuate social, economic and political inequalities. SJSU Studies Area: S

Normal Grade Rules
GE: S
3 units

LSTP 185. Field Experience in Humanities
Supervised field work for liberal studies and humanities majors. Includes weekly meetings to discuss readings and field work experiences and to reflect upon humanities education, multicultural school settings and other nonprofit agencies and organizations that promote the humanities.

Prerequisite: HUM 85.

Misc/Lab: Lecture 3 hours/lecture 3 hours.

Credit / No Credit
3 units

MIDDLE EAST STUDIES

LOWER DIVISION

MDES 090. Bible History and Literature
See RELS 090.

Normal Grade Rules
GE: C2
3 units

UPPER DIVISION

MDES 144. Middle Eastern Politics
See POLS 144.

Normal Grade Rules
4 units

MDES 145. Middle Eastern Traditions
See RELS 145.

Normal Grade Rules
GE: V
3 units

MDES 156. Islam, Politics and the West
See RELS 156.

Normal Grade Rules
3 units

MDES 180. Individual Studies
See RELS 180.

Repeatable for credit
Credit / No Credit
1-4 units

MDES 183A. Art of Egypt and Mesopotamia
See ARTH 183A.

Normal Grade Rules
3 units

MDES 183B. Art of Islam-Early Islam to the Seljuks
See ARTH 183B.

Normal Grade Rules
3 units

MDES 183C. Art of Islam 13th-19th Century
See ARTH 183C.

Normal Grade Rules
3 units

MDES 184. Directed Reading
See RELS 184.
Repeatable for credit
Credit / No Credit
1-4 units

MDES 189. Islamic Perspectives on Gender
See WOMS 189.
Normal Grade Rules
3 units

RELIGIOUS STUDIES

LOWER DIVISION

RELS 010A. Elementary Hebrew
See HEBR 010A.
Normal Grade Rules
3 units

RELS 010B. Elementary Hebrew
See HEBR 010B.
Normal Grade Rules
3 units

RELS 015A. Intermediate Hebrew
See HEBR 015A.
Normal Grade Rules
3 units

RELS 015B. Intermediate Hebrew
See HEBR 015B.
Normal Grade Rules
3 units

RELS 070. Gods, Guns, Gurus, Grails-World Religion
Survey of major world religions, east and west, past and present. Structure and patterns of faith manifest in sacred texts, institutions, rituals, central figures and movements.
Normal Grade Rules
GE: C2
3 units

RELS 090. Bible History and Literature
The Bible in context of its history, literary sources and as a reflection of Jewish and Christian traditions. Motifs and themes in light of their original audience, historic usage and contemporary development. GE Area: C2
Normal Grade Rules
GE: C2
3 units

RELS 099. Death, Dying and Religions
Is death the end or the beginning? Learn how people integrate the physical, emotional, psychological, and spiritual dimensions of living and dying. Examine religious teachings and practices for making death personally meaningful, socially significant, or even politically powerful. GE Area: E
Normal Grade Rules
GE: EE
3 units

UPPER DIVISION

RELS 100W. Writing in the Humanities
See HUM 100W.
Normal Grade Rules
GE: Z
3 units

RELS 102A. Advanced Hebrew
See HEBR 102A.
Normal Grade Rules
3 units

RELS 102B. Advanced Hebrew
See HEBR 102B.
Normal Grade Rules
3 units

RELS 104. Asian Philosophy
See PHIL 104.
Normal Grade Rules
GE: V
3 units

RELS 105A. Classical and Koine Greek
See GRK 105A.
Normal Grade Rules
3 units

RELS 105B. Classical and Koine Greek
See GRK 105B.
Normal Grade Rules
3 units

RELS 109. Philosophy of Religion
See PHIL 109.
Normal Grade Rules
3 units

RELS 111. Special Topics in Jewish Studies
See JWSS 111.
Repeatable for credit
Normal Grade Rules
3 units

RELS 114. Legacy of Asia
See HUM 114.
Normal Grade Rules
GE: V
3 units

RELS 120. Censors and Icons: Arts and Religion
Study of interactions between arts and world religions, using paradigmatic examples (e.g. Eastern Orthodox icons, Muslim architecture, Zen Buddhist calligraphy, Hindu Vedic chant, Biblical poetry) and contemporary developments (e.g. Evangelical Christian films, New Age music, religious themes in literature).
Normal Grade Rules
3 units

RELS 122. Magic, Science and Religion
Exploring the ways in which people have attempted to gain mastery over the natural and supernatural worlds beginning with prehistoric times and concluding with modern day society and the contemporary world. GE Area: V

Prerequisite: Completion of core GE, satisfaction of Writing Skills Test and upper division standing. For students who begin continuous enrollment at a CCC or a CSU in Fall 2005 or later, completion of, or corequisite in a 100W course is required.

Note: All SJSU Studies courses require completion of the WST and upper division standing.
Normal Grade Rules
GE: V
3 units

RELS 124. Literature and Religious Experience
How authors and poets represent spiritual ideals and human dilemmas in a variety of literary genres such as the epic, the novel, the essay, love poetry and the haiku; and writers such as Plato, Emerson, Emily Dickinson, Thomas Merton, Shakespeare, Basho, Hanshan, Rumi and Sufi poets, Kabir, Indian Virashaiva poets, and authors of The Book of Odes and The Mahabharata. Course is repeatable as readings and themes change.

Prerequisite: Upper division standing or instructor consent.
Repeatable for credit
Normal Grade Rules
3 units

RELS 131. Gender, Sexuality, and Religion
Women's roles and gendered categories within diverse religions. Feminist critiques, reforms, and creations of religious institutions. The political and feminist dimensions of women's religious experience. Understanding the roles of sexuality in religion.

Prerequisite: Upper division standing or instructor consent.
Normal Grade Rules
3 units

RELS 134. Religion Film & Media
Depictions of religion, religions, religious behavior, and religious propaganda in film and media. Exploring these from several perspectives, (e.g. emic and etic, cross-national, aesthetic) and examining the murky problem of "the truth" in the depiction of religious and spiritual experience.

Prerequisite: Upper division standing or instructor consent.
Normal Grade Rules
3 units

RELS 137. Religion in the Black Community
See AFAM 137.
Normal Grade Rules
3 units

RELS 142. Contemporary Buddhism and its Roots

Teachings of Gautama, the Buddha and ways in which those teachings were modified in forms of Buddhism that followed: Therevada in southeast Asia and Mahayana in east Asia.

Prerequisite: Upper division standing or instructor consent.

Normal Grade Rules
3 units

RELS 144. Chinese Traditions

Religious thought and practice of China's three Great Traditions (Buddhism, Taoism and Confucianism) as well as China's Little Tradition (Chinese folk religion). The role of these traditions within traditional Chinese culture and their relevance to the modern world, including China.

Prerequisite: Upper division standing or instructor consent.

Normal Grade Rules
3 units

RELS 145. Middle Eastern Traditions

Introduction to the peoples and cultures of the Middle East through exploration of the cooperation, competition, conflict and dialogues between the ethnic, national, and religious communities of contemporary Middle Eastern countries. GE Area: V

Prerequisite: Passage of the Writing Skills Test (WST) or ENGL/LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

Note: All SJSU Studies courses require completion of the WST and upper division standing.

Normal Grade Rules
GE: V
3 units

RELS 148. Religion and Anthropology

See ANTH 148.

Normal Grade Rules
3 units

RELS 155. Pagan Traditions

Thematic and historical examination of localized religious traditions; e.g., Shamanic, Animistic, Polytheistic, Pantheistic. These traditions will be studied through their arts, music, myths, life patterns, cosmologies and contact between indigenous and universalizing religions.

Prerequisite: Upper division standing or instructor consent.

Normal Grade Rules
3 units

RELS 156. Islam, Politics and the West

An in-depth look at the roots of Islamic tradition, law, politics, culture, and society. Emphasis on Islam's growing global prominence; relations with the West; stereotypes and misconception, as well as the nature of the Islamic state.

Prerequisite: Upper division standing or instructor consent.

Normal Grade Rules
3 units

RELS 161. Varieties of Spiritual Experience

Comparative analysis of mystical experience, emphasizing the writings and creative works of the mystics themselves. Perspectives include comparative religions, theology, psychology, anthropology, philosophy, music and literature. Focus on ultimate transformation of self and the world.

Prerequisite: Upper division standing or instructor consent.

Normal Grade Rules
3 units

RELS 162. Religion and Political Controversy in the US

Contemporary problems (e.g., ecology, abortion, war, gender, sexuality and race) as interpreted by a diverse range of American ethno-religious groups. GE Area: S

Prerequisite: Passage of the Writing Skills Test (WST) or ENGL/LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

Note: All SJSU Studies courses require completion of the WST and upper division standing.

Normal Grade Rules
GE: S
3 units

RELS 180. Individual Studies

A project.

Prerequisite: Religious studies upper division major or minor and coordinator consent.

Repeatable for credit
Credit / No Credit
1-4 units

RELS 184. Directed Reading

Prerequisite: Religious studies upper division major or minor and coordinator consent.

Repeatable for credit
Credit / No Credit
1-4 units

RELS 190. Senior Seminar in Humanities

See HUM 190.

Normal Grade Rules
3 units

RELS 191. Religion in America

History of social and intellectual influence of religious groups, stressing their African-, Asian-, European-, Latin- and Native-American roots. Highlights contact between groups, immigration, religious diversity and syncretism. GE Area: S

Prerequisite: Passage of the Writing Skills Test (WST) or ENGL/LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

Note: All SJSU Studies courses require completion of the WST and upper division standing.

Normal Grade Rules
GE: S
3 units

Industrial and Systems Engineering Courses

INDUSTRIAL AND SYSTEMS ENGINEERING

UPPER DIVISION

ISE 102. Engineering Economic Systems
Systems analysis applied to economic decisions in engineering; comparison of alternatives based on cost breakdown structure and time value of money; system life-cycle process; life-cycle economic concepts, costing methodology and applications.

Corequisite: MATH 31 and ENGR 10 or equivalent.

Normal Grade Rules
3 units

ISE 103. Life Cycle Engineering
Life cycle analysis of products focused on the contexts of reducing energy and the carbon footprint. Methods to analyze and evaluate the environmental impacts of engineering activities. Interdisciplinary case studies and projects related to life cycle engineering.

Prerequisite: Upper division standing.

Normal Grade Rules
3 units

ISE 105. Introduction to Systems Engineering and Activity Costing
Techniques for integrating engineering problem solving methods with systems theory including principles of problem identification, description, modeling, solution and implementation; applying traditional and activity based cost systems to assist engineers in decision making process through the product life cycle.

Prerequisite: MATH 31. Allowed Declared Majors: Any Engineering.

Normal Grade Rules
3 units

ISE 110. Manufacturing Processes
See ME 110.

Normal Grade Rules
3 units

ISE 112. Occupational Health Engineering
Legislative framework and historical perspective of work-related injuries and diseases: prevention assessments, legal and regulatory issues surrounding solutions to occupational health problems, principles of industrial hygiene and program management.

Prerequisite: Junior standing in engineering.

Normal Grade Rules
3 units

ISE 114. Safety Engineering
Hazards, accident prevention and engineering approaches to the design of equipment, facilities and processes. Provides familiarity with system safety, system evaluation and evaluation of alternative countermeasures. Latest safety regulations and agencies responsible for their enforcement.

Prerequisite: Junior standing.

Normal Grade Rules
3 units

ISE 115. Lean Integrated Manufacturing
Analyze, design and integrate manufacturing processes including application of Group Technology, CAM, automated material handling, and flexible automation within lean manufacturing environment. Manage automation in support of a lean enterprise improvement program based upon the Toyota Production System paradigm.

Prerequisite: ISE 120, CMPE 30 or equivalent, Engineering majors only.

Misc/Lab: Lecture 2 hours/lab 3 hours.

Normal Grade Rules
3 units

ISE 120. Work Methods Design and Measurement
Design of efficient and effective work processes; includes process management, methods analysis and improvement and work measurement.

Prerequisite: MATH 032. Allowed Declared Majors: Any Engineering.

Corequisite: ISE 130.

Misc/Lab: Lecture 2 hours/Lab 3

Normal Grade Rules
3 units

ISE 130. Engineering Probability and Statistics
Probability theory, graphical displays of data, graphical methods of comparisons of samples and hypotheses testing. Statistical estimation and inference. Uses graphical statistical packages.

Prerequisite: MATH 32 or MATH 071. Allowed Declared Majors: Any Engineering and graduate students

Normal Grade Rules
3 units

ISE 131. Statistical Process Control and Improvement
Statistical computations, sampling procedures, development and use of control charts and utilization of computerized statistical packages. Design of statistical quality control systems. The seven tools of quality; process capability studies.

Prerequisite: ISE 130 (with a grade "C-" or better) or equivalent. Allowed Declared Majors: Any Engineering.

Normal Grade Rules
3 units

ISE 135. Design of Experiments
Tests of composite hypotheses, analysis of variance, statistical decision theory, sampling procedures, design and implementation of statistical process control systems, response surface experimental design, Taguchi experimental design, system reliability, utilization of computerized statistical packages.

Prerequisite: ISE 130 (with grade of "C-" or better) or equivalent. Allowed Declared Majors: Any Engineering.

Normal Grade Rules
3 units

ISE 140. Operations Planning and Control
Design, implementation and evaluation of manufacturing, planning and control systems. Includes MRP II, ERP, JIT.

Prerequisite: ISE 102, ISE 120. Allowed Declared Majors: Any Engineering and graduate students.

Normal Grade Rules
3 units

ISE 142. Service Systems Engineering and Management
Operational productivity, operational quality strategy and information technology applications in the service sector through the use of tools, techniques and case studies. Contrasts manufacturing and service sector issues related to supply chain, process quality, information systems and other topics.

Prerequisite: Upper division standing.

Normal Grade Rules
3 units

ISE 151. Introduction to Engineering Management
Broad overview of engineering management theory and practice including: management's roles, responsibilities, skills, strategy and planning; management systems, human resource management, problem solving and decision-making; engineering ethics.

Prerequisite: Upper Division Standing

Normal Grade Rules
3 units

ISE 155. Supply Chain Engineering
A comprehensive coverage of supply chain topics; real world applications including logistics, inventory management, risk pooling, value of information, strategic alliance, procurement and outsourcing strategies, information technology, coordinated product and supply chain design, customer value, decision, support systems.

Prerequisite: ISE 140.

Normal Grade Rules
3 units

ISE 160. Healthcare Delivery Systems

Overview and analysis of health care delivery systems in the US with emphasis on the assessment, analysis, and improvement of operational quality, efficiency, and effectiveness. Impact on primary components of health care systems: facilities, approaches to care and treatment modalities, and personnel. Quantitative and qualitative techniques and applications to improve health care systems; performance measures used to evaluate access and quality of care. Impact of healthcare policies, laws, economics, and current US health care culture on organizational performance and patient outcomes.

Preerquisite: Junior Standing

Normal Grade Rules
3 units

ISE 161. Medical Errors Reduction and Patients Safety Engineering

Standardization of national reporting of medical errors; patient safety and high risks processes performance analysis; Safety improvements utilizing human factors techniques; information technology applications to reduce medication errors and improve patient safety; structured teams and systems to reduce clinical errors.

Prerequisite: Junior Standing

Normal Grade Rules
3 units

ISE 162. Engineering Statistics and Analysis

See CHE 162.

Normal Grade Rules
2 units

ISE 163. Healthcare Information Systems

Current and emerging use of clinical information, electronic medical records and clinical information systems. Healthcare enterprise architecture. Pre-built automation models of unified patients records. Automated decision support. Integrated interfaces, interoperable record exchange, and meta knowledge integration. Security of healthcare information.

Prerequisite: Junior Standing

Normal Grade Rules
3 units

ISE 164. Computer and Human Interaction

Introduction to human/computer interaction, paradigms for interaction, human performance capabilities, computer input/output device analysis and design, pattern recognition 3D audio, 3D visualization, application to virtual reality and multimedia.

Prerequisite: Junior standing.

Normal Grade Rules
3 units

ISE 166. Healthcare Financial Engineering Management

Healthcare activity costing and life-cycle, methodologies of modeling financial decisions, dynamic pricing techniques, and integrated financial analysis that spans clinical, access, and revenue functions. Financial risks assessment using statistical and stochastic methods as applied to pricing of alternative providers' settings.

Prerequisite: Junior Standing

Normal Grade Rules
3 units

ISE 167. System Simulation

Introduction to simulation. Monte Carlo techniques. Design and use of discrete-event computer simulation modeling techniques; theoretical and practical treatment of input to models; model validation methods and output analysis. Synchronized sampling, model comparisons.

Prerequisite: CMPE 30 or equivalent; ISE 130 (with grade of "C-" or better). Allowed Declared Majors: Any Engineering and graduate students.

Misc/Lab: Lecture 2 hours/lab 3 hours.

Normal Grade Rules
3 units

ISE 170. Operation Research

Development and application of mathematical models to industrial problems. Linear programming, network analysis, Markov models, game theory, queuing theory and decision analysis.

Prerequisite: ISE 130 (with grade of "C-" or better). Allowed Declared Majors: Any Engineering.

Pre/corequisite: MATH 123.

Normal Grade Rules
3 units

ISE 180. Individual Studies

Individual work on special topics by arrangement.

Prerequisite: Upper division standing and instructor consent. Not available to Open University Students.

Repeatable for credit
Credit / No Credit
1-3 units

ISE 194. Analytics Workshop

Application of common analytics programming languages to problems in industrial engineering.

Prerequisite: CMPE 30, ISE 135, and Senior Standing.

Credit / No Credit
1 unit

ISE 195A. Senior Industrial Engineering Design I

Individual or group design projects. Proposal preparation with plans and specifications. Oral and written reports. Professional seminars. global and social issues in engineering.

Prerequisite: ISE 105, ISE 120, ENGR 100W, major form on file and good standing in the major.

Misc/Lab: Lab 3 hours.

Normal Grade Rules
1 unit

ISE 195B. Senior Industrial Engineering Design II

Design of industrial system: Quality function deployment, technology trends, financial analysis, functional specifications, process design, production capability, quality management, manufacturing resource planning, equipment requirements, human resource management, MIS, facility design, and project management. Integrated global and social issues in engineering.

Prerequisite: ISE 140 and ISE 195A (with grade of "C" or better). ISE majors only.

Misc/Lab: Lab 9 hours.

Normal Grade Rules
3 units

ISE 197. Cooperative Education Project

See ENGR 197.

Normal Grade Rules
3 units

GRADUATE

ISE 200. Financial Methods for Engineers

Systematic approach and methods for engineering decision making where economic outcomes are principal criteria. Accounting analysis and decision making topics that aid in understanding the relationships between various functional areas of business and the decision making processes of engineering managers.

Normal Grade Rules
3 units

ISE 201. Engineering Statistics

Statistical concepts, techniques relevant to engineering, motivation by real world examples. Probability, statistics including set theory, combinatorics, random variables, distributions, estimation, confidence interval, hypothesis testing, regression and ANOVA.

Prerequisite: Graduate Standing

Normal Grade Rules
3 units

ISE 202. Design and Analysis of Engineering Experiments

Review of statistical inference and tests of hypotheses. Introduction to analysis of variance and covariance. Theory and applications of experimental designs for engineering problems. Random and systematic designs. Randomized blocks. Latin squares. Factorial and fractional factorial designs. Taguchi methods.

Prerequisite: ISE 130.

Normal Grade Rules
3 units

ISE 203. Agile Systems Engineering

Exploration of Lean, Agile, Scrum, Kanban, Large-Scale Scrum, and Scaled Agile Frameworks. Real examples leverage the immersion understanding of Agile. Students acquire Agile knowledge and skills that can be applied to any type of project in any industry.

Prerequisite: ISE 213

Normal Grade Rules
3 units

ISE 210. Human Factors/Ergonomics

Analysis and evaluation of work systems in terms of the capabilities and limitations of human participants. Person as a system component. Emphasis is on evaluation of how work affects people and how people affect the work.

Prerequisite: Graduate standing.

Normal Grade Rules
3 units

ISE 211. Experiment Design for Human Factors Engr

Hypotheses testing, linear regression, analysis of variance, factorial experiments, fractional factorial designs, Construction/analysis of complete/incomplete block designs, non-parametric statistical methods including alternatives to ANOVA, multiple comparisons, power and sample size determination, and factor analysis.

Prerequisite: STAT 115 or ISE 130 or ISE 201 or equivalent (with a grade of B or better)

Normal Grade Rules
3 units

ISE 212. Human Factors Experiments

Research and experimentation on specific aspects of the person as a system or in systems. Particular emphasis is placed on in-depth studies of unique human factors.

Prerequisite: ISE 210 or instructor consent.

Note: This course satisfies graduate-level GWAR in this master's program.

Normal Grade Rules
GE: GWAR
3 units

ISE 213. Principles of Engineering Management

Functions of engineering managers: planning, organizing, leading, and controlling. Business fundamentals for engineering managers. Engineering leadership and engineering management. Project management methods: planning, scheduling and controlling.

Prerequisites: Graduate Standing

Repeatable for credit
Normal Grade Rules
3 units

ISE 214. Enterprise Engineering

The body of knowledge, principles, and disciplines related to the analysis, design, implementation, and operation of all elements associated with an enterprise which is explained through a set of conceptual models and the understanding of an enterprise from engineering perspective.

Prerequisite: ISE 213

Normal Grade Rules
3 units

ISE 215. Usability Evaluation and Testing

Seminar is designed to provide students with a comprehensive overview of usability testing methods, as applied to systems products and software-web applications. Course will address testing methods, processes and marketing justification for usability testing.

Prerequisite: ISE 210

Normal Grade Rules
3 units

ISE 217. Human Computer Interaction

Human performance characteristics, computational tools, and HCI applications. How to access/evaluate HCI requirements, to design HCI requirements, to assess the impact of design on performance, and to generalize the design implication to system function.

Normal Grade Rules
3 units

ISE 218. Interaction Design I

Theory, science and application of user experience interaction design. Latest tools and techniques. Relationship between software interaction design patterns, usability, learnability and human performance in man-machine systems.

Pre-requisite: Graduate Standing

Normal Grade Rules
3 units

ISE 219. HCI for Cyber Security

The course covers HCI in cyber security that include: authentication and access control, trust, user privacy and data protections, cyber security in social networking, data protection and security in healthcare , cyber security in eCommerce, mobile, computing & cloud computing, compliance and regulation, visualization tools and techniques in cyber security and privacy.

Prerequisite: Graduate Standing

Normal Grade Rules
3 units

ISE 220. Interaction Design II

Advanced topics for design of product and service experiences focused on methods that motivate, delight and influence human behavior during engagement with applications and information in multiple media and across devices ranging from wearables to mobile and Web.

Prerequisite: ISE 218

Normal Grade Rules
3 units

ISE 222. Adv Sys Engr

Systems engineering and analysis concepts, methodologies, models, and tools needed to understand and implement total life-cycle approach to systems. Model Based Systems Engineering for domain-specific models. System analysis models for economic evaluation, optimization and control. Systems design for reliability, maintainability, usability, producibility, logistics, disposability and sustainability.

Prerequisite: ISE 201 or equivalent.

Normal Grade Rules
3 units

ISE 223. Dec Model Sus Dev

Planning and decision models for resource management toward achieving economic, environmental, and social objectives in public and private organizations. Key modeling approaches include life cycle assessment, capital project evaluation, multi-criteria decision making under uncertainty, and machine learning. Exploration of business models for service economy, extended producer responsibility, and sustainable development.

Prerequisite: ISE 130 or equivalent

Normal Grade Rules
3 units

ISE 230. Advanced Operations Research

Advanced operations research techniques and topics. Practical consideration in understanding and utilizing operations research methods. Critical analysis of case studies.

Prerequisite: ISE 130.

Normal Grade Rules
3 units

ISE 233. Operational Data Analysis for Industrial Systems

Analysis of how data can be used to improve industrial operations. IoT. Data collection, storage, and communication technologies and approaches. Maintenance, operational performance, and quality applications of operational data analysis and machine learning.

Prerequisite: ISE 201 and ISE 140 or instructor consent

Normal Grade Rules
3 units

ISE 235. Quality Assurance and Reliability

Selection of adequate variables to monitor a manufacturing/service process; quality improvement through process design, vendor management, customer feedback and product development; use of statistical control charts, the Pareto principle, PDCA, process capability; design for reliability, statistical techniques for analysis of reliability and reliability growth.

Prerequisite: ISE 130 (or equivalent). Allowed Declared Majors: Any Engineering.

Normal Grade Rules
3 units

ISE 240. Analytics for Systems Engineering

Application of data analysis, predictive and prescriptive (optimization) modeling techniques to analyze, model, and optimize real-world industrial and systems engineering problems using computer programming languages.

Prerequisite: ISE 170 or equivalent, ISE 130 or equivalent Classified graduate standing or instructor consent

Normal Grade Rules
3 units

ISE 241. Advanced Operations Planning and Control

Design, implementation and evaluation of production and service systems; manufacturing strategy, choice of processes, resources planning, production and procurement control, forecasting methods, scheduling considerations and decision-making techniques.

Prerequisite: ISE 140 or instructor consent.

Normal Grade Rules
3 units

ISE 242. Advanced Service Systems Engineering and Management

Advanced studies of operational productivity, operational quality, strategy and information technology applications in the service sector through the use of tools, techniques and case studies. Current literature review of issues related to service sector productivity, quality and value.

Prerequisite: Graduate standing.

Normal Grade Rules
3 units

ISE 243. Advanced Supply Chain Analytics

Machine Learning and Artificial Intelligence methodologies and their applications in supply chain applications.

Prerequisite: ISE 240, ISE 245 or equivalent.

Normal Grade Rules
3 units

ISE 245. Advanced Supply Chain Engineering

Supply chain concepts, strategies; emphasis on analytical tools to solve supply chain problems. Fundamentals of supply chain modeling of inventory, transportation, location, facility planning problems. Information sharing, risk pooling. Mechanisms for increasing profits.

Prerequisite: ISE 140.

Normal Grade Rules
3 units

ISE 247. Logistics for Supply Chain

An exploration of logistics for entire supply chain system from inbound movement through material management to physical distribution to customers. Topics include: packaging and handling, material management, transportation and traffic management, facility location and global logistics.

Prerequisite: Graduate standing.

Normal Grade Rules
3 units

ISE 250. Leading the Six Sigma Improvement Project

Improvement projects are critical. Covers Six Sigma methodology, problem-solving tools to improve cost, quality, time and variability. Management of projects, teams, change, and benchmarking; root cause problem solving, and implementation effectiveness. Practical experience through course project.

Prerequisite: Instructor consent.

Normal Grade Rules
3 units

ISE 251. Managing the Lean Enterprise Improvement Program

The elements of an effective organizational improvement program composed of multiple projects. Covers capabilities-based strategy; dimensions of performance such as cost, quality and time; when to use Six Sigma, Lean, Theory of Constraints and Reengineering.

Prerequisite: Instructor consent.

Note: This course satisfies graduate-level GWAR in this master's program.

Normal Grade Rules
GE: GWAR
3 units

ISE 260. Healthcare Delivery Systems

Overview and analysis of health care delivery systems in the US with emphasis on the assessment, analysis, and improvement of operational quality, efficiency, and effectiveness. Impact on primary components of health care systems: facilities, approaches to care and treatment modalities, and personnel. Quantitative and qualitative techniques and applications to improve health care systems; performance measures used to evaluate access and quality of care. Impact of healthcare policies, laws, economics, and current US health care culture on organizational performance and patient outcomes

Prerequisite: Graduate Standing

Normal Grade Rules
3 units

ISE 261. Medical Errors Reduction and Patients Safety Engineering

Standardization of national reporting of medical errors; patient safety and high risks processes performance analysis; Safety improvements utilizing human factors techniques; information technology applications to reduce medication errors and improve patient safety; structured teams and systems to reduce clinical errors.

Prerequisite: Graduate standing.

Normal Grade Rules
3 units

ISE 262. Healthcare Financial Engineering Management

Evaluation of healthcare systems underlying health economics principles with emphasis are on financial strategy planning and capital formation; integrated analysis that spans clinical, access and revenue financial functions; new approaches to reimbursement methods and pricing of alternatives health care providers.

Prerequisite: Graduate Standing.

Normal Grade Rules
3 units

ISE 263. Healthcare Information Systems

Current and emerging use of clinical information, electronic medical records and clinical information systems. Healthcare enterprise architecture. Pre-built automation models of unified patients records. Automated decision support. Integrated interfaces, interoperable record exchange, and meta knowledge integration. Security of healthcare information.

Prerequisite: Graduate standing.

Normal Grade Rules
3 units

ISE 265. Advanced System Simulation

Use of computerized simulation and modeling techniques to conduct experiments, evaluate the costs of a process, evaluate alternative inspection policies and determine effects of JIT management models for shop setting.

Prerequisite: ISE 167 or instructor consent.

Normal Grade Rules
3 units

ISE 270. Information Engineering

Technologies, strategies and systems for planning, analyzing, designing and implementing data resources in order to ensure and continuously improve processes in the enterprise; object-oriented development, Computer-Aided Software/Systems Engineering (CASE); information superhighway, client/server computing and distributed database management systems.

Prerequisite: CMPE 46 or instructor consent. Allowed Declared Majors: Any Engineering.

Note: This course satisfies graduate-level GWAR in this master's program.

Normal Grade Rules
GE: GWAR
3 units

ISE 290. Human Factors & Ergonomics Professional Seminar

Real world skills necessary to start your professional HR/Ergo career, i.e. public presentation, terminology, field evaluations, current research and industry issues in human factors and ergonomics.

Prerequisite: Graduate standing.

Credit / No Credit
2 units

ISE 297. Special Topics in Industrial Engineering

Special topics to augment regularly-scheduled courses.

Prerequisite: Graduate standing in industrial engineering.

Repeatable for credit
Normal Grade Rules
1-4 units

ISE 298. Special Problems

Advanced individual work in industrial engineering. Repeatable for up to 18 units when project changes.

Prerequisite: Instructor consent. Not available to Open University Students.

Repeatable for credit
Mandatory CR/NC/RP
1-4 units

ISE 299. Master's Thesis

Prerequisite: Consent of thesis advisor. Not available to Open University Students.

Repeatable for credit
Mandatory CR/NC/RP
1-4 units

UPPER DIVISION

ISE 1290R. Culminating Experience Supervision

Continued work on thesis or project.

Prerequisite: Outstanding RP grade in a preceding semester in a thesis or project class

Note: No Degree Credit.

Repeatable for credit
No Degree Credit
1 unit

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DESCRIPTION CONTENTS

Information School Courses

INFORMATICS

GRADUATE

INFM 200. Informatics: Fundamentals
A broad perspective and understanding of informatics as a technical skill set that focuses on user-centered systems and balances legal and ethical considerations and measures. Examines informatics applications in specific and interprofessional contexts.

Note: This course satisfies graduate-level GWAR in this master's program.

Normal Grade Rules
GE: GWAR
3 units

INFM 201. Informatics: Technology Foundations
Analyze and implement web applications using APIs, web frameworks and infrastructure-as-a-service to support web services and web resources.

Normal Grade Rules
2 units

INFM 202. Informatics: Security Overview
Fundamentals of network security, compliance and operational security; threats and vulnerabilities; application, data, and host security; access control and identity management; and cryptography. Students are provided with an opportunity to gain hands-on experience using typical cybersecurity solutions.

Normal Grade Rules
1 unit

INFM 203. Big Data analytics and Management
Overview and use of Important big data technologies, trends, infrastructure, and management issues that enable users to make informed and strategic decisions with the presence of large-scale data sets.

Normal Grade Rules
2 units

INFM 204. Human Centered Design
Designing and developing user-centered knowledge structures for the Web environment. Core topics are: problems addressed by effective human-computer interaction; how to design for findability; design thinking concepts and tools; prototyping; and informing stakeholders about a content-rich product.

Normal Grade Rules
2 units

INFM 205. Informatics: Project Management
Introduces essential strategies and techniques for project management. Topics include: management styles, institutional constraints, project life cycles, stakeholder management, scope definition, risk assessment, project planning tools, and team management.

Normal Grade Rules
2 units

INFM 206. Electronic Records: Foundations
Principles and methods of managing records and information as operational, legal and historical evidence in electronic environments. Examines the ways in which new information technologies challenge organizations' capacities to define, identify, control, manage, and preserve electronic records and information.

Normal Grade Rules
3 units

INFM 207. DAM: Digital Assets Management
Concepts, terminology, practice and application of DAM in the private and public sector. Addresses metadata, workflow, taxonomy, data security, governance, and preservation of digital assets.

Normal Grade Rules
2 units

INFM 208. Information Security: Info Assurance
Overview of Information Assurance and Risk Management theories, principles, and techniques. This course examines the information assurance frameworks and risk management planning structures used to ensure that an organization s information resources and assets are protected

Normal Grade Rules
1 unit

INFM 210. Health Informatics
Health data and standards, electronic health records (EHR) and other healthcare information, data management concerns and technology governance in the health care environment.

Normal Grade Rules
3 units

INFM 211. Organizational Consulting Project (OCP)
Application of knowledge and skills developed in the Informatics program to address a specific problem in a specific domain (such as health or sports).

Mandatory CR/NC/RP
3 units

INFM 213. Epidemiological Methods
Introduction to the principles and methods of epidemiologic research. Students are enabled to design, conduct, analyze, and interpret epidemiologic research.

Normal Grade Rules
3 units

INFM 214. Health Data and Analytics
Exploration of healthcare informatics and its relation to health information technology. Students will apply basic knowledge and skills from healthcare data mining, data science, data management and professional project management to address practical healthcare business and clinical intelligence issues.

Normal Grade Rules
3 units

INFM 215. Network Security
Technical and administrative aspects of information security and assurance. Includes compliance and operational security, Web application attacks, penetration testing, data loss prevention, cloud computing security, psychological and behavioral traits of users vulnerable to cyber and social engineering attacks, and application programming development security.

Prerequisite: Graduate Standing or Instructor Consent

Normal Grade Rules
3 units

INFM 216. Computer Digital Forensics
Digital forensic investigation activities. Data acquisition, forensic imaging, use of Forensic Tool Kit (FTK) suite of applications (using Access Data virtual labs), locking mechanisms, search and seizure procedures, and report writing.

Prerequisite: Graduate Standing or Instructor Consent

Normal Grade Rules
3 units

INFM 217. Tools Lab
Security tools used to detect network security threats and vulnerabilities at a microscopic level. Introduction to penetration testing, packet analyzers, standards and cryptography, reconnaissance and malware, hacking, and vulnerability scanning.

Prerequisite: Graduate Standing or Instructor Consent

Normal Grade Rules
3 units

INFM 218. Sports Analytics
Analytical techniques and quantitative methods used to inform decisions in the sport industry. Theory, development, and application of analytics in sports to support player performance, in-game strategy, team management, sports operations, and fantasy competitions.

Prerequisite: Graduate Standing or Instructor Consent

Normal Grade Rules
3 units

INFORMATION SCHOOL

LOWER DIVISION

INFO 020. Introduction to Computing for Personal Information Management
Introduction to computing for personal information access, use and management including basic computer operations, access to geographically distributed information on the global Internet, electronic communication, word processing and document design, data modeling with spreadsheets, database design and maintenance for information storage and retrieval and information presentation.

Normal Grade Rules
3 units

SJSU SAN JOSÉ STATE UNIVERSITY

Academic Year 2019-2020

Course Descriptions

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July 1, 2019

ALL DATES, FEES & INFORMATION SUBJECT TO CHANGE WITHOUT NOTICE

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DESCRIPTION CONTENTS

GRADUATE

INFO 200. Information Communities

Examines information users and the social, cultural, economic, technological, and political forces that shape their information access and use.

Prerequisite: Demonstrated computer literacy.

Note: This course satisfies graduate-level GWAR in this master's program.

Normal Grade Rules
GE: GWAR
3 units

INFO 202. Information Retrieval System Design

The systems and knowledge structures that information professionals create and use to connect users with information.

Prerequisite: Demonstrated computer literacy.

Normal Grade Rules
3 units

INFO 203. Online Learning: Tools and Strategies

This course introduces students to new and emerging technologies used in today's online learning environment. It covers learning management tools, various social networking platforms, web conferencing, as well as strategies and skills needed for success in online learning.

Credit / No Credit
1 unit

INFO 204. Information Professions

Examines the organizations and environments in which information professionals work.

Prerequisite: Demonstrated computer literacy.

Normal Grade Rules
3 units

INFO 208. Big Data Technologies

Introduction to the technological ecosystem of Big Data and Hadoop as well as the goals and work of Data Science.

Prerequisite: Graduate Standing or instructor consent

Normal Grade Rules
3 units

INFO 209. Web and Data Mining

Covers topics ranging from data mining, Web mining, classification, numeric prediction, association rules, sequential patterns, Web crawling, retrieval and search engines, social network analysis, link analysis, ranking, Web personalization and recommender systems, to Hadoop based technologies, including MapReduce, Spark, MLlib

Prerequisite: Basic knowledge of Linux/UNIX programming. Some familiarity with C, C++, and/or Java.

Normal Grade Rules
3 units

INFO 210. Reference and Information Services

Process-oriented examination of how information professionals answer reference questions. Stresses interpersonal skills required for effective question negotiation and sources with which questions are answered.

Prerequisite: INFO 202.

Repeatable for credit
Normal Grade Rules
1-3 units

INFO 211. Transfer Course One

Prerequisite: Transfer content for MLIS students who transfer graduate credits. Needs graduate advisor and/or academic advisor approval.

Misc/Lab: Lecture 2 hours/lab 3 hours.

Normal Grade Rules
3 units

INFO 212. Transfer Course Two

Prerequisite: Transfer Content for MLIS Students who transfer graduate credits. Needs graduate advisor and/or academic advisor approval.

Misc/Lab: Lecture 2 hours/lab 3 hours.

Normal Grade Rules
3 units

INFO 213. Transfer Course Three

Prerequisite: Transfer content for MLIS students who transfer graduate credits.

Needs graduate advisor and/or academic advisor approval.

Misc/Lab: Lecture 2 hours/lab 3 hours.

Normal Grade Rules
3 units

INFO 215. Information Visualization

Applying perceptual and cognitive principles to the design and development of information visualization techniques, such as scatterplots, treemaps, parallel coordinates, and GIS visualizations; interactive visualization interface design and implementation; narrative visualization and storytelling; visual analytics for decision making.

Prerequisite: Graduate Standing or Instructor Consent

Normal Grade Rules
3 units

INFO 220. Resources and Information Services in Professions and Disciplines

Examination of the nature of resources for, and services to, professions and disciplines. Possible disciplines for study may be law, business and economics, life and/or physical sciences, medical sciences, engineering and computer science, maps, and visual and performing arts. Course is repeatable in the same semester for a maximum of nine units when content changes.

Prerequisite: For Business: INFO 202, INFO 204, INFO 210. For Science/Technology: INFO 210. For Visual and Performing Arts: INFO 210.

Repeatable for credit
Normal Grade Rules
1-3 units

INFO 221. Government Information Sources

Study in government publications and databases, their bibliographic organization, use in all types of libraries and information centers, methods of acquiring information from federal, state and local sources; problems of depository and non-depository collections.

Prerequisite: INFO 210.

Repeatable for credit
Normal Grade Rules
3 units

INFO 228. Advanced Information Resources and Services

In-depth survey of information needs, uses, and sources across different user groups; current methods of providing reference services and instruction in different information seeking contexts; and techniques for evaluating reference sources and services.

Prerequisite: INFO 202 and INFO 210 .

Normal Grade Rules
3 units

INFO 229. Practicum/Seminar in Information Services

Opportunity to work in a setting delivering information services. Discussion of encountered problems, current trends and contemporary approaches to information service delivery.

Prerequisite: INFO 244 or instructor consent.

Credit / No Credit
3 units

INFO 230. Issues in Academic Libraries

Investigate current issues that impact the functioning of the academic library. Topics include issues related to social and political environments, clientele, services, collections, physical settings, financing, staffing and future trends in the academic library sector.

Prerequisite: INFO 200, INFO 202 and INFO 204.

Normal Grade Rules
3 units

INFO 231. Issues in Special Libraries and Information Centers

This course will investigate current issues that impact the functioning of special libraries/information centers. Topics covered will include issues related to social and political environments, clientele, services, collections, physical settings, financing and staffing, and future trends in the special library/information center sector.

Prerequisite: INFO 200, INFO 202, INFO 204.

Normal Grade Rules
3 units

INFO 232. Issues in Public Libraries

This course will investigate current issues that impact the functioning of the public library. Topics covered will include issues related to social and political environments, clientele, services, collections, physical settings, financing and staffing, and future trends in the public library sector.

Prerequisite: INFO 200, INFO 202, INFO 204.

Normal Grade Rules
3 units

INFO 233. School Library Media Centers

The role of the school library media teacher and the school library media program in the educational community. Emphasis on creation of effective learning environments, involvement in the curriculum and teaching process as well as philosophies of service and management.

Prerequisites: INFO 204 and INFO 250.

Normal Grade Rules
3 units

INFO 234. Intellectual Freedom Seminar

Focuses on current intellectual freedom issues and the centrality of intellectual freedom to librarianship.

Prerequisite: INFO 200, INFO 204.

Normal Grade Rules
3 units

INFO 237. School Library Media Materials

Survey of materials in a variety of formats that meet the needs of K12 students. Materials will be examined that support state and national curriculum standards as well as material that support independent reading and learning. Course can be repeated one time.

Prerequisites: INFO 200, INFO 202, INFO 203, INFO 204

Repeatable for credit
Normal Grade Rules
3 units

INFO 240. Information Technology Tools and Applications

Focuses on building practical skills in a variety of networked computer applications. Topics will vary, but will typically include web coding languages and designing web sites.

Prerequisite: INFO 202.

Normal Grade Rules
3 units

INFO 241. Automated Library Systems

Review of major systems for library automation. Problems associated with the planning, implementation and use of the systems, negotiation of systems acquisition and trends in the field.

Prerequisite: INFO 200, INFO 202 and INFO 204. Not available to Open University Students.

Repeatable for credit
Normal Grade Rules
1-3 units

INFO 242. Database Design and Management

Design and implementation of relational databases. Learn about database management systems (such as Oracle), database administration, and database querying with SQL.

Prerequisite: INFO 202. Not available to Open University Students.

Normal Grade Rules
3 units

INFO 243. Systems Analysis

Study of systems as applied to libraries and information centers. Application of methods for studying the means by which libraries deliver information services to users.

Prerequisite: INFO 200, INFO 202 and INFO 204. Not available to Open University Students.

Normal Grade Rules
3 units

INFO 244. Online Searching

Techniques and concepts for searching online, including strategies, database content, search options, and understanding the information environment. The course includes extensive hands-on experience with

subscription search engines.

Prerequisite: INFO 202.

Normal Grade Rules
3 units

INFO 245. Advanced Online Searching

Emphasis is on on-line techniques for developing current awareness services.

Prerequisite: INFO 244.

Normal Grade Rules
3 units

INFO 246. Information Technology Tools and Applications - Advanced

Designing advanced Web applications using technology such as dynamic HTML and XML and Web programming languages such as XSLT, JavaScript, JSP, Perl, PHP, MYSQL, and ASP. May be repeated for up to 12 units when content changes.

Prerequisite: INFO 202.

Repeatable for credit
Normal Grade Rules
1-3 units

INFO 247. Vocabulary Design

Survey of principles and practices used to index information-bearing objects such as documents or images. Includes term assignment, review of existing vocabularies, thesaurus design, metadate structures and automatic and natural language processes.

Prerequisite: INFO 202.

Normal Grade Rules
3 units

INFO 248. Beginning Cataloging and Classification

Theory and practice of bibliographic control including the study of representative cataloging using AACR2, machine-based representation using MARC formats and other standards, subject analysis and classification using LCSH. Dewey, and LCC with application to books, non-book materials and serials.

Prerequisite: INFO 202.

Normal Grade Rules
3 units

INFO 249. Advanced Cataloging and Classification

Application of cataloging and organization of information principles to multi- and hyper-media resources. Complex serial publications, evolving standards for representation of non-traditional networked information, and cataloging policy development. Specific focus of the course may vary each time taught.

Prerequisite: INFO 202, INFO 248.

Normal Grade Rules
3 units

INFO 250. Design and Implementation of Instructional Strategies for Information Professionals

Examination of concepts of instruction in the use of information technologies, information services and sources. Includes investigation of learning theory and instructional design. Emphasis on application of theory through development of instruction and instructional resources in various media for use in a broad array of institutional environments.

Prerequisite: INFO 200. Not available to Open University Students.

Repeatable for credit
Normal Grade Rules
3 units

INFO 251. Web Usability

Through examination of theory, methodologies, and real-life cases, Info 251 offers a user experience (UX) framework for developing information systems. Students learn the principles of user-centric design and style for particular circumstances and populations.

Prerequisite: INFO 202.

Normal Grade Rules
3 units

INFO 252A. Information Processing and Management I

An introduction to programming in the Java programming language. Emphasis on techniques necessary for manipulating character strings, sorting and searching algorithms frequently used for information storage and retrieval problems, and fundamental concepts of modern software engineering.

Prerequisite: Computer Literacy.

Normal Grade Rules
3 units

INFO 252B. Information Processing and Management II

Introduction to Object-Oriented Programming (OOP) and Object-Oriented Database Design (OODB) in the Java programming language. Emphasis is on how to apply these concepts and techniques to problem solving in the field of information storage and retrieval.

Prerequisite: INFO 252A or instructor consent.

Normal Grade Rules
3 units

INFO 253. Natural Language Processing and Automatic Indexing/Abstracting

Introduction to natural language processing and automatic indexing/abstracting with emphasis on text processing. Topics include: semantic dictionary, lexical analysis, word frequency analysis and automatic selection of indexing tokens, term weighting, the vector space model and document representation.

Prerequisite: INFO 252B or instructor consent.

Normal Grade Rules
3 units

INFO 254. Information Literacy and Learning

Provides theory and practice for teaching information literacy in an LIS setting. The course emphasizes learning theory as well as the practical aspects of teaching. Students learn methods and tools for teaching in both synchronous and asynchronous settings.

Prerequisite: INFO 200

Normal Grade Rules
3 units

INFO 256. Archives and Manuscripts

An introduction to the theory and practice of managing archival documents, such as personal papers, institutional records, photographs, electronic records and other unpublished material. Topics covered include manuscript and records acquisition and appraisal, arrangement and description, conservation and preservation, reference and access.

Prerequisite: INFO 200, INFO 202, INFO 204.

Normal Grade Rules
3 units

INFO 257. Records Management

An introduction to the theories, methodologies and technologies used in managing institutional information and records. Topics include the history of records management, the records' life cycle, record inventory and analysis, classification and filing, retention scheduling and equipment.

Prerequisite: INFO 200, INFO 202, INFO 204.

Normal Grade Rules
3 units

INFO 259. Preservation Management

An introduction to the philosophies and techniques used to preserve manuscript, printed and digital materials. Examination of the evolution of preservation practice, with emphasis on emerging theories, models and technologies in digital preservation.

Prerequisite: INFO 200, INFO 202, INFO 204.

Normal Grade Rules
3 units

INFO 260. Resources for Children, Ages 0-6

Survey of children's materials for infants to age six, with emphasis on books for beginning readers, integration of this material into library and school programs, planning and implementation of public relations. Repeatable for credit when content changes.

Repeatable for credit
Normal Grade Rules
3 units

INFO 260A. Programming and Services for Children Ages 0-8

This course examines the importance of programming for children, including parent education programs, story hours, outreach techniques, services with schools, summer reading programs, and program series such as weekly or monthly programs on manga, knitting, book discussions, or homework help.

Prerequisite: INFO 200

Normal Grade Rules
3 units

INFO 261. Resources for Children, Ages 6-12

A survey of the books and media available for children 6-12, and of the evaluation, selection, and use of these materials in the contexts of collection development, children's reading interests, informational needs, school curricula, and multicultural library service. Repeatable for credit when content changes.

Repeatable for credit
Normal Grade Rules
3 units

INFO 261A. Programming and Services for Young Adults Ages 9-18

Administration and delivery of professional library and information services with multi-cultural young adult populations: features critical youth studies cultural/historical research, resources, policy, threats, tools, methods, service philosophies and management skills necessary for a comprehensive profile of YA library services.

Prerequisite: INFO 200

Normal Grade Rules
3 units

INFO 262. Resources for Young Adults

Materials for adolescents and pre-adolescents and methods for incorporating these materials into library planning. Collection development, needs assessment and programming will be featured. Information services for young adults in a variety of settings will also be addressed. Repeatable for credit when content changes.

Repeatable for credit
Normal Grade Rules
3 units

INFO 262A. Materials for Children Ages 0-4

Survey of children's materials , including "toy" books, picture books, and various media and technology appropriate for this age group, and how they can meet developmental needs. Collection development tools and techniques for these materials will also be included.

Prerequisite: INFO 200

Normal Grade Rules
3 units

INFO 263. Materials for Children

Survey of materials in a variety of formats including nonfiction, beginning chapter books, fictional genres, paperback series and electronic resources, and how they can help meet developmental needs. Collection development tools and techniques for this material will also be included.

Prerequisite: INFO 200, and either INFO 260A or INFO 261A

Normal Grade Rules
3 units

INFO 264. Materials for Tweens

Survey of materials in various formats including fiction, nonfiction, movies, CDS, computer games and other materials, and how they can meet the developmental needs of this age group. Collection development tools and techniques for this material will also be included.

Prerequisite: INFO 200, and either INFO 260A or INFO 261A

Normal Grade Rules
3 units

INFO 265. Materials for Young Adults Ages

This course will allow students to take an in depth look at materials in a variety of formats for teens, including fiction, popular nonfiction, graphic novels, movies, computer games, websites, other media, and determine how they can meet developmental needs.

Prerequisite: INFO 200, and either INFO 260A or INFO 261A

Normal Grade Rules
3 units

INFO 266. Collection Management

Study of collection management in all types of libraries and information centers. Includes analysis of information needs, criteria for selection, collection use evaluation and resources for collection development.

Prerequisite: INFO 202, INFO 204.

Normal Grade Rules
3 units

INFO 267. Services to Youth

Seminar in planning, developing and evaluating youth services in public libraries. Special needs of children and young adults in the public library, liaison with schools, reference services, and collection planning will be featured. Repeatable for credit when content changes.

Prerequisite: INFO 200, and either INFO 260A or INFO 261A

Repeatable for credit, for up to 9 units.

Repeatable for credit
Normal Grade Rules
1-9 units

INFO 268. History of Youth Literature

The history of literature for children and teens from its earliest examples to today's current trends, including how childhood has changed over the years, the influence of culture on those changes, and on the materials created for children and teens.

Prerequisite: INFO 200

Normal Grade Rules
3 units

INFO 269. Early Childhood Literacy

Covers a wide variety of topics important for an understanding of early childhood multi-literacies in library and non-library environments, including current research, best practices and practical examples that can be implemented in various work environments with children.

Prerequisite: INFO 200

Normal Grade Rules
3 units

INFO 270. Intellectual Freedom and Youth

This course will focus on intellectual freedom issues with youth, the value of youth literature to enhance individuals' lives, the ethics of intellectual freedom, the psychology of censorship and how to combat it, and how to defend materials for youth.

Normal Grade Rules
3 units

INFO 271A. Genres and Topics in Youth Literature

Various topics and genres in literature for children or teens will be examined in depth, such as graphic novels, poetry, fantasy, science fiction, publishing and writing trends, reading motivation techniques, literature in the classroom, and the art of picture books. Repeatable for up to 9 units.

Prerequisite: INFO 200, and either INFO 260A or INFO 261A

Repeatable for credit
Normal Grade Rules
1-9 units

INFO 272. Authors and Illustrators in Youth Literature

This course will look at selected authors and/or illustrators of youth literature, examining their work, their lives, their motivations, their criticism, and the usefulness of their work.

Repeatable for credit
Normal Grade Rules
3 units

INFO 275. Library Services for Racially and Ethnically Diverse Communities

This course focuses on developing skills for planning, implementing and evaluating programs for addressing the information needs of racially, ethnically and linguistically diverse communities. Reviews the major national, state and local studies.

Prerequisites: INFO 200 and INFO 204. Not available to Open University Students.

Normal Grade Rules
3 units

INFO 280. History of Books and Libraries

This class traces the development of the book through its many stages and explores how the creation, use, and storage of information are affected by social and technological change. The development of libraries and librarianship and how they have accommodated themselves to the changing form of the book will also be considered.

Prerequisite: INFO 200

Normal Grade Rules
3 units

INFO 281. Seminar in Contemporary Issues

Investigation of major contemporary issues within the information profession. Topics range from censorship to the need for a national information policy and change each time the course is offered. A maximum of nine units may be repeated in the same semester when content changes.

Prerequisite: INFO 200, INFO 202, INFO 204.

Repeatable for credit
Normal Grade Rules
1-3 units

INFO 282. Seminar in Library Management

Application of management theory to specific problems. Readings and discussions of the development of effective strategies for planning and implementing organizational change. Content changes each time offered. A maximum of nine units may be repeated in the same semester when content changes.

Prerequisite: INFO 200 and INFO 204. Not available to Open University Students.

Repeatable for credit
Normal Grade Rules
1-3 units

INFO 283. Marketing of Information Products and Services

Applications of marketing concepts to library and information services. Market analysis, use surveys, market targeting and introduction of services.

Prerequisites: INFO 200 and INFO 204. Not available to Open University Students.

Normal Grade Rules
1-3 units

INFO 284. Seminar in Archives and Records Management

In-depth study of current issues and practices in archives and records management. The course addresses new areas of research and application such as oral history, sound and visual archives, digitization, archival automation, archival security, genealogy, and more. Course is repeatable for credit for up to 12 units.

Prerequisite: INFO 200, INFO 202, INFO 204

Repeatable for credit
Normal Grade Rules
1-3 units

INFO 285. Applied Research Methods

Selection, formulation and development of problems in library and information science research. Evaluation of published research and in the field.

Prerequisites: INFO 200, INFO 202, INFO 204

Repeatable for credit
Normal Grade Rules
1-4 units

INFO 286. Interpersonal Communication Skills for Librarians

The principles and practice of interpersonal communication; small group and peer relationships.

Prerequisites: INFO 200 and INFO 204. Not available to Open University Students.

Repeatable for credit
Normal Grade Rules
1-3 units

INFO 287. Seminar in Information Science

Current issues and problems in information retrieval as related to concepts and theories of information science. A maximum of nine units may be repeated with different content.

Prerequisite: INFO 200. Not available to Open University Students.

Repeatable for credit
Normal Grade Rules
1-3 units

INFO 289. Advanced Topics in Library and Information Science

Advanced independent examination of selected issues and problems in library and information science with a focus on the integration of theory and practice. Issues and problems addressed will vary each semester.

Mandatory CR/NC/RP
3 units

INFO 292. Professional Experience: Projects
Gives students the opportunity to complete a professional project related to the theory and method of Library & Information Science in an information organization or institution, and to gain practical experience in one or more areas of LIS.

Prerequisites: INFO 200, 202, 204, plus six advanced courses.

Credit / No Credit
3 units

INFO 293. Introduction to Data Networking
An introduction to computer networking in both Lan and Wan environments with an emphasis on hands-on projects.

Prerequisite: INFO 200, INFO 202, INFO 204. INFO 240 desirable.

Repeatable for credit
Normal Grade Rules
3 units

INFO 294. Professional Experiences: Internships
Supervised professional experience in an approved public, academic, or special library or other information-based organization.

Prerequisite: INFO 200, INFO 202, INFO 204, and three advanced courses.

Repeatable for credit
Credit / No Credit
2-4 units

INFO 295. School Library Field Work
A supervised professional experience of school librarianship at the levels of both elementary and secondary (middle or high) schools. Emphasis is on observation and guided practice with a credentialed school librarian (library media teacher).

Prerequisite: INFO 200, INFO 202, INFO 204.

Credit / No Credit
3 units

INFO 297. Practicum in Instruction for Information Literacy
Experience with instruction in the computer, network and media aspects of information literacy. Course may be repeated in different semester.

Repeatable for credit
Credit / No Credit
3 units

INFO 298. Special Studies
Advanced individual research and projects related to libraries and information systems. Available only to those students who have completed the major portion of the degree coursework. May be repeated for a maximum of six units of credit.

Prerequisite: INFO 200, INFO 202, INFO 204, instructor consent.

Repeatable for credit
Mandatory CR/NC/RP
1-3 units

INFO 299. Thesis
Approved thesis proposal and consent of a faculty advisor required. May be repeated for a maximum of six units of credit.

Prerequisite: INFO 200, INFO 202, INFO 204, INFO 285.

Repeatable for credit
Mandatory CR/NC/RP
3 units

UPPER DIVISION

INFO 1290R. Culminating Experience Supervision
Continued work on thesis.

Prerequisite: Outstanding RP grade in a preceding semester in a thesis class

Note: No Degree Credit.

Repeatable for credit
No Degree Credit
1 unit

MASTERS OF ARCHIVES AND RECORDS ADMINISTRATION

GRADUATE

MARA 200. Record and Recordkeeping Professions
The role of records and recordkeeping in society; history, definitions and important concepts related to records and recordkeeping; contexts and critiques of records and recordkeeping; significant scholars and recordkeepers throughout history. Not repeatable.

Prerequisite: Demonstrated computer literacy through completion of required new student online technology workshop.

Note: This course satisfies graduate-level GWAR in this master's program.

Normal Grade Rules
GE: GWAR
3 units

MARA 204. Management of Records and Archival Institutions
Application of management principles to the administration of records and archives centers; management functions, theories and concepts; decision making; goals and objectives,; organizational structures; human resources; financial considerations; marketing; legal considerations; ethical considerations; global concerns.

Prerequisite: Demonstrated computer literacy through completion of required new student online technology workshop.

Normal Grade Rules
3 units

MARA 210. Records Creation, Appraisal and Retention
Overview of records creation processes; management and documentation of those processes, including forms, mail, reports, reprographics management, document control, legal compliance; basic appraisal concepts; records inventories and retention scheduling; vital records; contingency planning; records disposition; and archives.

Prerequisite: MARA 200, MARA 202.

Normal Grade Rules
3 units

MARA 211. Records Access, Storage and Retrieval
Examination of records systems, storage, retrieval; filing systems; fundamentals of information retrieval; active file systems and operation; records center operations; special storage; archival reference and access concepts; legal and ethical considerations; privacy and copyright; user communities. Not repeatable.

Prerequisite: MARA 200, MARA 202, and MARA 204.

Normal Grade Rules
3 units

MARA 249. Electronic Recordkeeping Systems and Issues in Electronic Recordkeeping
Application of recordkeeping and archival principles to management and preservation of electronic records, multi- and hyper-media resources and email; standards for representation and preservation of nontraditional networked information; electronic records/document management systems and derivations; policy development. Not repeatable.

Prerequisite: MARA 200, MARA 202, and MARA 204.

Normal Grade Rules
3 units

MARA 256. 21st Century Archival Methods
Archival science and archival methods as presently practiced in archival repositories. Types of archival repositories. Influence of other disciplines on archives and vice versa. Focus on technological changes and their effects on traditional archival records, systems, methodologies. Not repeatable.

Prerequisite: MARA 200, MARA 202.

Normal Grade Rules
3 units

MARA 283. Enterprise Content Management and Digital Preservation
Presents theoretical principles and practical aspects of digital content management and preservation. Explores challenges related to multiple file formats, standards, and retention requirements. Provides hands-on experience using both a digital content management system and a trusted digital repository.

Prerequisite: MARA 210, or MARA 211, or MARA 249

Normal Grade Rules
3 units

MARA 284. Seminar in Archives and Records Management

This course explores current issues and practices in archives and records management such as Protecting Conflicting Rights in the Digital Environment, Archivist: Meet Web 2.0, Ethics and Computer Forensics, and Implications of Cloud Computing on Records Management.

Prerequisite: MARA 200, 202, and 204.

Repeatable for credit
Normal Grade Rules
1-3 units

MARA 285. Research Methods in Records Management and Archival Science

Overview of research methods in the social sciences and their application to research about and within archives and records centers. Research design, human subjects, quantitative and qualitative methods, model studies, methodological critique and evaluation, data analysis and presentation. Not repeatable.

Normal Grade Rules
3 units

MARA 289. Advanced Topics in Archives and Records Administration (ePortfolio)

Completion of the ePortfolio, integrating theory and practice, to satisfy the Culminating Experience, with the portfolio based on core competencies for archives and records administration professionals as outlined in the MARA 289 Handbook. Completed in final semester. Not repeatable.

Prerequisite: See information about eligibility by looking at the current MARA 289 Handbook and revising the section on "Eligibility".

Repeatable for credit
Credit / No Credit
1-3 units

MARA 292. Professional Certification

Through consultation with advisor: preparation exercises, mock exams, information, work experience and registration guidance toward application, submission and completion (completion not required) of ICRM and/or ACA exams for professional certification(s) in archives and records administration. Not repeatable.

Prerequisite: MARA 200, MARA 202, MARA 204, plus six advanced courses.

Credit / No Credit
3 units

MARA 293. Professional Experience: Projects

Professional projects submitted by an individual or organization, supervised by a professional archivist or records manager, which can be completed during one semester.

Prerequisite: MARA 200, MARA 204

Credit / No Credit
3 units

MARA 294. Professional Experience - Internships

Internship under professional supervision in a selected archives or records center. The internship site must meet criteria outlined in the MARA internship guidelines and be approved by the internship coordinator. Repeatable for up to 6 units of credit.

Prerequisite: MARA 200, MARA 204

Repeatable for credit
Credit / No Credit
3 units

MARA 295. Organizational Consulting Project (OCP)

Organizational Consulting Projects are submitted by an individual or organization, supervised by a professional archivist or records manager, and requires the application of the knowledge and skills developed throughout the program.

Repeatable for up to 6 units.

Prerequisites: MARA 200, MARA 204

Repeatable for credit
Credit / No Credit
3 units

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Jewish Studies Program Courses

JEWISH STUDIES PROGRAM

LOWER DIVISION

JWSS 010A. Elementary Hebrew
See HEBR 010A.
Normal Grade Rules
3 units

JWSS 010B. Elementary Hebrew
See HEBR 010B.
Normal Grade Rules
3 units

JWSS 015A. Intermediate Hebrew
See HEBR 015A.
Normal Grade Rules
3 units

JWSS 015B. Intermediate Hebrew
See HEBR 015B.
Normal Grade Rules
3 units

JWSS 090. Bible History and Literature
See RELS 090.
Normal Grade Rules
GE: C2
3 units

UPPER DIVISION

JWSS 102A. Advanced Hebrew
See HEBR 102A.
Normal Grade Rules
3 units

JWSS 102B. Advanced Hebrew
See HEBR 102B.
Normal Grade Rules
3 units

JWSS 111. Special Topics in Jewish Studies
Special Topics in Jewish Studies. Topics vary and will be announced each semester. Repeatable for credit when topic changes.
Prerequisite: Upper division standing.
Repeatable for credit under different subtitles.
Repeatable for credit
Normal Grade Rules
3 units

JWSS 126. Holocaust Literature
See ENGL 126.
Normal Grade Rules
GE: V
3 units

JWSS 144. Middle Eastern Politics
See POLS 144.
Normal Grade Rules
4 units

JWSS 180. Individual Studies
Directed studies in relevant fields not covered by courses offered.
Prerequisite: Instructor consent and program coordinator.
Repeatable for credit
Credit / No Credit
1-3 units

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Journalism and Mass Communications Courses

ADVERTISING

LOWER DIVISION

ADV 091. Introduction to Advertising
Comprehensive survey of the basic principles of advertising. Topics include: strategic planning, integrated communications, audience targeting, creative strategy, advertising media, social responsibility, advertising ethics, international advertising and current issues in advertising.
Normal Grade Rules
3 units

ADV 092. Int'l Program Studies
Repeatable for credit
Mixed Grading
1-12 units

ADV 093. Design Fundamentals for Advertising 1
Introduces students to the ideation and design process as it relates to advertising. Students learn design thinking, ideation techniques, print design, screen design, advertising formats and storytelling across media platforms.
Normal Grade Rules
3 units

ADV 094. Design Fundamentals for Advertising 2
Introduction to digital video production and editing. Focus on learning how to tell a story by combining video and audio, story boarding, script writing, framing, creating a shot sequence, video editing and special effects using industry-standard software.
Prerequisite: ADV 093 and ADV 091
Normal Grade Rules
3 units

ADV 095. Working With Type
Theory and practice of typography as they apply to graphics, advertising and other areas of visual communication. Through a series of projects students develop a greater sensitivity to typographic details to create successful typographic messages.
Normal Grade Rules
3 units

UPPER DIVISION

ADV 116. Spartan Daily Advertising Staff
This class constitutes the paid advertising staff of the online and print editions of the Spartan Daily. Students work with clients and handle the newspaper's advertising sales and production.
Prerequisite: ADV 91 or instructor consent.
Misc/Lab: Daily lecture and production.
Repeatable for credit
Normal Grade Rules
3 units

ADV 121. Strategic Planning/Communications
Tools and frameworks for marketing management and strategic communications, including addressing communication issues such as budgets, coordinating agency functions, and delivering an effective marketing and communications plan.
Repeatable for credit
Normal Grade Rules
3 units

ADV 122. Business-to-Business Advertising
Principles and practices of developing marketing communications programs and collateral materials for business-to-business products and services; translating technical information into persuasive communications; direct marketing, and other forms of sales support communications.
Prerequisite: ADV 091.
Normal Grade Rules
3 units

ADV 123. Broadcast and New Media Advertising
History, development, and current applications of traditional broadcast advertising, the Internet as an advertising medium, and the implications of emerging new media. Focus is on creative strategy and media strategy.
Prerequisite: ADV 91.
Normal Grade Rules
3 units

ADV 124. Copywriting
Conceptual development. Advertising theory used in the development of writing, editing and evaluating advertising copy. Research methods and techniques. Ethical problems.
Prerequisite: ADV 091, MCOM 100W and ENGL 071.
Normal Grade Rules
3 units

ADV 125. Advertising Layout and Production
Principles of design applied to print advertising; print production theory and practical application. Preparation of layouts and mechanicals utilizing latest computer applications. Instruction in use of type, printing processes, types of paper, uses of color.
Prerequisite: ADV 91.
Normal Grade Rules
3 units

ADV 126. Media Planning and Buying
Theory, evaluation and selection of advertising media for a variety of target audiences; demographics and psychographics. Students plan, buy and measure the success of a real media plan.
Prerequisite: ADV 091 and BUS2 130.
Normal Grade Rules
3 units

ADV 128. Integrated Marketing Communications (IMC)
Learn how advertising, public relations, promotions, and marketing all work together to achieve campaign objectives. Strategic planning, budgeting, research, tactics, evaluation, presentation skills and team building.
Prerequisite: Three ADV courses and BUS2 130.
Normal Grade Rules
3 units

ADV 129. Advertising Campaign Planning and Management
Capstone course in which students engage hands-on in the process and methods employed to develop a fully integrated advertising campaign based on the marketing objectives established by a real-world client.
Prerequisite: MCOM 111 or ADV 116.
Normal Grade Rules
3 units

ADV 130. Advertising Portfolio 1
Apply fundamentals of design thinking, teamwork, and various media methods to creating a body of advertising work in the form of a portfolio. Students work on a series of projects and award show briefs in creative teams.
Prerequisite: ADV 091, ADV 093, and ADV 094
Normal Grade Rules
3 units

ADV 131. Advertising Portfolio 2
Students enhance portfolios developed in Advertising Portfolio 1 with more award show work and live client projects. Each brief requires development of technical skills across media platforms and production of professional work.
Prerequisite: ADV 091, ADV 093, ADV 094, ADV 130
Normal Grade Rules
3 units

ADV 132. UX UI Design for Advertising
Human centered design process as it pertains to user interaction (UI) and user experience (UX) design. Students conduct basic user research to create personas that guide the development of content strategy, information architecture, feature sets, wireframes and annotations as they pertain to (1) large scale web development and (2) integrated campaign assignments that cover a wide range of interactive platforms.
Prerequisite: ADV 091, ADV 093, and ADV 094
Normal Grade Rules
3 units

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JOURNALISM

LOWER DIVISION

JOUR 050. Navigating the News

Introduction to different forms of news media we consume to become informed and engaged citizens, and how media shape our world. Develpment of skills to critically evaluate the credibility of news sources, distinguish between real and fake news, and examine contemporary news events and news media coverage in cultural, historical, environmental, and spatial contexts.

Normal Grade Rules
GE: D1
3 units

JOUR 061. Writing for Print, Electronic and Online Media

Introduction to writing for media--newspapers, magazines, electronic and the Internet--as well as producing content for multi-media distribution in a converged media environment. Emphasis on how different media require different writing styles and content.

Prerequisite: ENGL 1A, ENGL 2.

Normal Grade Rules
3 units

JOUR 095. Beginning Digital News Photography

Basic introduction to news photography and photojournalism field. Includes camera use -- composition, aperture, shutter speed and lens selection -- and processing for print or electronic media using PhotoShop. Emphasis on technical aspects of digital news photography and storytelling with photographs.

Prerequisites: Writing Enrollment Category W-I or W-II or completion of ENGL 1AF with grade of CR.

Normal Grade Rules
3 units

UPPER DIVISION

JOUR 130. Student Media Apprentice

A deep dive into a pool of multimedia concepts, techniques and skills, while working as a student media apprentice reporter. Includes fundamentals of reporting, writing, shooting and editing, as well as storytelling in video, audio and text with photo. Prerequisite: JOUR 61

Normal Grade Rules
3 units

JOUR 132. Magazine Reporting, Print and Online

Reporting and writing of feature stories for magazines, print and online. Develops expertise in reaching a targeted audience with words and images. While the prerequisite, JOUR 61, teaches breaking news writing, this course explores longer, deeper forms.

Prerequisite: JOUR 61

Normal Grade Rules
3 units

JOUR 133. Editing and News Management

Media Lab. for the editor serving as wordsmith and coach, a hands-on approach to copy editing and headline writing for online and print media. Students work as editors for media lab publications.

Prerequisite: JOUR 61 or instructor consent.

Normal Grade Rules
3 units

JOUR 134. In-Depth Online Reporting

Media Lab. Designed for experienced writers who want to report for online media. Includes feature and in-depth reporting as well as Web design for a team project.

Prerequisite: JOUR 61 or instructor consent.

Normal Grade Rules
3 units

JOUR 136. Newspaper and Magazine Design

Principles of newspaper and magazine design--news judgment, story and headline hierarchy, typography and meaningful visual storytelling through use of photos/ art. Practice in creating newspaper pages and magazine layouts and cover designs.

Prerequisite: JOUR 061, JOUR 133 or instructor consent.

Normal Grade Rules
3 units

JOUR 137. Reviewing the Arts

Students explore the arts while learning to forge their opinions into reasoned critical journalistic reviews. Students will attend performances and exhibits, meet and interview artists and professional critics, read selected writings in criticism and aesthetics, and learn to support their insightful opinions with evidence.

Prerequisite: JOUR 061

Normal Grade Rules
3 units

JOUR 138. Sports Journalism Investigation

Course prepares sports journalists to develop their investigative and technical skills in audio, video, photography, and sports writing across traditional and new media platforms. Students work collaboratively across media to publish sports features weekly. Diversity/ inclusion emphasized.

Co-Requisites: JOUR 61 or consent of instructor

Normal Grade Rules
3 units

JOUR 140A. Student Media Production: Update News

Students report, write, shoot, edit, anchor and produce Update News. Course is run as a working newsroom where accuracy, quality and deadlines are paramount. The various student media work in a spirit of convergence and collaboration. May be repeated for credit with instructor consent.

Prerequisite: JOUR 61

Normal Grade Rules
1-3 units

JOUR 140B. Student Media Production: Spartan Daily

A team of reporters, photographers and editors produce student media content in the Spartan Daily. Course is run as a working newsroom where accuracy, quality and deadlines are paramount. Various student media work in collaboration. This course may be repeated with instructor consent

Prerequisite: JOUR 61

Repeatable for credit
Normal Grade Rules
1-3 units

JOUR 140C. Student Media Production: The Spear

Students report, write, shoot, edit, anchor and produce the sports program and/or magazine, The Spear. Course is run as a working newsroom where accuracy, quality and deadlines are paramount. Student media work in collaboration. May be repeated for credit with instructor consent.

Prerequisite: JOUR 61

Repeatable for credit
Normal Grade Rules
3 units

JOUR 140D. Student Media Production: Magazine

A team of reporters, photographers and editors produce a magazine in conjunction with supervising editors in JOUR 150. Course is run as a working magazine office where accuracy, quality and deadlines are paramount. Various student media work in collaboration. May be repeated with instructor consent for 1, 2, or 3 units.

Prerequisite: JOUR 61, JOUR 132

Misc/Notes: 9 hrs/Activity

Normal Grade Rules
3 units

JOUR 142. Beginning Visual Journalism for Print/Electronic Media

Media Lab. Introduction to basic principles and practices of photojournalism for online media, newspapers, magazines and corporate publications, using still photographs to tell the story.

Prerequisite: JOUR 95, PHOT 040, or instructor consent.

Misc/Lab: Lecture 2 hours/lab 3 hours.

Normal Grade Rules
3 units

JOUR 144. Picture Editing for Print/Electronic Media

Presentation and picture editing for online media, newspapers, magazines and other publications; visual tactics to bring readers to a page, picture selection, graphics, layout, design and ethical considerations using illustrative art and photography.

Prerequisite: Upper division standing.

Normal Grade Rules
3 units

JOUR 150. News Media Management

Capstone course in which students manage media, by overseeing the operation of publications, broadcasts and digital platforms. Students apply for management positions. Repeatable for credit.

Prerequisite: JOUR 61 and JOUR 140A, or 140B, or JOUR 140C, or JOUR 140D

Repeatable for credit
Normal Grade Rules
3 units

JOUR 153. Magazine Writing & Editing

Overview of magazine field, focusing on reporting, writing and editing. Students learn how an idea progresses from manuscript through art meetings to the printed or online page. Prepares students to produce San Jose State's student magazine, Access, in JOUR 155.

Prerequisite: JOUR 132C.

Normal Grade Rules
3 units

JOUR 155. Magazine Editing and Production

Media Lab. Editing/producing print and online versions of award-winning Access and Etc. magazines. Staff edits articles, art and photography submitted by media lab students and other SJSU freelancers.

Prerequisite: JOUR 132C, JOUR 153.

Misc/Lab: Lecture 2 hours/activity 2 hours

Repeatable for credit
Normal Grade Rules
3 units

JOUR 164. Electronic News Gathering for Television

Media Lab. Principles and techniques of covering news for electronic media. Instruction in all aspects of television news gathering, presentation and production including writing, shooting, editing, producing and anchoring. Includes both field and studio work.

Prerequisite: JOUR 61 or instructor consent.

Misc/Lab: Lecture 2 hours/activity 2 hours.

Normal Grade Rules
3 units

JOUR 167. Television News Magazine

This is a course dedicated to quality, long-form visual reporting, told through the half-hour show, Equal Time. Each episode focuses on a specific topic in depth. The stories center around news important to Californians, and they air on the PBS-TV station, KQED Silicon Valley. The show contains taped packages and live-to-tape roundtable discussions. Students are responsible for several aspects of show creation, including reporting, writing, shooting,editing and producing. Repeatable for up to 6 units of credit when topic changes.

Prerequisite: JOUR 061, JOUR 165 or Instructor Approval

Repeatable for credit
Normal Grade Rules
3 units

JOUR 176A. Documentary Unit I - Short Form Feature Production

Explores the history and methods of producing a short-form non-fiction visual documentary. Students learn basic camera production techniques to execute their proposals. Students will be introduced to studio lighting, sound and post production skills. Diversity themes emphasized.

Prerequisite: Instructor Consent

Normal Grade Rules
3 units

JOUR 176B. Documentary Unit II - Long Form/ Series Production

Focuses on the making of a long-form documentary production or a documentary feature series (consisting of 2 or more short segments). Students are introduced to field techniques and formats for extended documentary production. Diversity themes emphasized.

Prerequisite: Instructor Consent

Normal Grade Rules
3 units

MASS COMMUNICATIONS

LOWER DIVISION

MCOM 063. New Media

Hands on instruction in multimedia and emerging new media technologies. Print and web page design, blogging, podcasting, videocasting, RSS and creation of multimedia presentations by combining still photos, graphics, and video with music and/or audio.

Normal Grade Rules
3 units

MCOM 070. Visual Communication for Modern Media

Design for television, newspapers, advertising, public relations, magazines, film and video. Modules include design and impact of visual imagery and how to apply sound ethical principles.

Normal Grade Rules
3 units

MCOM 072. Mass Communication and Society

Mass communication and its relationship to society. Basic theories in mass communication, contemporary issues and milestones in our understanding of media effects. GE Area: D3

Prerequisite: Not repeatable for credit if equivalent course has been taken elsewhere.

Normal Grade Rules
GE: D3
3 units

MCOM 092. Int'l Program Studies

Repeatable for credit
Mixed Grading
1-12 units

UPPER DIVISION

MCOM 100W. Writing Workshop: Mass Communications

Advanced writing across the media -- advertising, journalism and public relations. Writing and research for an increasingly convergent media with multiple media formats from the Web to print and broadcast, including writing to accompany audio and visual images. GE Area: Z

Prerequisite: A3 or equivalent second semester composition course (with a grade of C- or better); Completion of core GE, satisfaction of Writing Skills Test and upper division standing. Should be taken junior year; required of all advertising, journalism and public relations majors before they reach senior standing. The course will be waived for students receiving a waiver score on the Writing Skills Test.

Note: All SJSU Studies courses require completion of the WST and upper division standing. Must be passed with C or better to satisfy the CSU Graduation Writing Assessment requirement (GWAR).

Normal Grade Rules
GE: Z
3 units

MCOM 101. Media Law and Ethics

Principles and case studies of mass communications law and ethics. Constitutional guarantees, libel, privacy, contempt, privilege, copyright, Internet law, FCC and FTC regulatory law.

Prerequisite: Upper division standing.

Normal Grade Rules
3 units

MCOM 103. History of American Media

Development of mass communications in the United States from colonial times to the present. Social, economic and political factors that shaped modern media and the impact of mass media on the society.

Prerequisite: Upper division standing.

Normal Grade Rules
3 units

MCOM 104. Introduction to Mass Communications Research

Introduction to social science research in mass communications; emphasis on public opinion research, including sampling, survey research design, measurement; also precision journalism, content analysis and external databases; may include class project.

Prerequisite: Upper division standing.

Normal Grade Rules
3 units

MCOM 105. Lifestyles, Diversity and the Media

Identifies and evaluates the impact of ethnicity/culture, alternative lifestyles and gender issues on advertising, television, radio, newspapers, magazines and public relations. Examines attitudes, trends and perceptions that help shape mass communication messages.

Prerequisite: Upper division standing.

Normal Grade Rules
3 units

MCOM 106. Global Mass Communication

Societal factors behind gathering and disseminating information and entertainment content among mass communication systems of the world. Basic theoretical concepts about international communication and international relations. Impact on economy, politics, culture and governmental communication policies.

Prerequisite: Upper division standing.

Normal Grade Rules
3 units

MCOM 107. Audio Podcasting, Aesthetics and Invention

Explores philosophies, methods, and perceptions of sound aesthetics, archiving, and techniques that comprise audio podcasting (and related documentary production) to develop "aural" skills collaboratively across traditional and new media technologies as innovators of sound practice.

Normal Grade Rules
3 units

MCOM 108. Virtual Worlds, Virtual Reality and Mass Media

Explores how virtual reality is shaping our media experiences and expectations, from work, socialization and news reporting. Students learn to investigate, experiment, and interact with virtual and augmented technologies, structures and people within those media platforms.

Normal Grade Rules
3 units

MCOM 111. Internship

Field work for advertising, journalism and public relations majors near end of junior or beginning of senior year, including summer term.

Prerequisite: At least 9 units of major course work in the department (including specified foundation courses) and advisor consent.

Credit / No Credit
3 units

MCOM 139. Specialized Writing

Writing for mass communication with focus on specific topic during the semester. Topics may include specialized writing in public relations, advertising, broadcast and print media.

Prerequisite: JOUR 61, upper division standing or instructor consent.

Notes: Offered only occasionally.

Repeatable for credit
Normal Grade Rules
3 units

MCOM 163. Advanced New Media Technologies

Hands on instruction in multimedia and emerging new media technologies. Print and web page design, blogging, podcasting, RSS and creation of interactive multimedia presentations by combining still photos, graphics, and video with music and/or other audio.

prerequisites: MCOM 63 or Instructor Consent

Normal Grade Rules
3 units

MCOM 170. Strategic Social Media & Digital Marketing

Integration of content and social media within the broader digital marketing ecosystem to include paid social, paid search, search engine optimization, influencer marketing & brand storytelling.

Prerequisite: MCOM 100W

Normal Grade Rules
3 units

MCOM 175. Social Media and Web Analytics

Fundamentals of social media and web analytics. How to transform data to actionable insights and develop campaign strategies. Data analytics tools, deriving insights from social metrics, and suggesting data informed decisions to intended audiences.

Prerequisite: ADV 91 or PR 99; upper division standing

Normal Grade Rules
3 units

MCOM 180. Independent Study

Independent study projects and activities supervised by a Journalism and Mass Communciations faculty member. Projects must be directly related to fields within the Journalism and Mass Communications School. All undergraduate Advertising, Journalism, Public Relations and graduate Mass Communications students may enroll.

Repeatable for credit
Credit / No Credit
1-6 units

MCOM 180ITL. JMC International Experience

Through international study students will examine globalization models to gain a global perspective on geopolitical and economic issues, media and integrated strategic communications, explore the concepts of global citizenship and global corporate citizenship, and learn how to analyze cultural differences.

Prerequisite: SJSU upper division undergraduate or graduate student, or by instructor's permission.

Repeatable for credit
Credit / No Credit
1-6 units

MCOM 199A. Advertising & Public Relations Agency I

The first of a two-semester capstone course where seniors will work in teams in a School-sponsored Advertising and Public Relations Agency to plan and execute real-world integrated strategic campaigns as well as to prepare entries for national competitions. Enrollment by permission only.

Prerequisite: PR Majors: PR 099, PR 190 or PR 192; PR 191; ADV Majors: ADV 091.

Normal Grade Rules
3 units

MCOM 199B. Advertising & Public Relations Agency II

The second of a two-semester capstone course where seniors will work in teams in a School-sponsored Advertising and Public Relations Agency to plan and execute real-world integrated strategic campaigns as well as to prepare entries for national competitions. Enrollment by permission only.

Prerequisite: MCOM 199A.

Normal Grade Rules
3 units

GRADUATE

MCOM 210. Media and Social Issues

Selected readings and group discussions of significant published works dealing with mass communications: history, biography and appraisals; law and ethics of the print and broadcast media, advertising and public relations; public opinion and propaganda.

Note: This course satisfies graduate-level GWAR in this master's program.

Normal Grade Rules
GE: GWAR
3 units

MCOM 215. New Media Visionaries

Class lecture series by visiting Silicon Valley leaders on the development of new media products, including such topics as idea generation, intellectual property, funding, design, development and integrated communication strategies.

Prerequisites: Admission to Graduate program.

Normal Grade Rules
3 units

MCOM 260. Integrated Strategic Communications

Investigates the theory and practice of integrated communications to include promotion, advertising, public relations, direct marketing and branding. It explains how to integrate these processes of communication and how to develop a comprehensive integrated marketing communications plan.

Prerequisite: Intro course in advertising, public relations or marketing, or instructor consent.

Normal Grade Rules
3 units

MCOM 270. Communication Law and Public Policy
A case history approach to the law of communications, including libel, privacy and regulation of broadcasting. Major development and landmark decisions, with emphasis on contemporary ethical and social issues such as free-press/fair trial and new technology.

Normal Grade Rules
3 units

MCOM 280. Communication Management
Explores the practice and theory of media management as it applies to: online media, newspapers, magazines, radio stations, television stations, advertising agencies, public relations firms, corporate communications and marketing communications. It incorporates leadership, media economics and conflict resolution.

Prerequisite: Instructor consent.

Normal Grade Rules
3 units

MCOM 284. Advanced User Experience
Students work in teams to create, develop and implement hypothetical Web and mobile applications while living the role of the interactive project manager, design manager and development manager. Class focuses on the rapidly changing creative and technological base of interactive Web and mobile application development. Admission to graduate program.

Normal Grade Rules
3 units

MCOM 285. Web Design and Development
Introduction to website design, creation, and maintenance. Popular web design and graphics programs including content management systems (WordPress), and Adobe XD.

Normal Grade Rules
3 units

MCOM 290. Theory of Mass Communications
Basic theories of communications systems. Functional comparisons of various communications systems in relation to political structure. Communications theories in related disciplines of psychology, sociology, anthropology, economics and political science.

Note: This course satisfies graduate-level GWAR in this master's program.

Normal Grade Rules
GE: GWAR
3 units

MCOM 295. Mass Communications Research
Methodologies of research in mass communications: historical, descriptive and empirical with emphasis on statistical aspects of data processing and interpretation.

Prerequisite: MCOM 210 and MCOM 290 or instructor consent.

Normal Grade Rules
3 units

MCOM 298A. Master's Project I
Development of master's project literature review and proposal. Identify and work with professional mentors. Collaborative teamwork as appropriate to project goals.

Prerequisite: Advancement to Candidacy

Mandatory CR/NC/RP
3 units

MCOM 298B. Master's Project II
Completion of master's project meeting professional standards in Advertising, Journalism, or Public Relations. Presentation and constructive feedback to peers.

Prerequisite: MCOM 298A

Credit / No Credit
3 units

MCOM 299. Master's Thesis
Supervised thesis in the field of mass communications. May be repeated for credit (not in same semester).

Prerequisite: Admission to candidacy for the master's degree and approval of thesis proposal.

Repeatable for credit
Mandatory CR/NC/RP
3-6 units

PUBLIC RELATIONS

LOWER DIVISION

PR 099. Introduction to Public Relations
Principles, evolution, and professional practice of modern public relations. Concepts of planning and executing effective communication strategies, including message design and distribution, for any organization.

Normal Grade Rules
3 units

UPPER DIVISION

PR 190. Media and Influencer Relations
How to promote an organizations brand by developing relationships with traditional and digital news organizations and social media influencers to earn credible third-party content that is ultimately discovered, shared, and drives a desired action.

Prerequisite: JOUR 061

Normal Grade Rules
3 units

PR 191. Strategic Content Creation
Basics of creating and implementing a strategic content marketing plan, introducing students to tools and techniques for delivering valuable, relevant, and measurably effective content on behalf of organizations, guiding students through production of various marketing communication assets.

Prerequisite: JOUR 061

Normal Grade Rules
3 units

PR 192. Case Studies in Strategic Communication
Case studies focusing on the problems and challenges faced by a variety of organizations. Practical application of creative problem-solving, theory, and research about "real world" situations.

Prerequisite: PR 099.

Normal Grade Rules
3 units

PR 193. Special Event Management
The planning and managing of events for the purpose of accomplishing organizational objectives. Emphasis on creative thinking, logistics and practical application of strategies and tactics. A major project is the execution of an actual event.

Prerequisite: PR 099 or instructor consent.

Normal Grade Rules
3 units

PR 199. Campaign Planning and Management
Creative problem-solving in strategic planning and program management. Conceive, develop and present an integrated communications plan to a "real-world" client.

Prerequisite: PR 099, PR 190 or PR 191, PR 192, and MCOM 111.

Normal Grade Rules
3 units

Justice Studies Department Courses

FORENSIC SCIENCE

LOWER DIVISION

FS 011. Survey of Forensic Science

This survey course introduces students to the profession of forensic science. Topics include the field's history and sub-disciplines, the CSI Effect, the application of the scientific method to physical evidence analysis. Virtual labs may be used to augment readings.

Normal Grade Rules
3 units

UPPER DIVISION

FS 106. Forensic Entomology

See ENT 106.

Normal Grade Rules
3 units

FS 160. Special Topics in Forensic Science

Range of topics in Forensic Science which will vary by semester. Topics may include Blood Spatter Analysis, Microscopy and Trace Evidence, Forensic Art, Facial Reconstruction, and others.

Repeatable for up to 9 units credit when content changes.

Prerequisite: JS 10 or FS 11 or Instructor Permission. Justice Studies or Forensic Science major; Forensic Studies minor.

Repeatable for credit
Normal Grade Rules
1-5 units

FS 161. Crime Scene Investigation

Fundamental theories of physical evidence practically applied and the legal considerations involved in its recognition, collection preservation and presentation in court are covered. Topics include securing and recording the crime scene, collecting evidence, maintaining the chain of custody and reconstruction.

Prerequisites FS 11, JS or FS Major/Minor, Upper Division Standing. JS students may substitute JS 10 or FS 11.

Misc/Lab: Lecture 3 hours/lab 3 hours

Normal Grade Rules
3 units

FS 162. Forensic Science Applications

Scientific analysis and interpretation of physical evidence using identification and comparison techniques. Practical lab exercises in human identification, questioned documents, bite marks, trace evidence, presumptive testing and glass analysis. Additional topics include court testimony, quality assurance and ethics.

Prerequisites FS 11, JS or FS Major/Minor, Upper Division Standing. JS students may substitute JS 10 for FS 11.

Misc/Lab: Lecture 2 hours/Activity 2 hours.

Normal Grade Rules
3 units

FS 163. Fingerprint Science

History and use of fingerprints in criminal identification. Topics include the scientific basis for fingerprint ID, anatomy of friction ridge skin, pattern classification, minutiae marking, the Henry System, AFIS and ACE-V, and court presentation of fingerprint evidence.

Prerequisite: FS 11, JS or FS Major/Minor, Upper division Standing. JS Students may substitute JS 10 for FS 11.

Misc/Lab: Lecture 3 hours/Activity 3 hours.

Normal Grade Rules
3 units

FS 164. Crime Scene and Evidence Photography

Practical use of photography in documenting crime scenes and evidence. Topics will include 35mm camera operation, lenses, focus, exposure, depth of field, lighting, composition, flash, injury documentation, digital cameras and video, and court presentation of photographic evidence.

Prerequisite: FS 11, JS or FS Major/Minor, Upper Division Standing. JS Students may substitute JS 10 for FS 11.

Misc/Lab: Lecture 3 hours/Activity 3 hours.

Normal Grade Rules
3 units

FS 165. Forensic Biometrics

A survey of scientific and biometric tools and applications used to establish human identity. Topics include identification of missing persons; casualties of mass disasters; victims of war crimes; and the ethical, legal and social implications of such technology.

Prerequisites: FS 11, JS 10, JS 25, or ANTH 12; upper division standing

Normal Grade Rules
3 units

FS 166. Forensic Chemistry

An exploration of scientific concepts, methods, practices, instrumentation, interpretation, statistics and court issues of chemistry as applied in forensic science including special topics: drug analysis, toxicology, arson and trace analysis emphasizing the instrumentation that allows chemical examination of evidence.

Prerequisites: CHEM 001A, CHEM 001B, FS 11

Normal Grade Rules
3 units

FS 167. Forensic Molecular Biology

History, scientific concepts, methods, practices, instrumentation, interpretation, statistics and court issues of forensic DNA analysis via lectures, hands-on activities/ laboratories, and videos. Collection, documentation and preservation of biological evidence, bioethics, QA, validation, admissibility and training will also be covered.

Prerequisite: BIOL 031, CHEM 001A, and CHEM 001B

Misc/Lab: Lecture 4 hours/lab 2 hours.

Normal Grade Rules
5 units

FS 168. Fluorescent Applications in Molecular Biology and Forensic Science

This course covers scientific concepts, methods, practices, instrumentation, interpretation, statistics and court issues of fluorescence applications in molecular biology and forensic science. Topics include, atomic and molecular basis of fluorescence, emission, photophysical processes, energy transfer, QA, validation, accreditation, and admissibility.

Prerequisites: BIOL 030, BIOL 031, CHEM 001A, CHEM 001B, FS 162 all with grades of 'C' or better.

Misc/Lab: Lecture 4 hours/lab 6 hours.

Normal Grade Rules
3 units

FS 169. FS Senior Sem : Studies in Contemporary FS Issues

Identification, discussion and analysis of selected problems in forensic science. A major term paper, presentation on a selected topic and participation on written as well as in-class assignments and activities are required.

Prerequisites:

Justice Studies Majors: Senior standing, JS 100W and JS 114 or instructor consent, graduation application filed and you must have already filled out and have a signed major form. Note- JS 114 is waived as a prerequisite for forensic science majors.

For Forensic Science Majors: Senior standing, JS 100W, FS 161, FS, 162, Biology 30, CHEM 1A and CHEM 1B or by instructor consent, graduation application filed and you must have already filled out and have a signed major form.

Normal Grade Rules
3 units

FS 170. Forensic Science in Human Rights Investigations

Role of forensic science in pursuing justice for human rights victims, using documentation, collection, processing and interpretation of evidence in violations of human rights and international humanitarian law and interfaces of law, society, culture, politics, history, ethics and forensic science.

Prerequisite: JS 10, JS 25 or FS 11

Normal Grade Rules
3 units

FS 171. Forensic Criminology

Contextualizes mental processes, intentions, motivations, and reactions of criminals, police, victims, and the courts systems. Critically examines the psychology of deviant behavior, the evidentiary processes in justice systems, and the validity and reliability that come with testimony and criminal defenses.

Prerequisites: JS 100W

Repeatable for credit
Normal Grade Rules
3 units

JUSTICE STUDIES

LOWER DIVISION

JS 010. Introduction to Justice Studies

Historical and philosophical development of the justice system. Description, analysis and evaluation of criminal justice agencies. Relationship between theory and practice.

Normal Grade Rules
3 units

JS 012. Introduction to Legal Studies

The course presents historical and modern perspectives of the theories and structures of law, and provides an overview of the economic and sociological challenges to law making. This course also examines the nexus between law, social change, and dispute resolution.

Normal Grade Rules
3 units

JS 015. Introductory Statistics in Justice Studies

Introduction to measures of central tendency, variation, correlation and regression, probability, estimation and hypothesis testing as used in Justice Studies. GE Area: B4

Prerequisite: Math Enrollment Category M-I or M-II, or completion of a GE Area B4 course with a grade of C- or better.

Normal Grade Rules
GE: B4
3 units

JS 025. Introduction to Human Rights and Justice

This course is a lower division introduction to the history of human rights as a concept and body of international law, and to the complicated role of human rights in contemporary social justice campaigns. GE Area: D3

Normal Grade Rules
GE: D3
3 units

UPPER DIVISION

JS 100W. Writing Workshop

Development of advanced communication skills, both written and oral. Emphasis on writing formats used by criminal justice professionals. A scholarly paper, written in APA format and informed by research, will be required. GE Area: Z

Prerequisite: A3 or equivalent second semester composition course (with a grade of C- or better); Completion of core GE, satisfaction of Writing Skills Test and upper division standing. Allowed Declared Major: Justice Studies.

Note: Must be passed with C or better to satisfy the CSU Graduation Writing Assessment requirement (GWAR).

Normal Grade Rules
GE: Z
3 units

JS 101. Critical Issues and Ideas in Justice

Interdisciplinary, historical and comparative examination of justice concepts and controversies, including the state's role in promoting justice and perpetuating injustice; legitimate versus illegitimate violence; human rights, stateless persons, and the international community; the relationship between social justice and criminal justice. Note: A grade of "C" or better is required for Justice Studies majors.

Prerequisites: Upper Division Standing; JS 10, 12, 25 or FS 11

Co-requisite: JS 100W; Justice Studies Minors: Any 100W

Repeatable for credit
Normal Grade Rules
3 units

JS 102. Police and Society

A multidisciplinary study of law enforcement from the early 1800's to the present. Focus on significant studies in relation to the role of police and analysis of current models and practices. Pre/Corequisites: Any 100W. Note: Must achieve a grade of "C" or better to fulfill Justice Studies major requirements.

Normal Grade Rules
3 units

JS 103. Courts and Society

Structure and functions of the court system. Emphasizes attorneys' and judges' roles and the court process. Examination of federal and state legislative, executive and judicial branch actions, including Supreme Court decisions in civil and criminal cases.

Prerequisite: Upper division standing.

Note: A grade of "C" or better is required for graduation.

Normal Grade Rules
3 units

JS 104. Penal Politics & Institutions

Interdisciplinary examination of issues of race, class, gender, ethnicity, economy, and culture as it relates to punishment, the penal process, and social control.

Prerequisite: Upper division standing

Note: Must achieve a grade of "C" or better to fulfill Justice Studies major requirements.

Normal Grade Rules
3 units

JS 107. Justice Management and Ethics

The theory and practice of managing justice system agencies, including organizational change and contemporary issues. In-depth examination of ethical challenges in managing justice agencies, and strategies for ensuring ethical practices.

Prerequisite: Upper division standing.

Note: A grade of "C" or better is required for graduation.

Normal Grade Rules
3 units

JS 114. Research Methods in Justice Studies

Introduction to quantitative research methods used in Justice Studies. Includes relationship of theory to empirical evidence; logic underlying methods of inquiry; ethics in conducting empirical research; and methodological design, operationalization, and data analysis.

Prerequisite: JS 10, JS 12, JS 25, or FS 11 with a grade of "C"or better; JS 15 or Stat 95 or equivalent with a grade of "C" or better; JS 100W with a grade of "C"or better; Justice Studies Minors: Any 100W; Upper Division Standing; Restricted to JS majors and minors.

Note: Must achieve a grade of "C" or better to fulfill Justice Studies major requirements.

Normal Grade Rules
3 units

JS 117. Qualitative Research Methods

Introduction to qualitative research methods used in Justice Studies. Includes relationship of empirical evidence to theory, ethics in conducting empirical research, methodological design, interviewing techniques, field methods, participant observation, and content analysis.

Prerequisites: Upper division standing

Pre/Corequisite: Any 100W

Note: Must achieve a grade of "C" or better to fulfill Justice Studies major requirements.

Normal Grade Rules
3 units

JS 121. Media and Justice

This course is an interdisciplinary and comparative media examination of justice concepts and controversies, including forms of violence, human rights, undocumented persons, the state's role in promoting criminalization and social inequality, and the need for social justice and media reform.

Pre/co-requisites: Any 100W

Note: Must achieve a grade of "C" or better to fulfill Justice Studies major requirements.

Normal Grade Rules
3 units

JS 122. Drugs and Society

Examines the physiological effects of psychoactive drugs; history of legal and illegal drug use; causes and rates of use and addiction; drugs in the media; drug-related crime and violence; criminalization, decriminalization, legalization, harm reduction; drug courts; drug treatment.

Pre/Co-requisite: Any 100W

Note: Must achieve a grade of "C" or better to fulfill Justice Studies major requirements.

Normal Grade Rules
3 units

JS 123. Terrorism, Intelligence, and Security

Examination of terrorist organizations and activities, definitions of terrorism, and social and political consequences of terrorism. Includes policy responses to terrorism, including roles of intelligence and security agencies, and impacts on law, rights and liberties.

Prerequisite: Upper division standing.

Note: A grade of "C" or better is required for Justice Studies majors.

Normal Grade Rules
3 units

JS 127. Immigration and Justice

Interdisciplinary analysis of cultural, social and political implications of transnational migrations and their historical and present influences on US culture. Emphasis on issues of social justice and human rights related to contemporary migratory movements.

Pre/Co-requisite: Any 100w;

Note: Must achieve a grade of "C" or better to fulfill Justice Studies major requirements.

Normal Grade Rules
3 units

JS 128. Punishment, Culture and Society

Critical analysis of the cultural, political and economic dimensions of penal politics in contemporary American society, with particular reference to the relationships between criminal justice and social justice. Emphasis on issues of racial, economic, and gender inequality.

Pre/Co-requisite: Any 100w;

Note: Must achieve a grade of "C" or better to fulfill Justice Studies major requirements.

Normal Grade Rules
3 units

JS 129. International Crime and Deviance

This course offers an international perspective on violence. This course analyzes transnational crime and deviance trends, their causes, as well as organizational responses. Topics discussed in this class include international drug markets, sexual commerce, child soldiers, and terrorism.

Pre/Co-requisite: Any 100W

Note: Must achieve a grade of "C" or better to fulfill Justice Studies major requirements.

Normal Grade Rules
3 units

JS 130. Sexuality & Justice

JS130 surveys the relationship between sexuality and social and criminal justice. Students explore the nature and extent of sexual offenses against adults and children. A critical examination of recent public policies aimed at managing sexual aggression is included.

Pre/Co-requisite: Any 100W

Note: Must achieve a grade of "C" or better to fulfill Justice Studies major requirements.

Normal Grade Rules
3 units

JS 131. Crisis Intervention, Mediation and Restorative Justice

Review of theory, research and practical skill development in communication and problem resolution strategies using techniques of crisis intervention, mediation and restorative justice in community policing, family court, dependency court and juvenile justice settings.

Pre/Co-requisite: Any 100W.

Note: Must achieve a grade of "C" or better to fulfill Justice Studies major requirements.

Normal Grade Rules
3 units

JS 132. Race, Gender, Inequality and the Law

History of legal issues and individual and institutional discrimination of women, ethnic/cultural and religious minorities, gays and lesbians and the disabled in education, employment, criminal justice and the family. Solutions for structured inequality in the U.S. GE Area: S Prerequisites: Passage of the Writing Skills Test (WST) or ENGL/LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

Repeatable for credit
Normal Grade Rules
GE: S
3 units

JS 136. Family and Community Violence

Examines abusive relationships and responsive community and justice system policy and preventive interventions. Topics include child abuse, neglect, gang and hate crimes, rape, marital violence and elder abuse. GE Area: S Prerequisite: Passage of the Writing Skills Test (WST) or ENGL/LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended. Note: All SJSU Studies courses require completion of the WST and upper division standing.

Repeatable for credit
Normal Grade Rules
GE: S
3 units

JS 137. Collaborative Response to Family Violence

Employs an ecological framework to explore the scope, effects and response to family violence by diverse services and systems. Students are introduced to theory and practice of interdisciplinary collaboration and how it applies to respond more effectively to family violence.

Prerequisite: 100W, upper division standing or instructor permission

Corequisite: JS 136 or instructor permission

Normal Grade Rules
3 units

JS 140. Record Clearance Project

RCP teaches students to give community education presentations and advise clients regarding court procedures to clear criminal convictions. Students learn legal interviewing, counseling, ethics, reading rap sheets, performing legal research and writing, court interpreting and related skills.

Prerequisites: JS 100W.

Normal Grade Rules
3 units

JS 141. Record Clearance Project Representation

Record Clearance Project Representation teaches students to assist clients in preparing and filing petitions to clear criminal convictions in court, and related tasks. Under attorney supervision, students represent between two to four clients.

Prerequisites: JS 140 or instructor consent.

Credit / No Credit
3 units

JS 142. RCP - Advanced Study and Comm Involvement

Record Clearance Project - Advanced Study and Community Involvement involves mentoring RCP students in client interviews, coordinating project tasks and events, collecting data from former clients and students, helping with RCP community involvement, and assisting in other tasks.

Prerequisites: JS 140 or instructor consent.

Credit / No Credit
3 units

JS 143. Criminal Evidence and Procedure

Origin, development, philosophy and constitutional basis of evidence; administrative and judicial rules and procedures that govern admissibility; examination of judicial decisions interpreting individual rights; exploration of process by which attorneys introduce evidence as proof or exculpation of crime.

Pre/Corequisite: Any 100W

Note: Must achieve a grade of "C" or better to fulfill Justice Studies major requirements.

Normal Grade Rules
3 units

JS 144. Criminal Law

Historical development of philosophy of law and constitutional provisions, legal definitions, classifications of crime, case law, methodology and concepts of criminal law as a social force.

Pre/Co-requisite: Any 100w

Note: Must achieve a grade of "C" or better to fulfill Justice Studies major requirements.

Normal Grade Rules
3 units

JS 145. White Collar Crime

Growth and development of white collar crime in the United States: crimes at the workplace, computer fraud, swindles, embezzlement, bribery and graft at the corporate and governmental levels.

Prerequisite: Upper division standing.

Note: A grade of "C" or better is required for Justice Studies majors.

Normal Grade Rules
3 units

JS 150. Gender and Crime

Analysis of gender and its influence upon criminal participation and victimization, treatment in the criminal justice system, and those working in the criminal justice fields. Emphasis on women's experiences.

Pre/Co-requisite: Any 100w

Note: Must achieve a grade of "C" or better to fulfill Justice Studies major requirements.

Normal Grade Rules
3 units

JS 151. Criminological Theory

Analysis of the nature and extent of crime, including causation and prevention. Descriptions of offenses, criminal typologies and victim surveys. Evaluation of various control and prevention strategies. Prerequisite: JS 10, JS 12, JS 25 or FS 11 Pre/Co-requisite: JS 100W; Justice Studies Minors: Any 100W. Note: Must achieve a grade of "C" or better to fulfill Justice Studies major requirements.

Normal Grade Rules
3 units

JS 152. Juvenile Delinquency & Justice

History, theory and functions of the juvenile justice system. The legal processes for delinquent minors, status offenders and dependent children, including intake, detention, adjudication and disposition. Current legal issues and debate.

Prerequisites: Upper Division Standing

Note: Must achieve a grade of "C" or better to fulfill Justice Studies major requirements.

Normal Grade Rules
3 units

JS 153. Crime and Justice Across the Life Course

Explores how crime and justice are experienced by individuals over time. The nature and extent of offending and victimization at various ages across the life course is examined. A critical consideration of the criminal career paradigm is also provided.

Pre/corequisites: Any 100W.

Note: Must achieve a grade of "C" or better to fulfill Justice Studies major requirements.

Normal Grade Rules
3 units

JS 155. Victimology

Examination of the relationship between victim and offender; the behavior and attitudes of family, society and justice system toward the victim; nature and extent of loss, injury and damage to the victim.

Pre/Co-requisite: Any 100W

Note: Must achieve a grade of "C" or better to fulfill Justice Studies major requirements.

Normal Grade Rules
3 units

JS 156. Gangs, Criminal Syndicates & Justice

A socio/historical examination of the emergence, evolution, persistence, activities and social structure of gangs and mobs, the effects of social factors, e.g., politics, law, technology and the economy, and consequences for communities and social institutions.

Pre-Co-requisite: Any 100w

Note: Must achieve a grade of "C" or better to fulfill Justice Studies major requirements.

Normal Grade Rules
3 units

JS 157. Deviance and Justice

This course examines various areas of norm violations and rule-breaking behaviors including, alcohol and drug use/abuse, criminal violence, corporate deviance, gang violence, and sexual deviance, child abuse, hate crime, mental illness, computer piracy and evaluates justice policies.

Pre/Co-requisite: Any 100w

Note: Must achieve a grade of "C" or better to fulfill Justice Studies major requirements.

Normal Grade Rules
3 units

JS 158. The Prison Community

Analysis of formal and informal systems of organization and interaction among inmates and staff. Effects of the social structure and external system on the organization of the prison community.

Pre/Co-Requisite: Any 100W

Note: Must achieve a grade of "C" or better to fulfill Justice Studies major requirements.

Normal Grade Rules
3 units

JS 161. Introduction to Cybercrime

Introduces students to the growing legal, technical, and social issues surrounding crimes committed in cyberspace or assisted by computers. Discusses the nature of cybercrime from an international perspective and how the borderless nature of cybercrime impacts regulation and enforcement.

Prerequisite: Any 100W

Corequisite: Any 100W

Normal Grade Rules
3 units

JS 171. Human Rights and Justice

Interdisciplinary exploration of human rights instruments, institutions, and notable human rights campaigns. The historical development of human rights and contemporary threats to the realization of fundamental dignity for humans and non-humans will also be explored. GE Area: V

Prerequisite: Passage of the Writing Skills Test (WST) or ENGL/LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

Note: All SJSU Studies courses require completion of the WST and upper division standing.

Normal Grade Rules
GE: V
3 units

JS 172. Human Trafficking and Modern Day Slavery

This course examines the social, cultural, and historical dimensions of global human trafficking and modern-day slavery, with special attention to the efficacy, effectiveness, and unintended consequences of various anti-trafficking policies from around the world, including the United States.

Pre/Co-Requisite: Any 100W

Note: Must achieve a grade of "C" or better to fulfill Justice Studies major requirements.

Normal Grade Rules
3 units

JS 173. Borders and Conflict

Explores border conflicts, including their history and evolution over time as they relate to states, institutions, practices, politics, and impact on communities. Issues include militarism, human rights/civil rights, environmental impact, and prospects for peace.

Co-requisite: Any100W

Note: A grade of "C" or better is required to meet Justice Studies major requirements.

Normal Grade Rules
3 units

JS 179. Human Rights Practicum and Seminar

Complete field experience in human rights advocacy/reporting/organizing while surveying recent human rights scholarship in seminar format.

Prerequisites: JS 025, any 100W

Normal Grade Rules
3 units

JS 180. Individual Studies

Individual work on special topics by arrangement.

Prerequisite: Upper division standing. Not available to Open University Students.

Repeatable for credit
Credit / No Credit
1-3 units

JS 181. Internship: Justice Studies

The internship is designed to provide broad exposure to the operations of a variety agencies and organizations that range from a criminal justice to social justice focus, including courts, law enforcement agencies, law offices, nonprofit organizations and community based programs.

Prerequisite: Upper division standing; Justice Studies or Forensic Science major; JS 100W with a C or better; 2.0 GPA; Department Consent, No Open University

Notes: Students can take up to 3 additional units as JS electives.

Repeatable for credit
Credit / No Credit
1-7 units

JS 183. Ethics in Criminal Justice

In-depth examination of ethical issues in policing, forensic science, and the judicial system. Rhetorical and critical analyses of opposing arguments in justice studies from a variety of ethical perspectives.

Prerequisite: JS 10, JS 25, or FS 11; JS 100W or approved substitute

Normal Grade Rules
3 units

JS 184. Directed Reading

Designed to meet individual needs and interests.

Prerequisite: Upper division standing. Not available to Open University Students.

Repeatable for credit
Credit / No Credit
1-3 units

JS 185. Special Topics in Law and Justice

Range of law and justice issues and topics may be addressed. Content varies by semester. Topics may include international law and globalization, the struggle for justice, human rights, law, inequality and injustice, and others. May be repeated for credit when content changes for a maximum of 9 units.

Prerequisites: Upper division standing.

Repeatable for credit
Normal Grade Rules
3 units

JS 185ITL. Justice Studies International Experience

The goal of this course is to gain insight into systems of criminal and social justice outside of the U.S. Issues of justice are explored, and the role of the student as a global citizen is emphasized. Includes international experiential component through study abroad.

Repeatable for credit
Normal Grade Rules
1-9 units

JS 189. Senior Seminar: Contemporary Problems

Identification, discussion and analysis of selected problems in justice studies. A major term paper on a selected topic is required.

Prerequisite: Senior standing in final semester; Justice Studies or Forensic Science major; JS 100W and JS 114 with a "C or better"; Department Consent

Note: A grade of "C" or better is required for Justice Studies majors.

Normal Grade Rules
3 units

JS 196. Guns and the Law

Socio-historical examination of the legal regulation of guns in the United States. Topics include prevalence of gun ownership, gun use, and gun-related violence; Constitutional foundations of gun ownership; and policy debates surrounding gun rights and gun control.

Normal Grade Rules
3 units

GRADUATE

JS 201. Justice and Social Theory

Examines classic and contemporary theories of justice, including legal, social, economic and criminal justice and their application to current social issues.

Prerequisite: Graduate standing.

Note: This course satisfies graduate-level GWAR in this master's program.

Normal Grade Rules
GE: GWAR
3 units

JS 202. Survey of Research Methods

Examination of research methods applied to solving problems and resolving issues in justice-related agencies, organizations and processes. Focuses on the application of the scientific method to problem-solving and program evaluation.

Prerequisite: STAT 95 or equivalent, JS 114 or equivalent, and graduate standing

Normal Grade Rules
3 units

JS 203. Seminar in Applied Statistics in Justice

An evaluation of specific statistical methods for quantitative and nonquantitative analyses, concentrating on applications and interpretations in justice related settings.

Prerequisite: STAT 95 or equivalent, JS 114 or equivalent, and graduate standing

Normal Grade Rules
3 units

JS 204. Justice Organizations, Ethics & Change

An examination of significant organization and management theories, behavioral processes, and organizational change and development.

Prerequisite: JS 201 and graduate standing

Normal Grade Rules
3 units

JS 205. Seminar in Law and Courts

Roles of the law in society. Analysis and critique of courts, attorneys, judges and juries; dispute resolution; race, class, sex inequality; law's symbolic functions and unintended consequences; new socio-legal research; and comparative perspectives.

Normal Grade Rules
3 units

JS 206. Seminar in Juvenile Justice

Analysis of philosophy, theories, relevant law, research, constitutional issues related to juvenile justice. Structure and purpose of juvenile court proceedings. Minors in criminal and civil court, juvenile corrections, death penalty for juveniles, transfers to adult court, child victims, fetal abuse.

Normal Grade Rules
3 units

JS 207. Seminar in Qualitative Research Methods

Qualitative research methods used in Justice Studies. Includes relationship of empirical evidence to theory, ethics in conducting empirical research, methodological design, interviewing techniques, field methods, participant observation, and content analysis.

Prerequisites: Graduate standing; or instructor permission.

Normal Grade Rules
3 units

JS 208. Seminar: Punishment & Society

Examination of a range of penal ideas and practices; includes historical analysis of punishment, overview of theoretical perspectives and empirical social science research on punishment and alternative sanctions and implications for contemporary penal policy.

Normal Grade Rules
3 units

JS 209. Seminar in Police and Social Control

Critical examination of democratic policing, including internal and external strategies for control and reform. Emphasis on police role in democracy, policy, culture, performance measures for individuals and organizations, and alternative policing methods and policies.

Normal Grade Rules
3 units

JS 211. Historical Issues in Justice Studies

Equips students to do historical research, understand the significance of historical perspectives for contemporary issues, and explore the place of historical obligations and entitlements in theories of justice.

Prerequisite: JS 201 and graduate standing

Normal Grade Rules
3 units

JS 212. Local & Global Perspectives on Human Rights

This course is a graduate level exploration of contemporary human rights scholarship and praxis in the United States and in relation to U.S. domestic and foreign policy.

Normal Grade Rules
3 units

JS 214. Seminar: Social Movement, Community Organizing, and Social Justice

This course is an exploration of social movement praxis. The class investigates community organizing broadly and discusses the idea of social justice, specifically how it relates to establishing human rights in our communities through the active participation of informed citizens.

Normal Grade Rules
3 units

JS 218. Seminar: Immigration, Law & Justice

Graduate level interdisciplinary analysis of the cultural, political and socioeconomic implications of contemporary migratory movements and immigration control policies in the United States, with particular emphasis on notions of international human rights and global justice.

Normal Grade Rules
3 units

JS 220. Seminar: Criminological Theory

A critical review of classical and contemporary theories and research in criminology. Evaluation of contemporary criminal justice and its relationship to theories of criminal behavior.

Normal Grade Rules
3 units

JS 221. Seminar: Deviance & Social Control

This course examines various areas of norm violations and rule-breaking behaviors including, alcohol and drug use/abuse, criminal violence, corporate deviance, gang violence, and sexual deviance, child abuse, hate crime, mental illness, computer piracy and evaluates justice policies.

Prerequisite: Graduate standing.

Normal Grade Rules
3 units

JS 222. Seminar: Penal Policies and Justice

A critical review of historical and contemporary theoretical models. Evaluation of current research on treatment, rehabilitation/punishment models and their use in adult and juvenile institutions and community settings.

Normal Grade Rules
3 units

JS 223. Seminar: Comparative Criminology & Criminal Justice

This course provides a comparative perspective on crime, violence and punishment in contemporary global societies. The course analyzes transnational trends in crime, as well as organizational responses to criminality. Topics include international drug markets, sexual commerce, child soldiers, and terrorism.

Prerequisite: Graduate Standing

Normal Grade Rules
3 units

JS 243. Collaborative Dialogues Seminar

This course will engage students in facilitated dialogues on cultural and professional perspectives on family violence. Students will learn the philosophy and process of dialogue and how dialogue enriches and sustains collaborative capacities at individual, relationship and organizational levels.

Prerequisite: JS 136 and JS 137

Normal Grade Rules
1 unit

JS 244. Collaborative Projects Seminar

This course will facilitate the design and implementation of student projects designed to enhance services and service delivery through interdisciplinary collaboration.

Prerequisite: JS 136 and JS 137

Corequisite: Research Methods course (if needed)

Normal Grade Rules
1 unit

JS 245. Collaborative Field Experience Seminar

This seminar will facilitate integration of concepts of collaboration in the field of family violence using the students' current experience in the field. Topics covered in the seminar will include: elements of effective collaboration, trauma-informed practice, cultural competence and ethical considerations.

Prerequisite: JS 136 and JS 137

Normal Grade Rules
1 unit

JS 245B. Independent Study ICR Field Placement

This independent study is designed for students unable to meet the program's field experience requirement through their current employment or internship. Students and community professionals taking the Independent Study: Collaborative field Placement internship will be placed in ICR approved placements. Students are required to complete a minimum of 60 hours in their field placement during the course.

Prerequisite: JS 136, JS 137

Corequisite: JS 245

Credit / No Credit
1 unit

JS 246. Research Methods in Family Violence

This course will prepare students to interpret, critique, plan and conduct applied research in the field of domestic violence by providing a fundamental understanding of the types and purposes of research and the logic involved in the scientific method and research design.

Normal Grade Rules
1 unit

JS 247. Family Violence in Special Populations

This course covers special populations in family violence, contributing to a broader understanding of this complex social issue. The course chooses one group for study, such as LGBT or military families, and explores the unique correlates, effects and intervention strategies.

Repeatable for credit
Normal Grade Rules
1 unit

JS 248. Community Justice

Collaborative justice efforts as they relate to family violence in the American justice system. Emphasis on the role of the community and how citizens can be involved in collaborative justice.

Normal Grade Rules
1 unit

JS 249. Neurobiology Response to Family Violence

In this course, we explore current research, models, and theories introduced through the field of Interpersonal Neurobiology to better understand trauma, collaboration, and violence. Using IPNB concepts, students work to improve sustainable impact in reducing family violence and its effects.

Normal Grade Rules
1 unit

JS 265. Comparative Criminal Justice Systems

Theory-based comparative analysis of US criminal justice system with criminal justice systems around the world. Course focuses on legal traditions, policing, courts and corrections, with emphasis on the role of geographical, historical and cultural traditions in shaping criminal justice.

Normal Grade Rules
GE: GWAR
3 units

JS 266. Applied Research Methods and Statistics

This course introduces research concepts, methodology, design, qualitative and quantitative data analysis, interpretation, and SPSS use for understanding crime and evaluating criminal justice issues, policies, and agency practices.

Prerequisite: JS 114 or equivalent

Normal Grade Rules
3 units

JS 267. Crime and Gender Around the World

This course is designed to examine the growing body of literature that deals with women's experiences about crime and justice to understand the impact of gendered relations on criminal behavior and justice outcomes.

Normal Grade Rules
3 units

JS 268. Immigration and International Law

This online course provides an overview of the United States legislation and policy relating to immigration and explores the opportunities and challenges facing policy-makers in the context of domestic law and policy, as well as global norms and regimes.

Normal Grade Rules
3 units

JS 269. Cyber Forensics

This online course teaches procedures for identification, preservation and extraction of electronic evidence. Public and private sector responses to cyber security issues in national and international contexts are discussed.

Normal Grade Rules
3 units

JS 270A. Global Terrorism

This online course examines terrorism and the role it plays in today's complex world as well as the theory and practice of international terrorism.

Normal Grade Rules
3 units

JS 271. International Human Rights

This online course focuses on the politics and history of the conception, protection, and violation of human rights in global perspectives as well as the examination of the practical applications of the theory.

Normal Grade Rules
3 units

JS 272. Policing in Global Contexts

This online course examines policing from a global perspective. The objective of this course is to orient students as to how police organizations operate in different parts of the world in terms organization, crime control, and crime prevention.

Normal Grade Rules
3 units

JS 273. International Criminology and Juvenile Delinquency

This online course will examine: (1) issues fundamental to criminological and juvenile delinquency research and practical applications; (2) the current and emerging national/international crime and delinquency issues; and (3) criminal and juvenile justice policies adopted by different countries.

Normal Grade Rules
3 units

JS 274. Applied Project

For this project, a substantial paper of a justice agency program, justice policy, and/or organizational issue is required. The contents will be determined by the student in consultation with the instructor, with whom the student meets regularly for supervision.

Credit / No Credit
3 units

JS 281. Justice Practicum

Supervised placement in a justice organization or agency in a position emphasizing analytical and research skills and/or managerial responsibilities. Culminating research or policy paper required.

Prerequisite: Graduate standing and graduate coordinator consent.

Repeatable for credit
Credit / No Credit
1-3 units

JS 288. Seminar in Special Topics

In-depth exploration and analysis of selected justice-related topic. Course will consider relevant theories, issues, and research on the selected topic.

Prerequisite: Graduate standing or instructor consent.

Repeatable for credit
Normal Grade Rules
3 units

JS 297. Program Evaluation Project

A substantial paper/mock evaluation of a justice agency program, justice policy, or organizational issue.

Prerequisite: Completion of JS 201, JS 202, JS 203, JS 204, Not available to Open University Students.

Repeatable for credit
Mandatory CR/NC/RP
3 units

JS 298. Special Study

Advanced individual research not covered in a regular course and not related to the project or the thesis topic.

Prerequisite: Instructor and Grad Coordinator permission. Not available to Open University Students.

Repeatable for credit
Mandatory CR/NC/RP
1-3 units

JS 299. Master's Thesis

Six units are required to complete the thesis and oral defense of the thesis. Required for Plan A. Must be repeated for a total of 6 semester units.

Prerequisite: Admission to candidacy for the MS degree and thesis chair consent. Not available to Open University Students.

Repeatable for credit
Mandatory CR/NC/RP
3-6 units

UPPER DIVISION

JS 1290R. Thesis/Project Supervision

Continued work on thesis or project.

Pre-requisite: Outstanding RP grade in a preceding semester in a project or thesis class

Repeatable for credit
Mandatory CR/NC/RP
1 unit

SJSU SAN JOSÉ STATE UNIVERSITY

Academic Year 2019-2020

Course Descriptions

v1
July 1, 2019

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DESCRIPTION CONTENTS

Kinesiology Department Courses

KINESIOLOGY

LOWER DIVISION

KIN 001. Adapted Physical Activities
Structured individualized physical activities to enhance physical/motor fitness and develop an active, health-oriented lifestyle for students unable to participate in the general activity program.

Repeatable for credit
Normal Grade Rules
GE: PE
1 unit

KIN 002A. Beginning Swimming
This course is designed for the non-swimmer and beginning swimmer. It is assumed that all students enrolled in the class have had little or no experience in learning the basic skills of swimming. The course is designed to instruct the student in the basic skills necessary to enable him/her to swim safely in deep water. There are no prerequisites for the course.

Normal Grade Rules
GE: PE
1 unit

KIN 002B. Intermediate Swimming
This course is designed to meet the needs of students who have satisfactorily completed the skills involved in beginning swimming.

Prerequisite: Beginning level or its equivalent.

Normal Grade Rules
GE: PE
1 unit

KIN 002C. Advanced Swimming
This course is designed to refine and extend the development of advanced skills in swimming.

Prerequisite: Intermediate level or its equivalent.

Normal Grade Rules
GE: PE
1 unit

KIN 003. Water Polo
Fundamental skills, techniques, strategies, rules, and knowledge necessary to safely and correctly play water polo.

Prerequisite: Beginning level swimming proficiency

Normal Grade Rules
1 unit

KIN 007. Mexican Folklorico Dance
See CCS 007.

Repeatable for credit
Normal Grade Rules
GE: PE
1 unit

KIN 008. Skin and SCUBA Diving
Both skin and SCUBA diving skills for enjoyment and to understand dangers connected with the sport. Only one unit can be applied for the physical education graduation requirement.

Prerequisite: KIN 2C (or equivalent).

Misc/Lab: Lecture 1 hour/activity 3 hours.

Normal Grade Rules
GE: PE
2 units

KIN 009A. Beginning Sailing
Basic skills and safety knowledge in small boats for those with little or no sailing experience

Prerequisite: Student must be able to swim 100 yards without stopping, tread water for 5 minutes, and exit from an overturned dinghy. Students will be tested for this in the SPX pool.

Normal Grade Rules
GE: PE
1 unit

KIN 010A. Beginning Kayaking
Beginning skills and knowledge for those with little or no experience of flat water kayaking. The emphasis will be on safe operation at all times.

Prerequisite: Students must be able to swim 100 yards without stopping, tread water for 5 minutes, and exit from an overturned kayak. Students will be tested for this in the SPX pool.

Normal Grade Rules
GE: PE
1 unit

KIN 011A. Beginning Rowing
Basic skills and knowledge for those with little or no experience of sweep rowing or sculling. Initial classes will be on indoor rowing machines, then eight-oared boats will be used. Students will learn both how to row and how to cox; improvement of strength / fitness is central.

Prerequisite: Swim 100 yards without stopping; thread water for 5 minutes; don lifejacket in the water. Tested in pool.

Normal Grade Rules
GE: PE
1 unit

KIN 013A. Beginning Rugby
This course is designed to familiarize the student with the rules, skills and basic concepts of modern Rugby Union Football. The class will equip the student to be an informed rugby spectator and/ or participant.

Normal Grade Rules
GE: PE
1 unit

KIN 014A. Beginning Volleyball
This course provides the student with the opportunity to learn and develop the basic rules and skills of volleyball, the 6-6 offense and the defense against the 6-6 offense.

Normal Grade Rules
GE: PE
1 unit

KIN 014B. Intermediate Volleyball
This course provides the intermediate student with the opportunity to refine and perfect the basic volleyball skills and to master individual positions when using the 6-2 offense and the defense against the offense.

Prerequisite: Beginning level or its equivalent.

Normal Grade Rules
GE: PE
1 unit

KIN 014C. Advanced Volleyball
This course is designed to teach advanced skills, principles and techniques necessary and fundamental to understanding and playing volleyball.

Prerequisite: Intermediate level or its equivalent.

Normal Grade Rules
GE: PE
1 unit

KIN 015A. Beginning Basketball
This course is designed to assist students in the development of fundamental skills necessary for effective involvement in playing the game of basketball.

Normal Grade Rules
GE: PE
1 unit

KIN 015B. Intermediate Basketball
This course provides the intermediate student with the opportunity to refine and perfect basic basketball skills.

Prerequisite: Beginning level or its equivalent.

Normal Grade Rules
GE: PE
1 unit

KIN 018A. Beginning Handball
This course is focused on the development of fundamental handball skills, basic tactics, simple strategies, etiquette and sportsmanship, rules, and their application in beginning games.

Normal Grade Rules
GE: PE
1 unit

KIN 018B. Intermediate Handball
Course focuses on improving the quality of fundamental handball skills, learning intermediate handball skills/drills and application, developing intermedaite handball tactics and strategies, good sportsmanship, and playing more effective single and double games in different formats.

Normal Grade Rules
1 unit

KIN 019A. Beginning Soccer
This course is designed to introduce students to the game of soccer, and to provide students with the fundamental ability and knowledge needed to enjoy this game as players and as spectators.

Normal Grade Rules
GE: PE
1 unit

KIN 019B. Intermediate Soccer

Designed for students with previous soccer experience to refine technical skills, enhance offensive and defensive tactical awareness, learn various strategy and game philosophies, and improve conditioning. Develop a greater understanding of the rules of the game with an emphasis on the application of skills and strategy in game play

Prerequisite: KIN 19A (or equivalent) or Instructor Consent

Normal Grade Rules
GE: PE
1 unit

KIN 020A. Beginning Badminton

This course is focused on the development of fundamental badminton skills, basic tactics, simple strategies, etiquette, rules, and their application in single and double games.

Normal Grade Rules
GE: PE
1 unit

KIN 020B. Intermediate Badminton

This course is focused on improving the quality of fundamental badminton skills, learning intermediate badminton skills and their application, developing intermediate badminton tactics and strategies, good sportsmanship, and playing more effective single and double games in elimination, round robin, and team competitions.

Prerequisite: Completed SJSU beginning badminton class or have equivalent skills/knowledge.

Normal Grade Rules
GE: PE
1 unit

KIN 020C. Advanced Badminton

This course is focused on improving the quality of fundamental and intermediate badminton skills, learning advanced skills and their application, developing advanced badminton tactics and strategies, good sportsmanship, and playing high level games.

Prerequisite: Completed SJSU intermediate class or show equivalent skills/knowledge.

Normal Grade Rules
GE: PE
1 unit

KIN 021A. Beginning Tennis

This course is designed to give students a basic understanding of the game of tennis. Students will be given a chance to learn through lecture, demonstration, drilling and match play.

Normal Grade Rules
GE: PE
1 unit

KIN 021B. Intermediate Tennis

This course is focused on improving the quality of fundamental tennis skills, learning intermediate tennis skills and drills and application, developing intermediate tennis tactics and strategies, establishing proper manners, and playing more effective single and double games in elimination, round robin, and team competitions.

Prerequisite: Completed SJSU beginning class or have equivalent skills/knowledge

Normal Grade Rules
GE: PE
1 unit

KIN 021C. Advanced Tennis

This course is focused on improving the quality (power, speed, control, and placement) of basic and intermediate tennis skills, learning advanced skills and their application, developing advanced tennis tactics and strategies, good sportsmanship, and playing high level games.

Prerequisite: Completed SJSU intermediate class or have equivalent skills/knowledge

Normal Grade Rules
GE: PE
1 unit

KIN 022A. Beginning Racquetball

This course is focused on the development of fundamental racquetball skills, basic tactics, simple strategies, etiquette, rules, and their application in single and double games.

Normal Grade Rules
GE: PE
1 unit

KIN 022B. Intermediate Racquetball

This course is focused on improving the quality of fundamental racquetball skills, learning intermediate racquetball skills/drills and application, developing intermediate racquetball tactics and strategies, good sportsmanship, and playing more effective single and double games in different formats.

Prerequisite: Completed SJSU beginning class or have equivalent skills/knowledge

Normal Grade Rules
GE: PE
1 unit

KIN 023A. Beginning Archery

This course is designed to introduce the student to the basic skills and concepts, provides the opportunity to learn, practice and analyze correct shooting form and to participate in a variety of archery tournaments.

Normal Grade Rules
GE: PE
1 unit

KIN 023B. Intermediate Archery

This course builds upon beginning level skills and knowledge and provides the opportunity to shoot a variety of different archery rounds.

Prerequisite: Beginning level or its equivalent.

Normal Grade Rules
GE: PE
1 unit

KIN 024A. Beginning Bowling

This course is designed to give students an understanding of the sport of bowling and develop fundamental bowling skills.

Normal Grade Rules
GE: PE
1 unit

KIN 024B. Intermediate Bowling

This course is designed to meet the needs of students who have satisfactorily completed the skills in beginning bowling. The course will add more advanced theory and techniques.

Prerequisite: Beginning level or its equivalent.

Normal Grade Rules
GE: PE
1 unit

KIN 024C. Advanced Bowling

Designed for students who are skilled bowlers. A brief review of bowling fundamentals and principles will be followed by in depth lectures on application of principles. Drills will be used to improve skills.

Prerequisite: KIN 24B and a bowling average of 150 or better; alternative would be "scratch" league or a low handicap league plus instructor consent.

Normal Grade Rules
GE: PE
1 unit

KIN 025A. Beginning Golf

Designed for those who have never played golf or who have played very little and have had no basic formal instruction. Provides the student with a sound set of fundamentals to prepare for further instruction, if desired.

Normal Grade Rules
GE: PE
1 unit

KIN 025B. Intermediate Golf

Development of intermediate golf skills and knowledge with a focus on technique that facilitates the acquisition of consistent intermediate level performance.

Prerequisite: KIN 25A or equivalent.

Normal Grade Rules
GE: PE
1 unit

KIN 025C. Advanced Golf

This course is designed for people who might score from the high seventies to the high eighties on a regular basis.

Prerequisite: Intermediate level or its equivalent.

Normal Grade Rules
GE: PE
1 unit

KIN 027A. Beginning Table Tennis

This course is focused on the development of fundamental table tennis skills, basic tactics, simple strategies, etiquette, rules, and their application of in single and double games.

Normal Grade Rules
GE: PE
1 unit

KIN 027B. Intermediate Table Tennis

This course is focused on improving the quality of fundamental table tennis skills, learning intermediate table tennis skills and drills and their application, developing intermediate tactics and strategies, good sportsmanship, and playing more effective single and double games in elimination, round robin, and team competitions.

Prerequisite: Completed SJSU beginning class or have equivalent skills/knowledge

Normal Grade Rules
GE: PE
1 unit

KIN 028A. Beginning Gymnastics

This course is designed to develop the student's awareness and performance of basic skills in gymnastics.

Normal Grade Rules
GE: PE
1 unit

KIN 029. Cardio Kickboxing

Cardio Kickboxing is a non-contact aerobic conditioning activity combining punches, kicks, traditional aerobic skills, and fitness activities. The course is designed to enhance cardiovascular endurance, muscular strength, and muscular endurance.

Normal Grade Rules
GE: PE
1 unit

KIN 030. Pilates

Pilates employs an established exercise protocol designed to develop core strength, flexibility, posture, and range of motion. The course covers the fundamentals of a Pilates workout with an emphasis on breathing, alignment, neutral spine, and core stability.

Normal Grade Rules
GE: PE
1 unit

KIN 031. Body Sculpting

Body sculpting employs exercise augmented with moderate weights to enhance fitness. The course is designed to improve muscle tone and endurance, flexibility, balance, and core stability.

Normal Grade Rules
GE: PE
1 unit

KIN 032. Aerobics

Aerobics incorporates exercise and music, using large, continuous, rhythmic movements to elevate the heart rate and produce a training effect. The course is designed to improve muscle tone and enhance cardiorespiratory endurance.

Normal Grade Rules
GE: PE
1 unit

KIN 033. Advanced Aerobic Activities

Aerobic activities incorporating high intensity interval training, circuit training, cardio kickboxing, power step, and resistance training. This course is designed to enhance cardiorespiratory endurance, muscular strength and muscular endurance.

Prerequisite: KIN 032 or KIN 034 or instructor consent.

Normal Grade Rules
GE: PE
1 unit

KIN 034. Step Training

Step training is a low-impact aerobic conditioning activity designed to enhance cardiorespiratory endurance, muscular strength, and muscular endurance.

Normal Grade Rules
GE: PE
1 unit

KIN 035A. Beginning Weight Training

This course is designed to teach the basic concepts of weight training for muscular strength and endurance. Its goal is to provide students with knowledge about the principles involved in weight training and the health-related components of fitness through a variety of exercises.

Normal Grade Rules
GE: PE
1 unit

KIN 035B. Intermediate Weight Training

This course is designed for individuals with prior training experience and involves higher level exercises. Students will be exposed to a wide variety of machine as well as free weight exercises and will then design a program based on individual needs.

Prerequisite: Beginning level or its equivalent.

Normal Grade Rules
GE: PE
1 unit

KIN 035C. Advanced Weight Training

This course is designed for students who have had prior class experience in resistive exercise training. Students who have not taken these classes must demonstrate adequate knowledge of lifting technique, terminology and weight room etiquette.

Prerequisite: Intermediate level or its equivalent.

Normal Grade Rules
GE: PE
1 unit

KIN 037. Fitness Walking

Fitness walking is a low-impact conditioning activity designed to develop cardiovascular fitness.

Normal Grade Rules
GE: PE
1 unit

KIN 038. Beginning Jogging

Jogging is a moderate-impact activity designed to improve cardiovascular fitness.

Normal Grade Rules
GE: PE
1 unit

KIN 040A. Topics in Modern Dance I

See DANC 040A.

Repeatable for credit
Normal Grade Rules
GE: PE
2 units

KIN 041A. Topics in Ballet I

See DANC 041A.

Repeatable for credit
Normal Grade Rules
GE: PE
2 units

KIN 042A. Topics in Jazz Dance I

See DANC 042A.

Repeatable for credit
Normal Grade Rules
GE: PE
2 units

KIN 045A. Beginning Lindy Hop and Night Club Swing

This course is focused on the development of fundamental Swing dance skills and knowledge. Steps, technique, and styling will be drawn from Lindy Hop, Jitterbug, Street Swing, Jive and Triple-Time Swing dances.

Normal Grade Rules
GE: PE
1 unit

KIN 046A. Beginning Social Dance

This course is focused on the development of fundamental social dance skills and knowledge. Dances will be selected from the American Smooth (e.g. Waltz, Tango), American Rhythm (e.g. Rumba, Cha Cha) and night club (e.g. Hustle, West Coast Swing) dance categories.

Normal Grade Rules
GE: PE
1 unit

KIN 046B. Intermediate Social Dance

This course is focused on the development of intermediate level social dance skills and knowledge. Dances will be selected from the American Smooth (e.g. Waltz, Tango), American Rhythm (e.g. Rumba, Cha Cha) and night club (e.g. Hustle, West Coast Swing) dance categories.

Prerequisite: KIN 046A or KIN 048A, or equivalent dance experience.

Normal Grade Rules
GE: PE
1 unit

KIN 047A. Beginning West Coast Swing

Designed to improve students' understanding of West Coast Swing dancing and to improve fundamental dance skills common to the dance

Normal Grade Rules
GE: PE
1 unit

KIN 048A. Beginning Latin Dance

This course is focused on the development of fundamental Latin dance skills and knowledge. Dances will be selected from the International Latin, American Rhythm (e.g. Rumba, Cha Cha) and night club (e.g. Salsa) dance categories.

Normal Grade Rules
GE: PE
1 unit

KIN 048B. Intermediate Latin Dance

This course is focused on the development of intermediate level latin dance skills and knowledge. Dances will be selected from the International Latin, American Rhythm (e.g. Rumba, Cha Cha) and night club (e.g. Salsa) dance categories.

Prerequisite: KIN 046A or KIN 048A, or equivalent dance experience.

Normal Grade Rules
GE: PE
1 unit

KIN 049A. Topics in Tap Dance I

See DANC 049A.

Repeatable for credit
Normal Grade Rules
1 unit

KIN 049B. Topics in Tap Dance II

See DANC 049B.

Repeatable for credit
Normal Grade Rules
1 unit

KIN 050. Tai Chi (Non-Combative)

Emphasis on knowledge and skill, development of the standard Simplified Tai Chi Form and applications of Tai Chi for life. It is assumed that students enrolled in the class have had little or no experience in Tai Chi.

Normal Grade Rules
GE: PE
1 unit

KIN 051A. Beginning Aikido

This course is focused on the philosophy, history, and basic skills related to the Japanese-derived martial art of Aikido.

Normal Grade Rules
GE: PE
1 unit

KIN 051B. Intermediate Aikido

This course is focused on the development of intermediate level skills and knowledge related to the Japanese-derived martial art of Aikido. It builds upon the basic movement patterns and falling skills introduced in the beginning class.

Prerequisite: KIN 51A or equivalent Aikido skills and experience.

Normal Grade Rules
GE: PE
1 unit

KIN 052A. Beginning Judo

This course is focused on development the fundamental skills and knowledge related to Judo. Included are basic groundwork and throwing techniques.

Normal Grade Rules
GE: PE
1 unit

KIN 052B. Intermediate Judo

This course is focused on development of intermediate level ground and throwing skills and learning in-depth strategies, philosophy, and culture related to Judo. It builds upon the basic ukemi, newaza, and tachiwaza techniques learned in the beginning class.

Prerequisite: KIN 52A or equivalent judo skills and experience.

Normal Grade Rules
GE: PE
1 unit

KIN 052C. Competitive Judo

Prepares students to use Judo techniques in competitive tournaments. The course will offer intermediate and advanced skills (standing, mat and falling techniques) and strategies to improve competitiveness.

Prerequisite: KIN 052A or KIN 052B, and/or instructor consent.

Repeatable for credit
Normal Grade Rules
GE: PE
1 unit

KIN 053A. Beginning Karate

This course is focused on development of fundamental skills and knowledge related to Karate. Included are basic kicking, punching, and blocking techniques.

Normal Grade Rules
GE: PE
1 unit

KIN 053B. Intermediate Karate

This course is focused on development of intermediate level skills and knowledge related to Karate. It builds upon the fundamental skills and techniques developed in the beginning class.

Prerequisite: KIN 53A or equivalent karate skills and experience

Normal Grade Rules
GE: PE
1 unit

KIN 054A. Beginning Tae Kwon Do

This course is focused on development of fundamental skills and knowledge related to Tae Kwon Do. Included are basic patterns (poomse), kicking and one-step defenses.

Normal Grade Rules
GE: PE
1 unit

KIN 054B. Intermediate Tae Kwon Do

This course is focused on development of intermediate level skills and knowledge related to Tae Kwon Do. It builds upon the fundamental skills and techniques developed in the beginning Tae Kwon Do class.

Prerequisite: KIN 54A or equivalent Tae Kwon Do skills and experience.

Normal Grade Rules
GE: PE
1 unit

KIN 055A. Beginning Self-Defense

This course is focused on development of fundamental skills and knowledge related to self defense. Included are mental and physical self-defense skills and techniques applicable under a variety of conditions

Normal Grade Rules
GE: PE
1 unit

KIN 058A. Introductory Brazilian Jiu-Jitsu

Development of the essential skills and principles of Brazilian jiu-jitsu practice. Included are the basic escapes, sweeps, and submissions from the most common positions.

Normal Grade Rules
1 unit

KIN 061A. Beginning Hatha Yoga

In this course the student will learn the correct movements, postures and sequence used in traditional Hatha Yoga.

Normal Grade Rules
GE: PE
1 unit

KIN 061B. Intermediate Hatha Yoga

Further exploration of the theories and practices of Hatha Yoga encompassing the second level series of traditional intermediate Hatha Yoga postures, breathing exercises, and relaxation techniques.

Prerequisite: Beginning level or its equivalent.

Normal Grade Rules
GE: PE
1 unit

KIN 062A. Beginning Ice Skating

A beginning ice skating course that covers the skills identified by the International Ice Skating Association (IISA).

Normal Grade Rules
GE: PE
1 unit

KIN 063A. Beginning Hiking and Backpacking

An introductory course designed to impact skills such as topographical map reading, navigation and hiking. The emphases is on logistics and operations of adventure excursions and fitness in various wilderness environments.

Normal Grade Rules
GE: PE
1 unit

KIN 063B. Intermediate Hiking and Backpacking

Intermediate course designed for the student with previous hiking or outdoor adventure experience. Students are responsible for planning, packing and leading at intervals, the entire group on a 3-day overnight hiking and backpacking excursion. Students will learn topographical map, compass reading, fundamental hiking and trip planning.

Prerequisite: KIN 063A or instructor approval

Normal Grade Rules
GE: PE
1 unit

KIN 064A. Beginning Mountaineering

Fundamental mountain climbing techniques for a beginning level climber which includes face climbing, chimney climbing, traversing and rappelling.

Normal Grade Rules
GE: PE
1 unit

KIN 065A. Beginning Ice Hockey

Basic skills, techniques, strategies and rules of ice hockey. No previous skating is required but the ability to skate is highly recommended.

Normal Grade Rules
GE: PE
1 unit

KIN 066. Fit for Life!

Concepts of fitness and wellness, focusing on the importance of regular physical activity for health and well-being throughout the lifespan.

Co-Requisite: Enrollment in a college level physical education activity course for academic credit at a CCC or CSU.

Pre-requisite: Course is only open to students in approved high unit majors that have received a waiver for the physical education graduation requirement.

Normal Grade Rules
2 units

KIN 068. Visual Representations of Sport in Popular Culture

Critical examination of visual representations of sport in popular culture. Facilitate a deeper understanding and appreciation of the artistic qualities that exemplify works of human creativity as related to sport. GE Area: C1

Normal Grade Rules
GE: C1
3 units

KIN 069. Stress Management: A Multidisciplinary Perspective

The stress process and its relation to health, disease, lifestyle, and the sociocultural environment. Physiological, psychological, sociological, and environmental parameters of stress across the lifespan, emphasizing university resources and stress management strategies to enhance academic, personal, and social development. GE Area: E

Normal Grade Rules
GE: EE
3 units

KIN 070. Introduction to Kinesiology

Explores the broad spectrum of kinesiology as an academic discipline, fundamental concepts and meaning of movement/physical activity, diversity of humans as moving beings, professional/career options, current issues, personal characteristics/professional responsibilities, Kinesiology at SJSU; initiates professional portfolio.

Misc/Lab: Lecture 2 hours/activity 2 hours.

Notes: Required for KIN majors and minors only.

Normal Grade Rules
3 units

KIN 080. Individual Movement Studies

Individual work related to motor performance and activity made by special arrangement.

Misc/Lab: Activity 2 hours.

Repeatable for credit
Credit / No Credit
1 unit

UPPER DIVISION

KIN 100W. Writing Workshop

Advanced skills in writing. Development of writing style and creation of organized, persuasive and analytical prose. Generalized and specialized forms of writing. GE Area: Z

Prerequisite: A3 or equivalent second semester composition course (with a grade of C- or better); Completion of core GE, satisfaction of Writing Skills Test and upper division standing. KIN 70 for major/minors only or instructor consent. Allowed Declared Major: Kinesiology.

Note: Must be passed with C or better to satisfy the CSU Graduation Writing Assessment requirement (GWAR).

Normal Grade Rules
GE: Z
3 units

KIN 101. Sport in America

The role of sport (recreational and professional) as a social, political and economic institution in American society. Critical examination of contemporary issues affecting sport and sport involvement by diverse cultural groups within American society. GE Area: S

Prerequisite: Passage of the Writing Skills Test (WST) or ENGL/LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

Notes: Not open to KIN majors for major/minor credit. All SJSU Studies courses require completion of the WST and upper division standing.

Normal Grade Rules
GE: S
3 units

KIN 105. Water Safety Instructor's Course

Designed to teach the basic concepts, skills and knowledge for successful teaching in the American Red Cross aquatics program. The content and requirements are in accordance with the American Red Cross and the criterion set forth by the organization.

Prerequisite: Minimum age of 18.

Misc/Lab: Lecture 1 hour/activity 2 hours.

Normal Grade Rules
2 units

KIN 106. Advanced SCUBA and Aquatic Technology

Underwater navigation, light salvage, searches, biological sampling, communications, weightless simulations, construction problem solving and lighting.

Prerequisite: NAUI SCUBA certification (or equivalent).

Misc/Lab: Lecture 1 hour/activity 4 hours.

Normal Grade Rules
GE: PE
3 units

KIN 107. Adapted Aquatics

Theories, techniques and practices in the instruction of persons with disabilities as they function in the aquatic environment.

Prerequisite: KIN 070 for majors/minors only or instructor consent.

Misc/Lab: Activity 2 hours.

Normal Grade Rules
1 unit

KIN 111. Sport & Movement in a Global Context

Human expression through sport, games, and movement in cultures outside the US, and how those expressions have changed over time. Exploration of how sporting traditions in cultures outside the US have influenced US culture and society. GE Area: V

Prerequisite: Passage of WST or ENGL/LLD 100A with a C or better, upper division standing, completion of CORE GE.

Normal Grade Rules
GE: V
3 units

KIN 111ITL. Sport & Movement in a Global Context: International Experience

Human expression through sport, games, and movement in cultures outside the U.S. and how those expressions have changed over time. Exploration of how sporting traditions outside the U.S. have influenced US culture and society. GE Area: V

Prerequisite: Passage of the Writing Skills Test (WST) or ENGL/LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

Normal Grade Rules
GE: V
3 units

KIN 145A. Physical Activity for Older Adults
Analyses of development and implementation processes of exercise programs for older adults.

Prerequisite: KIN 070 or instructor consent

Misc/Lab: Lecture 3 hours/Lab 3 hours

Normal Grade Rules
3 units

KIN 145B. Physical Activity for Older Adults
Analyses of development and implementation processes of exercise programs for older adults.

Prerequisite: KIN 70 or instructor consent

Misc/Lab: Lecture 3 hours/Lab 3 hours

Normal Grade Rules
3 units

KIN 147. Biomechanical Assessment of Movement
This class is designed to assist the student in becoming familiar and proficient with the Biomechanical methods and equipment for assessing human movement performance characteristics with the following goals: improving movement effectiveness, preventing injuries, and assessing rehabilitation progress.

Prerequisite: KIN 158

Misc/Lab: Lecture 3 hours/Lab 9 hours

Normal Grade Rules
3 units

KIN 149. Child Health and Physical Activity
See CHAD 149.

Normal Grade Rules
3 units

KIN 151. Sports and Fitness Marketing
Course is designed to apply marketing principles and processes to the sport and fitness industry. Content will focus on the sport and fitness product, consumer behavior, consumer satisfaction/dissatisfaction, and the customer experience in sport and fitness organizations.

Prerequisite: KIN 070

Normal Grade Rules
3 units

KIN 152. Theory of Sport and Fitness Management
Basic theory of sport management. Topics include sport management and organizational skills; sport marketing and sales; sport communication; sport finance, economics, law and governance.

Prerequisite: KIN 070 for majors/minors only or instructor consent.

Normal Grade Rules
3 units

KIN 153. Sport Facility and Event Management
Provide students with the skills necessary to effectively manage sport and fitness facilities and events.

Prerequisite: KIN 070; and KIN 152 for sports management emphasis. Open only to declared KIN majors/minors, or instructor consent.

Normal Grade Rules
3 units

KIN 154A. Instrumentation in Exercise Physiology and Biomechanics
Familiarity and proficiency with methods and instruments of assessing physiological and biomechanical characteristics of human performance.

Prerequisite: KIN 070 (or equivalent) for majors/minors only or instructor consent; KIN 070; KIN 155; KIN 158 with grades of 'C-' or better in each.

Misc/Lab: Lecture 1 hour/activity 4 hours.

Normal Grade Rules
3 units

KIN 154B. ECG Interpretations and Graded Exercise Testing
Theoretical background and practical proficiency in the methods and instruments of electrocardiogram interpretations and graded exercise testing.

Prerequisite: KIN 070 (or equivalent) for majors/minors only or instructor consent; KIN 070; KIN 155 with grades of 'C-' or better in each.

Misc/Lab: Lecture 2 hours/activity 2 hours.

Normal Grade Rules
3 units

KIN 155. Exercise Physiology
Physiological responses and adaptations of the human organism to physical activity.

Prerequisite: KIN 070; BIOL 066 and CHEM 030A with a grade of 'C-' or better in each; approved GE Math Concept course. Open only to declared KIN majors/minors, or instructor consent.

Misc/Lab: Lecture 2 hours/activity 2 hours.

Normal Grade Rules
3 units

KIN 156. Introduction to Adapted Physical Activity
Focus on attitude change as well as knowledge, comprehension and application of human movement principles related to individuals with disabling conditions.

Prerequisite: KIN 070 for majors/minors only or instructor consent.

Normal Grade Rules
3 units

KIN 157. Physiological Assessment
Use of exercise physiology instrumentation to assess physiological characteristics of human performance, interpret results, and implement corrective strategies, when appropriate.

Prerequisite: Chem 30A, GE Math, Biol 66, KIN 70 (C- or better grade), KIN 155 (C- or better grade)

Misc/Lab: Lecture 3 hours/Lab 3 hours

Normal Grade Rules
3 units

KIN 158. Biomechanics
Relationship of structural and mechanical principles of the musculoskeletal system to the analysis of human performance.

Prerequisite: KIN 070; BIOL 065 with a grade of 'C-' or better; approved GE Math Concept Course. Open only to declared KIN majors/minors, or instructor consent.

Misc/Lab: Lecture 2 hours/activity 2 hours.

Normal Grade Rules
3 units

KIN 159. Sport and Adapted Activities
Principles of kinesiology for adapting sport and activity for individuals with disabling conditions.

Prerequisite: KIN 070 for majors/minors only or instructor consent.

Misc/Lab: Lecture 2 hours/activity 2 hours.

Normal Grade Rules
3 units

KIN 160. History of Sport and Physical Education
Historical survey of physical education and sport from primitive societies through classical and medieval periods to the nineteenth and twentieth centuries. Development of sport, physical education and recreation in the U.S. and factors affecting their growth.

Prerequisite: KIN 070 for majors/minors only or instructor consent.

Normal Grade Rules
3 units

KIN 161. Philosophical Perspectives of Sport
Emphasis on systems of philosophy, aesthetic and moral considerations, metaphysical fitness and contemporary issues. Review of leading human movement theorists.

Prerequisite: KIN 070 for majors/minors only or instructor consent.

Normal Grade Rules
3 units

KIN 162. Advanced Fitness Assessment and Exercise Prescription
In-depth study and analysis of the principles and techniques used in the assessment of physical fitness and health as well as the design of conditioning programs and physical activities.

Prerequisite: KIN 070 (or equivalent) for majors/minors only and KIN 155, or instructor consent. Grade of 'C-' or better in KIN 070 and KIN 155.

Misc/Lab: Lecture 2 hours/Activity 2 hours.

Normal Grade Rules
3 units

KIN 163. Physical Fitness and Nutrition
See NUFS 163.

Normal Grade Rules
GE: R
3 units

KIN 164. Sociocultural Perspectives

Sociocultural processes of sport and play in contemporary society. The study of phenomena arising out of group relations within the realm of kinesiology.

Prerequisite: KIN 070 for majors/minors only or instructor consent or lower division social science core GE.

Repeatable for credit
Normal Grade Rules
3 units

KIN 165. Motor Development

Motor development of the individual from birth to maturity. Emphasis upon motor behavior, needs, capacities and interests.

Prerequisite: KIN 070 for majors/minors only or instructor consent. .

Normal Grade Rules
3 units

KIN 166. Motor Learning

Concepts, principles and theories of motor learning with application to physical activities.

Prerequisite: KIN 070 for majors/minors only or instructor consent; BIOL 066 with a grade of 'C-' or better.

Misc/Lab: Lecture 2 hours/lab 2 hours.

Normal Grade Rules
3 units

KIN 167. Sports Psychology

Psychological aspects of sports, including the value of sports, psychological factors involved in competitive as well as non-competitive athletic activities and the role of sports psychologists.

Prerequisite: PSYC 001.

Normal Grade Rules
3 units

KIN 168. Psychology of Coaching

Social, clinical, child, measuring, industrial, personality and organizational psychology and the practical application of the material to coaching.

Prerequisite: KIN 070 for majors/minors only or instructor consent.

Normal Grade Rules
3 units

KIN 169. Diversity, Stress and Health

Impact of structured inequalities on stress and health of diverse populations. Analysis of physiological/psychosocial health factors related to diversity, as well as behavioral interventions and social actions that mediate stress and optimize health and social justice. GE Area: S

Prerequisite: Passage of the Writing Skills Test (WST) or ENGL/LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

Note: All SJSU Studies courses require completion of the WST and upper division standing.

Normal Grade Rules
GE: S
3 units

KIN 170B. Field Experience-Teaching

Practical experiences to satisfy certification requirement in off-campus or field-based programs. May be repeated for a maximum of 4 units.

Prerequisite: KIN 070 for majors/minors only or instructor consent. Concurrent enrollment in KIN 172, KIN 173, KIN 178, or KIN 179.

Repeatable for credit
Credit / No Credit
1 unit

KIN 170C. Fieldwork in Adapted Physical Activity

Supervised experiences in adapted physical activity at selected public and private agencies.

Prerequisite: KIN 070 for majors/minors only or instructor consent; KIN 156. Concurrent enrollment in KIN 172 or KIN 178 or KIN 179.

Repeatable for credit
Credit / No Credit
1-3 units

KIN 170D. Fieldwork in Sport Management

Practical experience in a professional work setting while working and observing 100 hours under direct supervision of qualified sport management professionals. Interns assigned a variety of duties and experiences.

Prerequisite: KIN 070, KIN 152, and upper division standing.

Repeatable for credit
Credit / No Credit
1-3 units

KIN 170E. Field Experience Coaching on Campus

Practical experience in on-campus programs for coaching minors. May be repeated once for credit.

Prerequisite: KIN 070 for majors/minors only or instructor consent.

Repeatable for credit
Credit / No Credit
2 units

KIN 170F. Field Experience Coaching off Campus

Practical experience in off-campus programs for coaching minors. May be repeated once for credit.

Prerequisite: KIN 070 for majors/minors only or instructor consent.

Repeatable for credit
Credit / No Credit
2 units

KIN 170G. Field Experience Activity Programs on Campus

Practical experience in on-campus activity programs. Appropriate only for non-teaching concentration areas. Maximum of 3 units may be repeated.

Prerequisite: KIN 070 for majors/minors only or instructor consent.

Repeatable for credit
Credit / No Credit
1 unit

KIN 170H. Field Experience Skin and SCUBA Diving on Campus

Practical experience in skin and SCUBA diving situations. Appropriate for certified SCUBA divers to satisfy certification requirements in on-campus program. Maximum of 4 units may be repeated

Prerequisite: SCUBA Diver Certificate, Life-Saving, first-aid and CPR certification.

Repeatable for credit
Credit / No Credit
1 unit

KIN 171A. Non Traditional Game and Sport Activities

Non traditional and global game and sport activities appropriate for preadolescents and adolescents in instructional settings.

Prerequisite: KIN 070 for majors/minors only or instructor consent; upper division standing.

Misc/Lab: Lecture/activity 4 hours

Normal Grade Rules
3 units

KIN 172. Elementary School Programs, K-6

Philosophy, principles and activities of physical education appropriate for children.

Prerequisite: KIN 070; KIN 165 or KIN 173. Open only to declared KIN majors/minors or instructor consent.

Co-requisites: KIN 170B or KIN 170C.

Misc/Lab: Lecture/activity 4 hours.

Normal Grade Rules
3 units

KIN 173. Intro to Teaching PE & Non-trad Sports

This course will introduce future physical educators to profession of teaching and will include philosophies, ethics, and standards for teaching, legal and current issues, learning-communities, inclusion of non-traditional and global games and sport activities, and observations of effective teaching.

Prerequisite: KIN 070 for majors/minors only or instructor consent or concurrent enrollment; KIN 171A.

Co-requisite: KIN 170B.

Misc/Lab: Lecture 3 hour/Lab 3 hours.

Normal Grade Rules
3 units

KIN 174. Assessment of Psychomotor Function

Basic procedural elements of informal observation, formal performance testing and direct measures of psychomotor function of individuals with disabling conditions.

Prerequisite: KIN 070; Open only to declared KIN majors/minors or instructor consent.

Normal Grade Rules
3 units

KIN 175. Measurement and Evaluation in Kinesiology

Designed to develop an understanding of measurement and evaluation concepts and application relevant to assessment in the psychomotor, cognitive and affective domains. Activities include collection and computer analysis of data.

Prerequisite: KIN 070 for majors/minors only or instructor consent; approved GE Math Concept Course.

Misc/Lab: Lecture/activity 4 hours.

Normal Grade Rules
3 units

KIN 176. Exercise Psychology

Examines the psychological determinants and consequences of exercise and physical activity. Analysis and critique of research and theory relevant to exercise adherence, motivation, self-efficacy, and attributional style. Practical applications of theoretical concepts.

Prerequisite: PSYC 001.

Normal Grade Rules
3 units

KIN 177. Movement Experiences for Children

Physical Education K-6 curricular philosophy and activities appropriate for elementary school personnel; emphasizes the social, emotional, physical and skill development of children in the elementary school setting.

Prerequisite: CHAD 060 or CHAD 067.

Misc/Lab: Lecture 2 hours/activity 2 hours.

Normal Grade Rules
3 units

KIN 178. Management Practices for Physical Education Teachers

Examines current practices for managing student behaviors, instructional technology, legal regulations, and physical fitness needs as well as exploring adolescent development.

Prerequisite: KIN 070 for majors/minors only or instructor consent; KIN 172, KIN 171A or concurrent enrollment and upper division standing.

Co-requisite: KIN 170B or KIN 170C.

Misc/Lab: Lecture 2 hours/lab 2 hours.

Normal Grade Rules
3 units

KIN 179. Design and Assessment of Movement Experiences

Integrate concepts from kinesiology, motor learning, motor development to address sequential movement experiences, including qualitative analysis and interactions with performer.

Prerequisite: KIN 070 for majors/minors only or instructor consent; KIN 158, KIN 166 and KIN 178.

Corequisite: KIN 170B or KIN 170C.

Misc/Lab: Lecture/activity 4 hours

Normal Grade Rules
3 units

KIN 180. Independent Study

Independent study through projects or directed reading related to the field of Kinesiology. Repeatable for a total of 6 units.

Prerequisite: GPA overall of 2.0; KIN 70 or instructor consent

Repeatable for credit
Mandatory CR/NC/RP
1-6 units

KIN 180C. Individual Studies: Coaching

Individual education in selected coaching situations.

Prerequisite: KIN 070, upper division coaching minor; appropriate concepts and performance course, intermediate level competency or instructor consent.

Repeatable for credit
Credit / No Credit
2 units

KIN 184. Directed Reading

Assigned reading of selected books, journals and papers. Conferences with instructor, seminars, reports (oral and written). May be repeated for a total of 4 units.

Prerequisite: KIN 070 for majors/minors only for; instructor and department chair consent.

Repeatable for credit
Credit / No Credit
1-4 units

KIN 185. Senior Seminar

Active learning capstone course designed to synthesize students' undergraduate preparation, including internship experiences.

Capstone course designed to integrate and synthesize students' knowledge and skills gained in their undergraduate preparation through active participation in the class and reflection on the internship experience; requires completion of a professional portfolio and a movement project

Prerequisite: KIN 70, Kin Majors ONLY, KIN Minors

Normal Grade Rules
1 unit

KIN 185H. Senior Seminar - Honors

Examination of a topic of current interest in human performance. Summarized paper to be presented at student seminar.

Prerequisite: KIN 070 for majors/minors only or instructor consent; senior standing, 3.2 or better GPA and 3.5 or better average in major.

Normal Grade Rules
3 units

KIN 186. Pharmacology in Sports Medicine

Focuses on the basic pharmacology principles including legislation, administration, pharmacotherapeutics, drug classifications, and drug therapy and testing. Primary emphasis is placed upon pharmacology in the sports medicine arena. This course is accessible only on-line.

Prerequisite: A basic prevention and care of athletic injuries course is highly recommended.

Normal Grade Rules
3 units

KIN 187. Clinical Exercise Physiology

Physiological principles applied to the prevention, management, and treatment of chronic health conditions. Focus on the pathophysiology, acute response to exercise, chronic training effects, and development of appropriate conditioning and training programs for chronic conditions.

Prerequisite: KIN 070 (or equivalent) for majors/minors only or instructor consent; KIN 155; with grades of 'C- ' or better in each.

Normal Grade Rules
3 units

KIN 188. Prevention and Care of Athletic Injuries

Prevention through safe equipment, facilities and protective strapping. Methods used to aid recovery.

Prerequisite: KIN 070, BIOL 065 with a grade of 'C-' or better, or instructor consent.

Misc/Lab: Lecture/activity 4 hours.

Normal Grade Rules
2 units

KIN 189. Prevention and Care of Athletic Injuries Laboratory

The laboratory course is designed to provide hands-on experience in the prevention and care of athletic injuries, including preventive and supportive taping techniques, emergency management, and various hands-on experiences related to the prevention of activity related injuries.

Prerequisite: KIN 070, KIN 188 (concurrent enrollment acceptable).

Normal Grade Rules
1 unit

KIN 191A. Advanced Assessment of Lower Extremity Injuries

An advanced course designed to develop knowledge and skills in recognition, assessment, and medical referral of athletic injuries to the lower extremity, thoracolumbar spine, posture and gait. Activity sessions are designed to assist in the development of clinical assessment skills.

Prerequisite: KIN 070, KIN 188, KIN 189. Open only to declared KIN majors/minors or instructor consent.

Misc/Lab: Lecture 3 hour/Lab 3 hours.

Normal Grade Rules
3 units

KIN 191B. Advanced Assessment of Upper Extremity Injuries

An advanced course designed to develop knowledge and skills in recognition, assessment, and medical referral of athletic injuries to the upper extremity, abdomen, thorax, cervical spine, head, and general medical conditions. Activity sessions are designed to develop clinical assessment skills.

Prerequisite: KIN 070; KIN 191A.

Misc/Lab: Lecture 2 hours/lab 3 hours.

Normal Grade Rules
3 units

KIN 193. Organization & Administration in Athletic Training

Theoretical and practical information concerning organization and administration of a modern athletic training program, including managerial styles, personnel, facilities/equipment management, budget, medical records, insurance issues, legal aspects, public relations, and other current topics in athletic training.

Prerequisite: KIN 070 for majors/minors only or instructor consent; KIN 188.

Normal Grade Rules
2 units

KIN 194. Therapeutic Exercise

Theoretical and clinical bases for the use of therapeutic exercise in rehabilitation settings; basic biomechanics, indications, contraindications, and proper application procedures of therapeutic exercise in athletic injury rehabilitation.

Pre/Corequisite: KIN 191A and KIN 191B.

Misc/Lab: Lecture 2 hours/activity 2 hours.

Normal Grade Rules
3 units

KIN 195. Therapeutic Modalities

Theoretical and clinical aspects of therapeutic modalities in athletic rehabilitation. Includes the physics and physiological effects, indications and contra-indications, as well as application procedures of various therapeutic modalities.

Prerequisite: KIN 070 for majors/minors only or instructor consent. KIN 188 and upper division standing.

Misc/Lab: Lecture 2 hours/activity 2 hours.

Normal Grade Rules
3 units

KIN 197A. Practicum in Athletic Training I

Introductory level supervised practical experiences at selected athletic training clinical settings.

Prerequisite: BIOL 065 and BIOL 066 with a grade of 'C' in each, KIN 188, KIN 189 and 50 hours of observation. Open only to KIN majors.

Repeatable for credit
Credit / No Credit
1 unit

KIN 197B. Practicum in Athletic Training II

Observations and experiences within the profession of athletic training to assist in developing required National Athletic Trainers' Association competencies. Interns supervised on a daily basis by a NATA-certified athletic trainer.

Prerequisite: KIN 197A. Open only to KIN majors.

Repeatable for credit
Credit / No Credit
1 unit

KIN 197C. Practicum in Athletic Training III

Clinical internship in allied health-related situations, e.g., physician's offices, physical therapy sports medicine clinics, etc. Typically off-campus assignment.

Prerequisite: KIN 191A and KIN 191B (concurrent enrollment in KIN 191B is allowed), KIN 197B and professional insurance recommended.

Repeatable for credit
Credit / No Credit
1 unit

KIN 197D. Practicum in Athletic Training IV

Course is designed to provide the student with advanced, diverse, supervised, and practical experiences in the athletic training profession. Selected on-an-off campus clinical settings will be used to assist the student in the development of professional competencies and proficiencies.

Prerequisite: KIN 195, KIN 197C.

Credit / No Credit
1 unit

KIN 198. Internship in Kinesiology

Practical professional experiences related to the field of Kinesiology. Experiences are varied and can include exercise testing, prescription and evaluation; program leadership, design, and/or administration; coaching; and sport medicine internships. May be repeated for a total of 6 units.

Prerequisite: Upper division status;GPA overall of 2.0; KIN 70 or instructor consent

Repeatable for credit
Mandatory CR/NC/RP
1-6 units

GRADUATE

KIN 250. Fundamentals of Quantitative Research

Design, analysis and interpretation of quantitative research. Course focuses on the research process from the formulation of a research problem through the analysis of data. Topics include: ethics in research, research design and analysis issues and techniques, psychometrics, descriptive statistics, parametric and non-parametric inferential statistics, critiquing research.

Prerequisite: KIN 175 (or equivalent).

Note: This course satisfies graduate-level GWAR in this master's program.

Normal Grade Rules
GE: GWAR
3 units

KIN 251. Fundamentals of Qualitative Research

Design, analysis and interpretation of qualitative research. Course focuses on the research process from the formulation of a research problem through the analysis of data. Topics include: ethics in research, research design and analysis issues and techniques, data representation, critiquing research.

Note: This course satisfies graduate-level GWAR in this master's program.

Normal Grade Rules
GE: GWAR
3 units

KIN 255. Advanced Exercise Physiology

Survey and critical evaluation of current concepts and literature regarding physiological regulatory mechanisms of the oxygen transport system and muscle metabolism. Acute and chronic effects of exercise with emphasis placed on physiological limitations.

Prerequisite: KIN 155 (or equivalent).

Normal Grade Rules
3 units

KIN 256. Environmental Exercise Physiology

Survey and critical evaluation of current concepts and literature regarding various and environmental (heat, cold, altitude, etc.) conditions as they affect the typical responses to exercise. Acute effects and chronic adaptations examined.

Prerequisite: KIN 155 (or equivalent).

Normal Grade Rules
3 units

KIN 257. Biomechanics

Principles and laws of physics and mechanics as applied to analysis of human movement activities. Critical evaluation of current research findings in sport biomechanics.

Prerequisite: KIN 158 (or equivalent).

Normal Grade Rules
3 units

KIN 259. Advanced Internship in Adapted Physical Activity

Advanced, supervised practicum for the development of direct service, administration/supervision, in-service training and advocacy/leadership competencies in adapted physical activity.

Prerequisite: BS degree with emphasis in adapted physical education and/or satisfactory completion of specified didactic curriculum.

Repeatable for credit
Credit / No Credit
1-3 units

KIN 260. Philosophy of Sport and Embodiment

Development of a consistent set of basic professional values compatible with individual differences which may serve as a frame of reference for professional behavior.

Prerequisite: KIN 161 (or equivalent).

Normal Grade Rules
3 units

KIN 264. Sport Sociology

An in-depth study of the relationship between sport and society. Focus will be on social and cultural factors that affect how Americans play and view sport.

Prerequisite: KIN 164 (or equivalent).

Normal Grade Rules
3 units

KIN 265. Advanced Motor Development

Examination of specific theory and research related to the movement changes that occur across the lifespan. Interpretation of recent related research and individually guided investigation of a specific area of concern in motor development.

Prerequisite: KIN 165 (or equivalent).

Normal Grade Rules
3 units

KIN 266. Principles and Concepts of Perceptual Motor Learning

Motor behavior and the learning patterns developed in acquiring skill in a motor activity.

Prerequisite: KIN 166 (or equivalent).

Normal Grade Rules
3 units

KIN 267. Advanced Sport Psychology

Sport psychology research and its use in field settings. Major theoretical areas (anxiety, motivation, cohesion, etc.) and their application in sport.

Prerequisite: KIN 167 and KIN 168 (or equivalent).

Normal Grade Rules
3 units

KIN 268. Evidence Based Research and Practice in Management and Assessment of Injuries to Lower Extremities

Multidisciplinary approach for recognition, initial care, treatment, and rehabilitation used to return athletes to lower extremity pre-injury fitness levels. (First course in two-course series.)

Prerequisite: BIOL 065, BIOL 066, KIN 155, KIN 158 and KIN 188.

Normal Grade Rules
2 units

KIN 269. Evidence Based Research and Practice in the Mgmt and Assessment of Injuries to the Upper Extremity

Multidisciplinary approach for recognition, initial care, treatment and rehabilitation used to return an athlete to upper extremity pre-injury fitness levels (second course in two-course series).

Prerequisite: KIN 268.

Normal Grade Rules
2 units

KIN 271. Advanced Topics in Athletic Training

This course is designed to improve the basic knowledge of athletic training students. Topics include outcome research and practical applications for mild traumatic brain injury, alteration evaluation skills for athletic injuries, and research design in the field of athletic training.

Normal Grade Rules
3 units

KIN 272. Evidence Based Research in the Practice of Therapeutic Exercise

Investigation of the scientific and philosophical bases of therapeutic exercise and therapeutic modalities with reference to the rehabilitation process, and to acquire skills necessary for prudent application of current modalities and techniques.

Prerequisite: KIN 155, KIN 158 and KIN 188 (or equivalent).

Normal Grade Rules
3 units

KIN 273. Evidence Based Research in the Practice of Therapeutic Modalities

An advanced course designed to critically evaluate the scientific and philosophical bases of therapeutic modality use. The course is intended to provide the student with the information necessary to perform prudent clinical applications of therapeutic modalities on orthopedic injuries.

Normal Grade Rules
2 units

KIN 280. Advanced Fieldwork in Sport Management

Advanced practical experience in a professional work setting under the direct supervision of qualified sport management professionals. Interns assigned a variety of duties and experiences.

Prerequisite: Graduate standing or instructor consent.

Credit / No Credit
1-3 units

KIN 281. Legal and Ethical Aspects of Sport

Topics include sport and its relationship to the common law of contracts and torts, the statutory law of labor and antitrust, constitutional and civil rights law, communications law and ethics.

Prerequisite: Graduate standing

Normal Grade Rules
3 units

KIN 282. Marketing and Social Aspects of Sport

Sport and its relationship to market research designs, strategies, plans, fundraising, consumer behavior, political, sociological and historical parameters.

Prerequisite: Graduate standing or instructor consent.

Normal Grade Rules
3 units

KIN 283. Management, Leadership and Communication in Sport

Management, administration, organizational behavior and communication theories, problems and issues in leadership in sport.

Prerequisite: Graduate standing.

Normal Grade Rules
3 units

KIN 284. Financial Aspects of Sport

Examines traditional and innovative methods of revenue acquisition available to sport organizations. Current financial challenges, innovative concepts and strategies used in financing sport operation.

Prerequisite: Graduate standing or approval of the instructor.

Normal Grade Rules
3 units

KIN 285. Internship in Kinesiology

Advanced practical experience in a professional work setting under direct supervision of qualified professionals. Interns assigned various duties and experiences related to areas of specialization.

Prerequisite: Graduate standing and instructor consent.

Repeatable for credit
Credit / No Credit
1-3 units

KIN 286. Independent Study

Independent study through research projects, creative intellectual productions or directed reading/literature review related to the field of Kinesiology. May be repeated for a total of 6 units.

Prerequisite: Graduate Standing

Repeatable for credit
Credit / No Credit
1-3 units

KIN 287. Advanced Clinical Exercise Physiology

Pathophysiology and recent advances in the diagnosis and treatment of cardiovascular, metabolic, neurologic, and musculoskeletal diseases and disorders, including innovative biotechnological approaches. Content will include physiological mechanisms of these clinical conditions that affect responses to acute exercise and chronic adaptations to exercise training.

Prerequisite: KIN 187

Normal Grade Rules
3 units

KIN 289. Master of Arts Seminar in Kinesiology

The purpose of this seminar course is to offer an intensive, comprehensive focus of a specific topic, and/or theme as it relates to the study of kinesiology.

Prerequisite: Graduate standing or instructor consent.

Normal Grade Rules
3 units

KIN 292A. Leadership and Administration in Athletic Training

Current problems and issues related to the athletic training profession. Topics include professional ethics and competency, medicolegal issues, administration of athletic training programs, stress management and drug testing.

Normal Grade Rules
1 unit

KIN 292B. Seminar in Sports Medicine II

Current issues related to the athletic training profession. Topics include eating disorders, injury rehabilitation and management. Related topics of medical and scientific nature will be discussed with guest lecturers.

Misc/Lab: Lecture 2 hours/Supervision 1.5 hours

Normal Grade Rules
2 units

KIN 293A. Fieldwork in Athletic Training I

Advanced practical experience in athletic training under the direct supervision of qualified sports medicine professionals.

Misc/Lab: Lecture 3 hours/Supervision 1.5 hours.

Credit / No Credit
2 units

KIN 293B. Fieldwork in Athletic Training II

Advanced practical experience in athletic training under the direct supervision of qualified sports medicine professionals.

Prerequisite: KIN 293A.

Misc/Lab: Lecture 3 hours/Supervision 1.5 hours.

Credit / No Credit
2 units

KIN 293C. Fieldwork in Athletic Training III

Advanced practical experience in athletic training under the direct supervision of qualified sports medicine professionals.

Prerequisite: KIN 293A, KIN 293B.

Misc/Lab: Lecture 3 hours/Supervision 1.5 hours.

Credit / No Credit
2 units

KIN 293D. Fieldwork in Athletic Training IV

Advanced practical experience in athletic training under the direct supervision of qualified sports medicine professionals.

Prerequisite: KIN 293A, KIN 293B and KIN 293C.

Misc/Lab: Lecture 3 hours/Supervision 1.5 hours.

Credit / No Credit
2 units

KIN 296A. Advanced Topics in Athletic Training

This course covers current topics in the field of athletic training education. Topics may include but are not limited to: outcome research and practical applications for concussion management, movement patterns, and shoulder orientation and scapular adaptation for overhead athletes.

Normal Grade Rules
3 units

KIN 298. Special Studies

Advanced individual research and projects.

Prerequisite: KIN 250.

Repeatable for credit
Mandatory CR/NC/RP
3 units

KIN 299. Master's Thesis or Project

Prerequisite: KIN 250 and admission to candidacy for the master's degree.

Repeatable for credit
Mandatory CR/NC/RP
1-6 units

KINESIOLOGY TEACHER EDUCATION

UPPER DIVISION

KNED 184I. Student Teaching for Kinesiology Individualized Interns

Supervised student teaching in Kinesiology class(es) in the public school where the student is employed as an individualized intern.

Prerequisite: Admission to Single Subject Credential Program; kinesiology advisor and Single Subject Coordinator consent

Repeatable for credit
Credit / No Credit
2-4 units

KNED 184Y. Student Teaching II: Classroom Teaching

Minimum 80-120 class periods of classroom, teaching laboratory or field teaching in appropriate single subjects, grades K-12 and related teaching activities and seminar.

Prerequisite: Joint approval of major and Education departments.

Repeatable for credit
Credit / No Credit
4-6 units

KNED 184Z. Student Teaching III - Classroom Teaching

Notes: May be in different subject/school and will be at a different grade level.

See KNED 184Y.

Repeatable for credit
Credit / No Credit
4-6 units

KNED 339. Instructional Materials and Procedures in Physical Education

Application of theories of learning and principles of teaching to the selection of instructional procedures to be used in physical education. Practical experience provided.

Prerequisite: KIN 170B, KIN 172 and KIN 179 and department teacher education approval.

Notes: Physical education majors and minors only.

Misc/Lab: Lecture/activity 4 hours.

Normal Grade Rules
3 units

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Linguistics and Language Development Department Courses

LINGUISTICS

LOWER DIVISION

LING 020. Nature of Language
Introduction to the nature of language as a social institution and practice in observing language structure and use in local speech communities. GE Area: D1

Normal Grade Rules
GE: D1
3 units

LING 021. Language and Thinking
Exploring systems of language and logic in oral and written discourse, with a focus on the role of shared cultural assumptions, language style and the media of presentation in shaping the form and content of argumentation. GE Area: A3

Normal Grade Rules
GE: A3
3 units

LING 022. Language across the Lifespan
Introduction to what is known about how people successfully learn second languages, with a focus on physiological, psychological, social-cultural and linguistic factors that affect second language acquisition, and on skills and strategies that promote language learning across the lifespan. GE Area: E

Normal Grade Rules
GE: EE
3 units

LING 024. Language Variation in Space, Time, & Culture
Exploring the diverse structural patterns and social functions found in English; analyzing the social, cultural, political, historical, and technological factors underlying language change; developing critical thinking and effective argumentation in writing. GE Area: A3 Or D1

Normal Grade Rules
GE: A3D1
3 units

LING 025. Languages of the World
Explore the diversity of the world's languages through studying major language families, including basic language structure, language change and historical relationships, the sociocultural aspects of language, typological patterns and universals, writing systems and language vitality and endangerment. GE Area: D1

Normal Grade Rules
GE: D1
3 units

LING 092. Int'l Program Studies

Repeatable for credit
Mixed Grading
1-9 units

UPPER DIVISION

LING 101. Introduction to Linguistics
Scientific study of language. Phonetics, phonology, morphology, syntax, semantics, pragmatics, sociolinguistics, psycholinguistics, historical linguistics, language universals and typology.

Prerequisite: Upper division standing.

Normal Grade Rules
3 units

LING 107. Patterns of English
Description of the sound, word-formation, sentence, semantic and discourse patterns of English. Analysis of contemporary examples of spoken and written English.

Prerequisite: Written Communication I (or equivalent).

Normal Grade Rules
3 units

LING 108. Introduction to Second Language Development, Teaching, and Assessment
Theoretical and practical approaches to how people learn first, second, and foreign languages in bilingual and multilingual educational settings. Methods, materials, and assessment of language development for English language learners K-16.

Prerequisite: LING 101 or ENGL 103 or LLD 107.

Normal Grade Rules
3 units

LING 111. Introduction to Linguistic Phonetics
Production, recognition and accepted transcription of speech sounds used in languages. Physiological and acoustic analysis of speech.

Prerequisite: LING 101 or instructor consent.

Normal Grade Rules
3 units

LING 112. Introduction to Syntax
Introduction to the study of sentence structure: Syntactic constructions; constituent structure; grammatical relations; dependency relations; problems in syntactic analysis; formal systems for describing syntactic structure; typological range of syntactic phenomena.

Prerequisite: LING 101.

Normal Grade Rules
3 units

LING 113. Introduction to Phonology
Examination of sound patterns found in the world's languages, their description via traditional phonemic analysis, distinctive feature analysis and rule writing in the format of generative phonology.

Prerequisite: LING 101 and LING 111.

Normal Grade Rules
3 units

LING 114. Introduction to Semantics and Discourse
Approaches to meaning, truth conditional semantics, relation of semantics to pragmatics and speech act theory (e.g., presupposition, deixis, adjacency pairs) and text structure (cohesion).

Prerequisite: LING 101 or instructor consent.

Normal Grade Rules
3 units

LING 115. Corpus Linguistics
Introduction to the use of large collections of computer-readable text ("corpora") in linguistics. Focus on text processing techniques and quantitative data analysis. Other topics: philosophical foundations; lexical resources; the WWW as corpus; applications to stylistics, language teaching, and sociolinguistics.

Prerequisite: LING 101 and CS 022A, or instructor consent

Normal Grade Rules
3 units

LING 122. English as a World Language
A survey of the ways and the purposes which English is used in diverse societies and cultures around the world, including the United States; implications for international and cross-cultural communication. GE Area: V

Prerequisite: Passage of the Writing Skills Test (WST) or ENGL/LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

Note: All SJSU Studies courses require completion of the WST and upper division standing.

Normal Grade Rules
GE: V
3 units

LING 123. Sound and Communication
Basic acoustics and nature of sound as applied to the study of vocal communication by humans and other animals. Voice communication as transmission of a speech code via sound. GE Area: R

Prerequisite: Passage of the Writing Skills Test (WST) or ENGL/LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

Note: All SJSU Studies courses require completion of the WST and upper division standing.

Normal Grade Rules
GE: R
3 units

LING 124. Introduction to Speech Technology
Strategies in man-machine communication, with a focus on speech recognition and speech synthesis. Computer modeling of speech production and perception.

Prerequisite: LING 101, LING 111 or instructor consent.

Normal Grade Rules
3 units

LING 125. Introduction to Historical and Comparative Linguistics

Why and how languages change; how linguists go about studying, documenting and explaining such change. Social and phonetic motivations for change. Language families and proto-languages.

Prerequisite: LING 101, LING 111 or instructor consent.

Normal Grade Rules
3 units

LING 129. Culture, Language and Ethnicity in the U.S.

The role of language in the formation of culture and ethnicity in the U.S. Language and culture contact between indigenous, colonial and immigrant peoples. GE Area: S

Prerequisite: Passage of the Writing Skills Test (WST) or ENGL/LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

Note: All SJSU Studies courses require completion of the WST and upper division standing.

Normal Grade Rules
GE: S
3 units

LING 161. Psycholinguistics

Psychology of language. Child language acquisition, language disorders, representation of language in the brain, cognitive aspects of linguistic communication, theories of language in linguistics and psychology.

Prerequisite: LING 101.

Normal Grade Rules
3 units

LING 162. Introduction to Morphology

Examination of the morphological structure of words; morphological typology; morphemes, morphs and allomorphs; issues in inflectional and derivational morphology; morphophonemics; word syntax; productivity, markedness, iconicity.

Prerequisite: LING 101 or instructor consent.

Normal Grade Rules
3 units

LING 165. Introduction to Natural Language Processing

Computer processing of text using data-driven (statistical) and knowledge-driven (rule-based) methods. Applications including spelling correction, information retrieval, question answering, and machine translation.

Prerequisite: LING 101 and LING 115, or instructor consent.

Normal Grade Rules
3 units

LING 166. Sociolinguistics: Cross-Cultural Communication

Relationship between language and society; inter- and intracultural communication; non-verbal communication; language and cognition; language planning.

Prerequisite: LING 101 or Instructor Consent

Normal Grade Rules
3 units

LING 180. Individual Studies

Individual work by arrangement.

Prerequisite: Instructor consent and department chair approval.

Repeatable for credit
Credit / No Credit
1-3 units

GRADUATE

LING 201. Phonology: Theory and Applications

Survey of the theoretical issues in phonology; language universals; notions of markedness and natural rules; psychological reality of phonological constructs. Applications to language teaching, speech synthesis and automatic speech recognition.

Prerequisite: LING 101, LING 111 and LING 113.

Normal Grade Rules
3 units

LING 202A. Syntactic Theory

Aspects of syntax and grammatical theory.

Prerequisite: LING 101 and LING 112.

Normal Grade Rules
3 units

LING 203. Semantic Structures

Aspects of meaning and semantic theory.

Prerequisite:LING 101 and LING 114, or instructor consent.

Normal Grade Rules
3 units

LING 213. Linguistic Field Methods

Methods in phonological, morphological and syntactic analysis of linguistic data obtained from native-speaker informants.

Prerequisite: LING 101, LING 111, LING 112 and LING 113 (or equivalents).

Normal Grade Rules
3 units

LING 298. Individual Studies

Advanced individual research.

Prerequisite: Instructor consent.

Repeatable for credit
Mandatory CR/NC/RP
1-4 units

LING 299. Master's Thesis or Project

Thesis or project research.

Repeatable for credit
Mandatory CR/NC/RP
1-6 units

UPPER DIVISION

LING 1290R. Culminating Experience Supervision

Continued work on thesis or project.

Prerequisite: Outstanding RP grade in a preceding semester in a project or thesis class.

Note: No Degree Credit.

Repeatable for credit
No Degree Credit
1 unit

LINGUISTICS AND LANGUAGE DEVELOPMENT

UPPER DIVISION

LLD 100A. Writing Competency through Genres

Satisfies the WST requirement if passed with a C or better. Prepares students for 100W through drafting feedback and revision to demonstrate competency. Develops the ability to analyze written genres used in the students' chosen disciplines and to write analytical and reflective essays.

Prerequisite: Must have failed the WST.

Note: A CR/NC option may not be used to satisfy the WST requirement.

Normal Grade Rules
3 units

LLD 100W. Writing Workshop

Advanced composition. Instruction and practice in reading, discussing and writing about issues germane to the student's major field of study. GE Area: Z

Prerequisite: A3 or equivalent second semester composition course (with a grade of C- or better); Completion of core GE, satisfaction of Writing Skills Test and upper division standing.

Note: Must be passed with C or better to satisfy the CSU Graduation Writing Assessment requirement (GWAR).

Normal Grade Rules
GE: Z
3 units

LLD 100WB. Writing Workshop for Business Students

Instruction and practice in reading, oral interaction and writing activities germane to the genres of the business world. GE Area: Z

Prerequisite: Completion of Core GE, ENGL 2 or any Area A3 Course (Critical Thinking and Writing) with a grade of C- or better, Passage of a Writing Skills Test (WST) or ENGL/LLD 100A with a C or better (C- not accepted), and Upper division standing (60 units).

Note: Must be passed with C or better to satisfy the CSU Graduation Writing Assessment requirement (GWAR).

Normal Grade Rules
GE: Z
3 units

LLD 182. Tutorial Practicum

Directed practical experience in tutoring academic English at the college level.

Prerequisite: LING 101, LLD 107 or ENGL 103.

Repeatable for credit
Credit / No Credit
1 unit

GRADUATE

LLD 250W. Becoming a Professional in Linguistics/TESOL

Course focuses on the research and communication skills needed to become an active and effective member of the professional community in linguistics or TESOL.

Note: This course satisfies graduate-level GWAR in this master's program.

Repeatable for credit
Normal Grade Rules
GE: GWAR
3 units

LLD 260. English Structures for Teaching I

The phonological, morphological and syntactic structures of English for pedagogical purposes.

Prerequisite: LING 101 and LLD 107.

Normal Grade Rules
3 units

LLD 261. English Structures for Teaching II

The semantic, pragmatic and discourse structure of English for pedagogical purposes.

Prerequisite: LLD 260 or Instructor Consent

Normal Grade Rules
3 units

LLD 270. Second Language Acquisition

Products and processes of child and adult second language acquisition: classroom instruction versus untutored settings; psychological variables; individual differences; interlanguage hypothesis; input and interaction in language development; organization of language systems of bilinguals.

Prerequisite: LING 101.

Normal Grade Rules
3 units

LLD 271. Intercultural Communication and Second Language Acquisition

The social and cultural factors that affect first and second language acquisition and use. Understanding how to function in intercultural settings.

Prerequisite: LING 101.

Normal Grade Rules
3 units

LLD 280. Methods and Materials for Teaching English to Speakers of Other Languages

A critical approach to evaluating learners' needs, designing curricula, identifying and evaluating materials, and applying appropriate methods and techniques in the ESL classroom.

Prerequisite: LING 101.

Normal Grade Rules
3 units

LLD 282. Practicum in Teaching English to Speakers of Other Languages

Directed practical experience in teaching English to speakers of other languages.

Prerequisite: LLD 280.

Credit / No Credit
3 units

LLD 283. Curriculum and Assessment in TESOL

Theories and practices of needs analysis, curriculum design and assessment. Hands-on experience in identifying learner needs, determining instructional objectives, designing curricula/syllabi and constructing appropriate assessment instruments.

Prerequisite: LLD 280 (or equivalent).

Normal Grade Rules
3 units

LLD 293. Teaching College-level Reading and Writing

Theoretical foundations of literacies; strategies and approaches for teaching academic reading and writing to culturally and linguistically diverse classes in college and other post-secondary contexts

Prerequisite: LING 101, LING 107, or ENGL 103

Normal Grade Rules
3 units

LLD 298. Individual Studies

Advanced individual research.

Prerequisite: Instructor consent.

Repeatable for credit
Mandatory CR/NC/RP
1-4 units

LLD 299. Master's Thesis or Project

Thesis or project research.

Repeatable for credit
Mandatory CR/NC/RP
1-6 units

UPPER DIVISION

LLD 1004. Tutorial for Successful Writing

Tutorial consists of a combination of one-on-one interaction with a tutor and facilitated word processing in the computer lab. It is designed to support the development of academic writing skills.

Notes: No Degree Credit.

Repeatable for credit
No Degree Credit
1 unit

LLD 1290R. Culminating Experience Supervision

Continued work on thesis or project.

Prerequisite: Outstanding RP grade in a preceding semester in a project or thesis class

Note: No Degree Credit.

Repeatable for credit
No Degree Credit
1 unit

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Mathematics and Statistics Department Courses

MATHEMATICS

LOWER DIVISION

MATH 001. Mathematical Reasoning

Focus on foundational mathematical skills and knowledge in the context of contemporary society. GE Area: B4.

Corequisite: MATH 1001S required for Math Enrollment Categories M-III and M-IV.

Normal Grade Rules
GE: B4
3 units

MATH 010. Mathematics for General Education

Topics include methods of proof, problem solving, trigonometry, probability, statistics, applications to scheduling and apportionment, population studies, consumer math, theory of games, polyhedra, networks, graph theory, linear programming. GE Area: B4

Prerequisite: Math Enrollment Category M-I or M-II, or MATH 001 with a grade of C- or better.

Normal Grade Rules
GE: B4
3 units

MATH 010A. Mathematics in Art, Music, and Politics

An accessible look into some beautiful ideas of mathematics in art, music, and politics. Topics include Plane Symmetries, Tilings, Perspective Drawing, Musical Intervals, Scales and Temperament, Timbre and Periodic Functions, Statistical Measures of Inequality, Voting Systems, Apportionment. GE Area: B4

Corequisite: MATH 1010AS required for Math Enrollment Categories M-III and M-IV.

Normal Grade Rules
GE: B4
3 units

MATH 012. Number Systems

Structure of the real number system, numeration systems, elementary number theory, and problem-solving techniques; technology integrated throughout the course. GE Area: B4. This course is intended for future elementary teachers. The sequence of Math 12, 105, and 106 satisfies subject matter competence in K-8 mathematics.

Prerequisite: Two years of high school algebra; one year of high school geometry; Math Enrollment Category M-I or M-II, or MATH 001 with a grade of C- or better.

Normal Grade Rules
GE: B4
3 units

MATH 015F. Statway Part A: Statistics-Concepts & Methods

See UNVS 015F.

Normal Grade Rules
3 units

MATH 015S. Statway Part B: Statistics-Concepts & Methods

See UNVS 015S.

Normal Grade Rules
GE: B4
3 units

MATH 018A. College Algebra

Review of basic algebra. Complex numbers, functions, graphs, polynomials, inverse functions, exponential and logarithmic functions.

Prerequisite: Math Enrollment Category M-I, M-II, or M-III; or MATH 001 with a grade of C- or better.

MATH 1018AS required as a corequisite for Enrollment Categories M-III and M-IV, and recommended for Enrollment Category M-II.

Corequisite: MATH 018AW recommended.

Normal Grade Rules
GE: B4
3 units

MATH 018AW. College Algebra Workshop

Students work in groups on college algebra material to help them understand college algebra concepts more thoroughly since it is the groundwork for success in future math courses.

Corequisite: MATH 018A.

Misc/Lab: Activity 2 hours.

Repeatable for credit
Credit / No Credit
1 unit

MATH 018B. Trigonometry

Trigonometric functions: Unit circle, right triangle, analytic; trigonometric identities. Analytic geometry (conic sections). Other topics chosen from: polar coordinates and complex numbers; vectors in two and three dimensions. With MATH 18A, preparation for MATH 30/30P/30PL.

Prerequisite: MATH 18A with a grade of "C-" or better

Normal Grade Rules
3 units

MATH 019. Precalculus

Preparation for calculus: polynomial, rational, exponential, logarithmic and trigonometric functions; analytic geometry. GE Area: B4.

Prerequisite: Math Enrollment Category M-I, M-II, or M-III; or MATH 001 with a grade of C- or better.

Corequisite: MATH 019W; to opt out of MATH 019W, contact the Math Department office. MATH 1019S required as a corequisite for Enrollment Category M-III, and recommended for Enrollment Category M-II.

ABC/No Credit
GE: B4
5 units

MATH 019W. Precalculus Workshop

Designed to help all students excel in MATH 019. Students work in groups on challenging problems to help them understand precalculus concepts more deeply and lay the groundwork for success in future math courses.

Corequisite: enrollment in MATH 019 is required.

Repeatable for credit
Credit / No Credit
1 unit

MATH 030. Calculus I

Introduction to calculus including limits, continuity, differentiation, applications and introduction to integration. Graphical, algebraic and numerical methods of solving problems.

Prerequisite: Math Enrollment Category M-I or M-II and satisfactory score on the Calculus Placement Exam; MATH 019 with a grade of B or better to waive the placement exam; or MATH 018A and MATH 018B with a grade of B or better in each to waive the placement exam.

Normal Grade Rules
GE: B4
3 units

MATH 030P. Calculus I with Precalculus

Selected topics in precalculus. Introduction to calculus including limits, continuity, differentiation, applications, and introduction to integration. Graphical, algebraic and numerical methods of solving problems. Prerequisite: Math Enrollment Category M-I or M-II and satisfactory score on the Calculus Placement Exam; MATH 019 with a grade of C- or better to waive the placement exam; or MATH 018A and MATH 018B with a grade of C- or better in each to waive the placement exam.

Normal Grade Rules
GE: B4
5 units

MATH 030PL. Calculus I with Precalculus

Selected topics in precalculus. Introduction to calculus including limits, continuity, differentiation, applications, and introduction to integration. Graphical, algebraic and numerical methods of solving problems. GE Area: B4.

Prerequisite: Math Enrollment Category M-I or M-II and satisfactory score on the Calculus Placement Exam; MATH 019 with a grade of C- or better to waive the placement exam; or MATH 018A and MATH 018B with a grade of C- or better in each to waive the placement exam. Note: MATH 030PL is treated as a repeat for students who have taken MATH 030 or MATH 030P. Misc/Lab: Lecture 5 hours/Activity 3 hours

Normal Grade Rules
GE: B4
6 units

MATH 030W. Calculus I Workshop

Designed to help all students excel in Calculus I. Students work in groups on challenging calculus problems to help them understand the concepts in Calculus I more deeply and lay the groundwork for success in future math courses.

Corequisite: MATH 30 or MATH 30P required.

Repeatable for credit
Credit / No Credit
1 unit

MATH 031. Calculus II

Definite and indefinite integration with applications. Sequences and series. Graphical, algebraic and numerical methods of solving problems. GE Area B4.

Prerequisite: AP Calculus AB score 3 to 5, AP Calculus BC/AB Subscore 3-5, satisfactory score on the Calculus Placement Exam, or MATH 030 or 030P or 030PL (with a grade of C- or better).

Corequisite: MATH 031W; to opt out of MATH 031W, contact the Math Department office.

Note: Passing this course with a grade of "C-" or better course fulfills GE Area B4.

Normal Grade Rules
GE: B4
4 units

MATH 031W. Calculus II Workshop

Designed to help all students excel in Calculus II. Students work in groups on challenging calculus problems to help them understand the concepts in Calculus II more deeply and lay the groundwork for success in future math courses.

Pre/Corequisite: enrollment in MATH 31 is required.

Repeatable for credit
Credit / No Credit
1 unit

MATH 032. Calculus III

Functions of more than one variable, partial derivatives, multiple integrals and vector calculus. Graphical, algebraic and numerical methods of solving problems. GE Area B4.

Prerequisite: AP Calculus BC score 3 to 5, MATH 031 (with a grade of C- or better).

Corequisite: MATH 032W; to opt out of MATH 032W, contact the Math Department office.

Normal Grade Rules
GE: B4
3 units

MATH 032H. Honors Multivariable Calculus

Functions of more than one variable, partial derivatives, and multiple integrals. Vector fields, line and surface integrals, Green's Theorem, Stokes' Theorem, Divergence Theorem. Applications to engineering and science.

Prerequisite: A score of 4 or 5 on the AP Calculus BC exam or Instructor Consent.

Misc/Lab: Lecture 3 hours/Lab 3 hours

Normal Grade Rules
4 units

MATH 032W. Calculus III Workshop

Designed to help all students excel in Calculus III. Students work in groups on challenging calculus problems to help them understand the concepts in Calculus III more deeply and lay the groundwork for success in future courses.

Corequisite: Enrollment in MATH 032 required

Repeatable for credit
Credit / No Credit
1 unit

MATH 042. Discrete Mathematics

Sets, logic, methods of proof including mathematical induction, functions, relations, elementary combinatorics, probability, Boolean algebras.

Prerequisite: MATH 19 with a grade of "C" or better, or eligibility for MATH 30 or 30P or 30PL.

Normal Grade Rules
3 units

MATH 042W. Discrete Math Workshop

A course designed to help all students excel in Discrete Mathematics. Students work in groups on challenging discrete math problems to help them understand the concepts in discrete math more deeply and lay the groundwork for success in future courses.

Corequisite: Concurrent enrollment in MATH 042 required.

Repeatable for credit
Credit / No Credit
1 unit

MATH 050. Scientific Computing I

See METR 050.

Normal Grade Rules
2 units

MATH 070. Finite Mathematics

Systems of linear equations and inequalities, matrices, linear programming, set theory and probability theory, applications to business and to social sciences.GE Area B4.

Prerequisite: MATH 001 with a grade of C- or better, or satisfactory score on the Calculus Placement Exam.

Normal Grade Rules
GE: B4
3 units

MATH 071. Calculus for Business and Aviation

Functions and graphs, limits, continuity, differentiation, integration, partial differentiation. Emphasis on business and economics applications. GE Area B4. Prerequisite: Math Enrollment Category M-I or M-II and satisfactory score on the Calculus Placement Exam; MATH 019 with a grade of C- or better to waive the placement exam; or MATH 018A with a grade of C- or better to waive the placement exam. Corequisite: MATH 071W; to opt out of MATH 071W, contact the Math Department office.

Normal Grade Rules
GE: B4
3 units

MATH 071W. Calculus Workshop for Business/ Aviation

Designed to help all students excel in Calculus for Business/Aviation. Students work in groups on challenging calculus problems to help them understand the concepts in calculus more deeply and lay the groundwork for success in future courses.

Corequisite: Enrollment in MATH 071 is required.

Repeatable for credit
Credit / No Credit
1 unit

UPPER DIVISION

MATH 100W. Technical Writing Workshop

Advanced writing through preparation of technical reports and presentations. Improving skills for writing subject-related reports, project proposals and personal resumes through practice and evaluation. Course assignments will be related to issues concerning careers in mathematics and mathematics education. GE Area: Z

Prerequisite: A3 or equivalent second semester composition course (with a grade of C- or better); Completion of core GE, satisfaction of Writing Skills Test and upper division standing.

Note: All SJSU Studies courses require completion of the WST and upper division standing. Must be passed with C or better to satisfy the CSU Graduation Writing Assessment requirement (GWAR).

Normal Grade Rules
GE: Z
3 units

MATH 101. Problem Solving for Teachers

Problem solving involving elementary number theory, algebra, geometry, logic, measurement, probability and statistics. Selected problems explored and extended across content strands. Various instructional methods and assessment alternatives modeled. Designed specifically for teachers of mathematics, grades K-8.

Prerequisite: MATH 106 (with a grade of "C-" or better) or instructor consent.

Normal Grade Rules
3 units

MATH 102. Secondary School Mathematics

Secondary school mathematics from an advanced viewpoint, plus topics from higher mathematics. Emphasizes inductive reasoning in problem solving. Applications useful to junior and senior high school teachers.

Prerequisite: Equivalent of mathematics minor (with 9 upper division units) or instructor consent.

Normal Grade Rules
3 units

MATH 104. History of Mathematics

Mathematical development from earliest times to the twentieth century.

Prerequisite: MATH 42 and MATH 115 (with a grade of "C-" or better in each), or instructor consent.

Normal Grade Rules
3 units

MATH 105. Concepts in Mathematics, Probability, Statistics

Introduction to functions and algebraic reasoning, introduction to probability, data, graphs, statistics, problem solving; technology integrated throughout the course. This course is intended for future elementary teachers. The sequence of Math 12, 105, and 106 satisfies subject matter competence in K-8 mathematics.

Prerequisite: Two years of high school algebra, one year of high school geometry, MATH 12 with a "C-" or better.

Normal Grade Rules
3 units

MATH 106. Intuitive Geometry

Introductory geometry, measurement, inductive and deductive reasoning, introduction to transformations, and problem-solving techniques; technology integrated throughout the course. This course is intended for future elementary teachers. The sequence of Math 12, 105, and 106 satisfies subject matter competence in K-8 mathematics.

Prerequisite: MATH 012 and MATH 105 with grades of "C-" or better

Normal Grade Rules
3 units

MATH 107A. Explorations in Algebra

Comprehensive view of school algebra primarily for the mathematical preparation of teachers. The computer will be used to generate examples, investigate relationships, explore algorithms and solve problems. Functions and relations used as a unifying theme throughout.

Prerequisite: MATH 106 (with a grade of "C-" or better), or instructor consent.

Normal Grade Rules
3 units

MATH 107B. Explorations in Geometry

Comprehensive view of elementary geometry primarily for the mathematical preparation of teachers. The computer will be used to investigate two- and three-dimensional patterns, measurement and parallelism. Transformational approach to congruence and similarity. Nature of inductive reasoning and deductive proof.

Prerequisite: MATH 106 (with a grade of "C-" or better), or instructor consent.

Normal Grade Rules
3 units

MATH 108. Introduction to Abstract Mathematics and Proofs

The purpose of this course is to develop students' mathematical maturity and skill with proofs. Material covered will include logic; set theory including functions, relations, and cardinality; the real number system, including the completeness axiom; and selected topics.

Prerequisite: MATH 31 and MATH 42 (with a grade of "C-" or better in each) or instructor consent.

Normal Grade Rules
3 units

MATH 112. Vector Calculus

Vector fields, line and surface integrals, Green's Theorem, Stokes' Theorem, Divergence Theorem and advanced topics such as differential forms or applications to mechanics, fluid mechanics, or electromagnetism.

Prerequisite: MATH 32 (with a grade of "C-" or better) or instructor consent.

Normal Grade Rules
3 units

MATH 113. Differential Geometry

Properties of curves and surfaces, Frenet-Serret formulas and the fundamental forms. Study of curves and surfaces in the small by means of differential calculus.

Prerequisite: MATH 32 and MATH 129A (with a grade of "C-" or better in each) or instructor consent.

Notes: Offered only occasionally.

Normal Grade Rules
3 units

MATH 115. Modern Geometry and Transformations

Synthetic and analytic theory of projective transformations, similarities, Euclidian motions, inversive geometry and an introduction to non-Euclidean geometry.

Prerequisite: MATH 31 (with a grade of "C-" or better) or instructor consent.

Normal Grade Rules
3 units

MATH 123. Differential Equations and Linear Algebra

Matrices, determinants, systems of linear equations, vector geometry, linear transformations, eigenvalues and eigenvectors, diagonalization, first order differential equations, linear systems of differential equations, higher order differential equations, Laplace transforms.

Prerequisite: Math 31 (with a grade of "C-" or better) or instructor consent.

Normal Grade Rules
3 units

MATH 123W. Differential Equations and Linear Algebra Workshop

A course designed to help all students excel in Linear Algebra and Ordinary Differential Equations (ODE's). Students work in groups on challenging problems to help them understand the concepts of Linear Algebra and ODE's more deeply and lay the groundwork for success in future courses.

Prerequisite: Math 32 (with a grade of C- or better)

Corequisite: Math 123

Repeatable for credit
Credit / No Credit
1 unit

MATH 126. Theory of Numbers

Divisibility, prime numbers, congruences of first and higher degrees, theorems of Fermat, Euler and Wilson. Quadratic residues.

Prerequisite: MATH 31 and MATH 42 (with a grade of "C-" or better in each) or instructor consent.

Normal Grade Rules
3 units

MATH 127. Applied and Industrial Algebra

Fundamental topics of abstract algebra (groups, rings, fields) from the viewpoint of real-world application, such as coding theory, robotics, algorithm design, cryptography, integrated circuit design, and signal processing.

Prerequisite: MATH 42 and MATH 129A with a C- or better in each (or instructor consent)

Normal Grade Rules
3 units

MATH 128A. Abstract Algebra I

Group theory: permutation groups, abelian groups, morphism theorems, finite groups. Introduction to rings and fields.

Prerequisite: MATH 108 and MATH 129A (with a grade of "C-" or better in each) or instructor consent.

Normal Grade Rules
3 units

MATH 128B. Abstract Algebra II

Emphasis on rings, integral domains, fields, field extensions, Galois theory.

Prerequisite: MATH 128A (with a grade of "C-" or better) or instructor consent.

Normal Grade Rules
3 units

MATH 129A. Linear Algebra I

Matrices, systems of linear equations, vector geometry, matrix transformations, determinants, eigenvectors and eigenvalues, orthogonality, diagonalization, applications, computer exercises. Theory in Rn emphasized; general real vector spaces and linear transformations introduced.

Prerequisite: MATH 31 (with a grade of "C-" or better) or instructor consent.

Normal Grade Rules
3 units

MATH 129B. Linear Algebra II

Continuation of Math 129A. Abstract vector spaces and linear transformations, diagonalization, Cayley-Hamilton theorem, minimal polynomials, Jordan canonical form. Selected topics from inner product and adjoint, duality, rational canonical form and applications.

Prerequisite: MATH 108 and MATH 129A (with a grade of "C-" or better in each) or instructor consent.

Normal Grade Rules
3 units

MATH 131A. Introduction to Analysis

Properties of real numbers including completeness and compactness. Continuous functions, uniform continuity, the derivative.

Prerequisite: MATH 32 and MATH 108 (with a grade of "C-" or better in each) or instructor consent.

Normal Grade Rules
3 units

MATH 131B. Introduction to Real Variables

The theory of the Riemann integral, sequences and series of functions, spaces of functions.

Prerequisite: Math 131A (with a grade of "C-" or better) or instructor consent.

Normal Grade Rules
3 units

MATH 132. Advanced Calculus

Calculus of several variables; Jacobian, inverse and implicit function theorems, contracting mapping theorem, change of variables in integration and applications.

Prerequisite: MATH 32 and MATH 129A (with a grade of "C-" or better in each), or instructor consent.

Normal Grade Rules
3 units

MATH 133A. Ordinary Differential Equations

First order differential equations, first order linear systems, second order linear equations, applications, Laplace transforms, series solutions. Additional topics.

Prerequisite: MATH 32 or Math 32H (with a grade of "C-" or better) or instructor consent.

Normal Grade Rules
3 units

MATH 133B. Partial Differential Equations

Partial differential equations of physics and engineering, Fourier series, Legendre polynomials, Bessel functions, orthogonal functions, the Sturm-Liouville equation.

Prerequisite: Math 133A or Math 134 (with a grade of "C-" or better) or instructor consent.

Normal Grade Rules
3 units

MATH 133W. Ordinary Differential Equations Workshop

A course designed to help all students excel in Ordinary Differential Equations (ODE's). Students work in groups on challenging problems to help them understand the concepts in ODE's more deeply and lay the groundwork for success in future courses.

Prerequisite: Math 32 (with a grade of C- or better)

Corequisite: Math 133A

Credit / No Credit
1 unit

MATH 134. Ord. Diff. Eqns and Dynamical Systems

First order differential equations and phase lines. Linear systems. Phase portraits. Classification of planar linear systems. Existence and uniqueness of solutions. Flows. Stability of equilibria and periodic orbits. Applications in the physical sciences and engineering.

Prerequisite: MATH 032 and MATH 129A (with a grade of "C-" or better in each), or instructor consent.

Normal Grade Rules
3 units

MATH 138. Complex Variables

Analytic functions, complex integration, residues and power series.

Prerequisite: MATH 32 (with a grade of "C-" or better) or instructor consent.

Normal Grade Rules
3 units

MATH 142. Introduction to Combinatorics

Sets, permutations, combinations, probability, mathematical induction, counting techniques, generating functions, partitions, recurrence relations, inclusion-exclusion. Polya's theorem and applications to computer science, mathematics, engineering and physical sciences.

Prerequisite: MATH 31 and MATH 42 (with a grade of "C-" or better in each) or instructor consent.

Normal Grade Rules
3 units

MATH 143C. Numerical Analysis and Scientific Computing

Development and comparison of important algorithms for scientific computing in terms of efficiency, accuracy and reliability. Topics include nonlinear equations, interpolation, approximation theory, differentiation, integration, differential equations, numerical stability and error analysis. Substantial assignments using contemporary software packages and professional subprogram libraries.

Prerequisite: MATH 032; one of CS 022A, Math 50, CS 046A, CS 049C or CS 049J (with a grade of "C-" or better in each) or instructor consent.

Normal Grade Rules
3 units

MATH 143M. Numerical Analysis and Scientific Computing

Development and comparison of important algorithms for scientific computing in terms of efficiency, accuracy and reliability. Topics include systems of linear equations-direct and iterative methods, least squares problems, eigenvalues and eigenvectors, numerical stability and error analysis. Substantial assignments using contemporary software packages and professional subprogram libraries.

Prerequisite: MATH 129A; one of CS 22A, Math 50, CS 46A or CS 49 (with a grade of "C-" or better in each) or instructor consent.

Normal Grade Rules
3 units

MATH 146. An Introduction to Mathematical Cryptography

Introduction to mathematics that has been useful in cryptography with a focus on the underlying mathematics (abstract algebra, number theory, probability, and combinatorics), and supporting applications (encryption, hash functions, blockchain). Additional topics may be covered.

Prerequisite: MATH 42 and MATH 129A with C- or better, or instructor consent.

Note: Recommended (but not required) one of MATH 108, MATH 163, MATH 126, MATH 127, MATH 142.

Normal Grade Rules
3 units

MATH 150. Theory of Interest

Measurement of interest; time value of money; present and future values of cash flows; applications to annuities, loans, sinking funds, bonds, and portfolios; duration and immunization.

Prerequisite: Math 161A or ISE 130, or instructor consent

Normal Grade Rules
3 units

MATH 161A. Applied Probability and Statistics I

Descriptive and inferential statistics. Collection and analysis of data, discrete and continuous probability models, random variables, Central Limit Theorem, confidence intervals, hypothesis testing.

Prerequisite: MATH 31 (with a grade of "C-" or better) or instructor consent.

Normal Grade Rules
3 units

MATH 161B. Applied Probability and Statistics II

A continuation of Math 161A. Two sample confidence intervals and hypothesis tests, analysis of variance, simple and multiple regression, chi-square tests of homogeneity and goodness-of-fit, other topics as time permits. Use of statistical software is integral to the course. Student project required.

Prerequisite: MATH 161A (with a grade of "C-" or better), or instructor consent

Normal Grade Rules
3 units

MATH 162. Statistics for Bioinformatics

Introduction to the theory and applications of statistical methodology in the biological sciences. Topics include inference, stochastic processes, Markov chains, hidden Markov models, clustering, and gene expression analysis. Applications to current molecular biology and genetics problems. No biology background required.

Prerequisite: MATH 161A (with a grade of "C-" or better) or instructor consent.

Normal Grade Rules
3 units

MATH 163. Probability Theory

Probability axioms; random variables; marginal and conditional density and distribution functions; binomial, geometric, Poisson, gamma and normal probability laws; mathematical expectations, moment generating functions; limit theorems; sampling distributions.

Prerequisite: MATH 32 and MATH 161A (each with a grade of "C-" or better) or instructor consent.

Normal Grade Rules
3 units

MATH 163W. Probability Workshop

Corequisite workshop designed to help all students succeed in Math 163. Students work in groups on probability problems and review material from Math 161A and Math 32 as necessary.

Repeatable for credit
Credit / No Credit
1 unit

MATH 164. Mathematical Statistics

Sampling distributions, confidence intervals, order statistics, sufficient statistics, the Rao-Blackwell Theorem, completeness, uniqueness, point estimation, maximum likelihood, Bayes' methods, testing hypotheses, likelihood ratio tests, categorical data analysis, nonparametric tests.

Prerequisite: MATH 163 (with a grade of "C-" or better) or instructor consent.

Normal Grade Rules
3 units

MATH 167. Programming in SAS

Programming and applying the computer language SAS to perform statistical computations and to analyze large amounts of data. Data preparation and transformations, creating and managing data files, macros, data reporting techniques, basic statistical methods.

MATH 161A (with grade of 'C-' or better), or instructor consent.

Normal Grade Rules
3 units

MATH 167PS. Introduction to Python Programming and SQL

Introduction to Python. Data types, control flow, object-oriented programming, and graphical user interface-driven applications. The class will include designing relational schemas, writing SQL queries, accessing and designing a database, performing database administration. The students will also learn how to perform intermediate data base operations.

Prerequisite: Math 129A, Math 161A, and Math 167R, or instructor consent

Normal Grade Rules
3 units

MATH 167R. Statistical Programming with R

Introduction to the R programming language. Topics include data structures, reading and writing data, databases, data visualization, accessing and creating packages, programming structures and functions.

Prerequisite: MATH 161A with a grade of "C-" or better

Normal Grade Rules
3 units

MATH 170. Mathematical Modeling for the Life Sciences

Mathematical models used in Biology and other life sciences, discrete and continuous processes, mathematical methods for analyzing solutions to the above models, interpretation of mathematical results.

Prerequisite: Math 123, 129A, 133A, or 134 with a grade of C- or better or instructor consent

Normal Grade Rules
3 units

MATH 177. Linear and Non-Linear Optimization

Linear inequalities, the simplex method and other algorithms, duality, integer optimization, convex optimization, quadratic optimization, game theory.

Prerequisite: MATH 070 and MATH 071 (with a grade of 'C-' or better in each); or MATH 129A (with a grade of "C-" or better); or instructor consent.

Normal Grade Rules
3 units

MATH 178. Mathematical Modeling

Basic modeling techniques including graphing, proportion, curve fitting and interpolation, optimization, probability and computer simulation, derivatives and differences. Technology will be incorporated to model applied problems from business/economics, physical/life/social sciences and engineering.

Prerequisite: MATH 129A (with a grade of "C-" or better) or instructor consent.

Normal Grade Rules
3 units

MATH 179. Introduction to Graph Theory

Hamiltonian and Eulerian properties, matching, trees, connectivity, coloring problems and planarity. Emphasis on algorithms and applications, including optimal network flows.

Prerequisite: MATH 42 and MATH 129A (with a grade of "C-" or better in each) or instructor consent.

Normal Grade Rules
3 units

MATH 180. Individual Studies

Individual study in a specific field. Not available to Open University Students.

Prerequisite: Department chair consent.

Repeatable for credit
Credit / No Credit
1-4 units

MATH 180H. Individual Studies for Honors

Senior project on advanced topics in mathematics as determined by the instructor. Written paper and oral presentation of the project required. Intended for students graduating with departmental honors.

Prerequisite: At least junior standing as mathematics major. GPA of 3.5 or higher in the major and department chair consent.

Credit / No Credit
3 units

MATH 180R. Undergraduate Research in Mathematics

Advanced work in specific fields with variable units 1 to 4. Students will work on research topics in mathematics which will vary depending the instructor(s).

Prerequisite: Mathematics major/minor or consent of instructor

Credit / No Credit
1-4 units

MATH 185. Special Topics in Mathematics

Selected topics in Mathematics. Topics vary each semester. Course is repeatable for a maximum total of 12 units of credit.

Prerequisite: Suitable upper division background in mathematics set by instructor.

Repeatable for credit
Normal Grade Rules
3 units

MATH 188I. Student Internships

Professional work experience in an area relevant to the students degree objectives. A written report, oral report and evaluation by a supervisor will be used to demonstrate that the goals of the internship experience have been met.

Prerequisite: Math department project coordinator consent.

Credit / No Credit
3 units

MATH 190. Introduction to MS Level Statistics

Intensive review of mathematical methods. Selected topics from multivariate calculus, linear algebra, probability theory and elementary statistics. Introduction to statistical software including graphics and programming using R. Course will cover indispensable tools necessary for success in the MS statistics program.

Prerequisite: Admission to the MS Statistics Program

Credit / No Credit
1 unit

GRADUATE

MATH 201A. Mathematics for Secondary Teachers

Secondary school mathematics from an advanced viewpoint, plus topics from higher mathematics. Emphasizes inductive reasoning in problem solving. Applications useful to junior and senior high school teachers.

Prerequisite: Equivalent of mathematics minor or instructor consent.

Normal Grade Rules
3 units

MATH 201B. Mathematics for Secondary Teachers

Secondary school mathematics from an advanced viewpoint, plus topics from higher mathematics. Emphasizes deductive reasoning in problem solving. Applications useful to junior and senior high school teachers.

Prerequisite: Equivalent of mathematics minor or instructor consent.

Notes: MATH 201A is not a prerequisite.

Normal Grade Rules
3 units

MATH 203. Applied Mathematics, Computation, and Statistics Projects

Supervised teamwork to solve a substantial problem in mathematics or computer science usually supplied by an outside agency such as a local company. The number of different projects offered and the topics will vary widely. A project usually continues for two consecutive semesters.

Prerequisite: Instructor consent.

Repeatable for credit
Credit / No Credit
3 units

MATH 211A. Geometry of Projective Spaces

Structure of projective planes; finite planes and combinatorics; automorphism groups; configuration theorems and coordinatizations; conics; introduction to projective n-space over a field; topological properties; subgeometries.

Prerequisite: MATH 112 or MATH 115 or instructor consent.

Notes: Alternate years.

Normal Grade Rules
3 units

MATH 213A. Introduction to Smooth Manifolds

Smooth manifolds and maps. Tangent bundle. Sard's theorem, transversality, Whitney embedding theorem. Vector fields and flows on manifolds, Lie derivative, Lie groups and Lie algebras. Frobenius theorem, differential forms, Stokes' theorem. Basic Morse theory. Additional topics chosen by the instructor.

Prerequisites: MATH 113 or MATH 175 or MATH 132; or instructor consent.

Notes: Alternate years.

Normal Grade Rules
3 units

MATH 213B. Introduction to Riemannian Geometry

Riemannian metric and Levi-Civita connection. Geodesics, completeness and Hopf-Rinow theorem. Curvature. First and second variations of arc-length. Spaces of constant curvature. Additional topics selected by the instructor such as theorems of Myers, Hadamard, Synge, and Gauss-Bonnet.

Prerequisites: MATH 213A or instructor consent.

Notes: Alternate years.

Normal Grade Rules
3 units

MATH 221A. Higher Algebra I

Topics from groups, rings, integral domains, modules, fields, vector spaces.

Prerequisite: MATH 128B or instructor consent.

Normal Grade Rules
3 units

MATH 221B. Higher Algebra II

Continuation of Math 221A with additional advanced topics in algebra selected by instructor.

Prerequisite: MATH 221A or instructor consent.

Normal Grade Rules
3 units

MATH 226. Theory of Numbers

Advanced topics in number theory selected by the instructor. Emphasis may be in algebraic number theory (e.g. Diophantine equations), analytic number theory (e.g. the prime number theorem), and/or computational number theory (e.g. cryptography).

Prerequisite: MATH 126 and MATH 128A or instructor consent.

Notes: Alternate years.

Normal Grade Rules
3 units

MATH 229. Advanced Matrix Theory

Eigenvalues, unitary equivalence and Schur's theorem. Normal, Hermitian and symmetric real matrices. Positive definite matrices, polar and singular value factorizations, and selected topics at the discretion of the instructor.

Prerequisite: MATH 129B or instructor consent.

Notes: Alternate years.

Normal Grade Rules
3 units

MATH 231A. Real Analysis

Sigma algebras, construction of measures, differentiation, product measures, integration theory, the spaces L1 and C.

Prerequisite: MATH 131B or instructor consent.

Normal Grade Rules
3 units

MATH 231B. Functional Analysis

Function spaces and their duals, operators on function spaces, applications to analysis (classical and functional) and topics selected at the discretion of the instructor.

Prerequisite: MATH 231A or instructor consent.

Normal Grade Rules
3 units

MATH 233A. Applied Mathematics I

Derivation of the partial differential equations of classical mathematical physics. Existence and uniqueness of solutions of first order ordinary and partial differential equations. The classical theory of initial and boundary value problems for hyperbolic, parabolic and elliptic equations. Fourier series and transforms. Nonlinear partial differential equations.

Prerequisite: MATH 133B or instructor consent.

Normal Grade Rules
3 units

MATH 234. Advanced Dynamical Systems

Continuous and discrete dynamical systems with applications. Topics include stability of equilibria and closed orbits, structural stability, applications in classical mechanics, biology and engineering, including control systems.

Prerequisite: MATH 134 or instructor consent.

Notes: Alternate years.

Normal Grade Rules
3 units

MATH 235. Wavelets and their Applications

Wavelets with particular emphasis on their use in the representation of digital signals and image analysis. Theory of filters, filter banks and wavelets with applications selected from image and video compression, speech, audio and ECG compression, and communication applications.

Prerequisites: MATH 129A and MATH 134, or instructor consent.

Notes: Alternate years.

Normal Grade Rules
3 units

MATH 238. Advanced Complex Variables

A course specializing in one or more of the advanced branches of the theory of complex functions.

Prerequisite: MATH 138 or instructor consent.

Notes: Alternate years.

Normal Grade Rules
3 units

MATH 243A. Advanced Numerical Analysis

Finite difference methods applied to parabolic, elliptic and hyperbolic equations including numerical methods for solving the discretized problem, convergence, stability, error control, and applications.

Prerequisites: MATH 143C or MATH 143M or instructor consent.

Notes: Alternate years.

Normal Grade Rules
3 units

MATH 243B. Advanced Topics in Numerical Analysis

Advanced topics in numerical methods.

Prerequisite: MATH 143C or MATH 143M; and instructor consent.

Notes: Alternate years.

Normal Grade Rules
3 units

MATH 243M. Numerical Linear Algebra

Advanced topics in numerical linear algebra.

Prerequisite: Math 143C or Math 143M; and instructor consent

Normal Grade Rules
3 units

MATH 251. Classification

Dimensionality reduction, instance-based classification, discriminant analysis, logistic regression, support vector machine, kernel methods, ensemble learning, neural networks and deep learning, classification of nonnumeric data.

Prerequisite: Math 32 and Math 129A (each with a grade of B or better)

Co/Pre-requisite: Math 164, Math 267A or CS 122 or instructor consent.

Normal Grade Rules
3 units

MATH 252. Cluster Analysis

Cluster analysis techniques. Dissimilarities and distances. Hierarchical clustering, distance-based clustering, fuzzy clustering, spectral clustering, subspace clustering, categorical data clustering. Clustering method for high dimensional datasets.

Prerequisite: Math 32, Math 129A (each with a grade of B or better), Math 163, and Math 267A or CS122 or instructor consent.

Normal Grade Rules
3 units

MATH 253. Mathematical Methods for Data Visualization

MATLAB programming basics. 2D and 3D data plotting and graphing, advanced linear algebra, dimensionality reduction, visualization of high dimensional data, and applications to clustering and classification.

Prerequisite: MATH 32, MATH 129A and MATH 163 (each with a grade of B or better), or instructor consent.

Normal Grade Rules
3 units

MATH 257. Multivariate Data Analysis

Multivariate normal distribution, Hotelling's T-squared distribution, data reduction techniques including principal component and factor analysis, canonical correlation analysis, discrimination and classification techniques. Intensive use of computer analysis and real data sets. As time permits, advanced topics chosen by instructor. Possible topics include basis functions, derivative estimation, functional principal components, functional linear model.

Prerequisites: MATH 163 and MATH 261A (each with a grade of "B" or better), or instructor consent.

Normal Grade Rules
3 units

MATH 258. Categorical Data Analysis

Distributions for categorical data, descriptive and inferential methods for contingency tables, introduction to generalized linear models, logit models for binary data, and loglinear models for count data.

Prerequisite: MATH 261A with a grade of "B" or better

Normal Grade Rules
3 units

MATH 261A. Regression Theory and Methods

Simple linear regression, multiple regression, indicator variables, influence diagnostics, transformations, assumption analysis, generalized linear models, nonlinear regression, CART, hypothesis testing, confidence and prediction intervals, variable selection and model building.

Prerequisites: Math 129A, and either Math 161A or Math 164 (each with grade"B" or better), Math 163, Math 267A. Math 163 and/or Math 267A may be taken concurrently.

Normal Grade Rules
3 units

MATH 261B. Design and Analysis of Experiments

Principles, construction and analysis of experimental designs. ANOVA; randomized blocks, Latin squares, factorial, nested and other designs; fixed and random effects, multiple comparisons, repeated measures. Expected mean squares. Diagnostics and model comparison.

Prerequisite: MATH 261A with grade of "B" or better.

Co/Prerequisite: MATH 164

Normal Grade Rules
3 units

MATH 263. Stochastic Processes

Introductory course in stochastic processes and their applications. The course will cover random walks, discrete time Markov chains, the Poisson process, continuous time Markov processes, renewal theory and queuing theory. Prerequisite: Math 129A and Math 163 (each with a grade of "B" or better).

Normal Grade Rules
3 units

MATH 264. Bayesian Data Analysis

A graduate-level introduction to Bayesian statistical methods for inference. Exchange-ability. Prior, likelihood, posterior and predictive distributions. Hierarchical models. Model checking.

Prerequisite: MATH 164 with a "B" or better

Normal Grade Rules
3 units

MATH 265. Time Series Theory and Methods

Analysis of correlated data in time, trends, seasonal patterns, periodicity, autocorrelation, spectral/frequency analysis, filtering, ARIMA models, state-space models, forecasting. Applications from various fields including economics, signal processing, finance, atmospheric science.

Prerequisite: MATH 261A with a grade of "B" or better

Normal Grade Rules
3 units

MATH 266. Survival Analysis

Statistical methods for analysis of time-to-event censored data. Survival distributions and hazard rates; Kaplan-Meier estimator; proportional hazards; partial likelihood; diagnostics. Applications from clinical trials, toxicology and tumorigenicity studies, epidemiological studies, and engineering reliability.

Prerequisite: Math 261A

Notes: Alternate years.

Normal Grade Rules
3 units

MATH 267. Computational Statistics

Simulation and Monte Carlo methods, Markov chain Monte Carlo, bootstrap and resampling, optimization, and special topics.

Prerequisite: MATH 163, MATH 167R, and MATH 261A each with a grade of "B" or better

Normal Grade Rules
3 units

MATH 267A. Statistical Programming with R

Introduction to the R programming language. Topics include data structures, reading and writing data, databases, data visualization, accessing packages, programming structures and functions.

Prerequisite: MATH 161A with a grade of C- or better

Normal Grade Rules
3 units

MATH 269. Statistical Consulting

Theoretical and practical aspects of statistical consulting. Development through classwork, group discussion, role-playing and real consulting activities, of tools necessary to conduct effective consulting sessions, present oral arguments and written reports, and work collaboratively to solve problems.

Prerequisite: Math 163, Math 164, Math 261A, Math 261B (each with a grade of "B" or better); and instructor consent.

Note: this course is normally taken in the last semester of the MS Statistics program.

Credit / No Credit
3 units

MATH 275A. Topology

Topological spaces and associated concepts (e.g., subspaces, product spaces, quotient spaces); continuous functions; compactness, connectedness (including path connectedness) and their local versions; countability and separation axioms; compactifications and Tychonoff's Theorem; paracompactness and metrization theorems.

Preerquisite: Math 131A with a grade of "B" or better; or instructor consent

Normal Grade Rules
3 units

MATH 275B. Advanced Topics in Topology

A course specializing in one or more topics from advanced topology such as homotopy and the fundamental group, homology groups of spaces, continuum theory, function spaces, metrization, dimension theory, manifolds, topological groups.

Prerequisite: Math 275A or instructor consent

Notes: Alternate years.

Normal Grade Rules
3 units

MATH 279A. Graph Theory

Advanced course in graph theory covering graphs, digraphs, trees, networks, connectedness, eulerian circuits, hamiltonian cycles, graph embeddings, matchings, factorizations, graph colorings and Ramsey theory.

Prerequisite: MATH 179, or both MATH 142 and an upper division algebra class, or instructor consent.

Notes: Alternate years.

Normal Grade Rules
3 units

MATH 279B. Advanced Graph Theory

Advanced topics in modern graph theory selected by instructor. Possible topics are algebraic graph theory, random graph theory, matroid theory, ramsey theory, expander graphs, and others.

Prerequisite: MATH 279A or instructor consent.

Normal Grade Rules
3 units

MATH 280. Graduate Individual Studies

Individual study in a specific field.

Prerequisite: Department chair consent. Not available to Open University Students

Credit / No Credit
1-3 units

MATH 281. Research Seminar

Weekly participation in the department research seminar. Topics will focus on recent developments in mathematics and emphasis will be placed on written and oral presentations.

Prerequisite: Instructor Consent

Normal Grade Rules
1-3 units

MATH 285. Advanced Topics in Mathematics

Selected topics in Mathematics. Topics vary each semester. A maximum of 12 units may be repeated.

Prerequisite: Suitable upper division background in mathematics set by instructor.

Repeatable for credit
Normal Grade Rules
3 units

MATH 285A. Advanced Topics in Applied Mathematics

Selected topics in Applied Mathematics. Topics vary each semester. Prerequisite: Upper-division coursework in applied mathematics or instructor consent.

Repeatable for credit
Normal Grade Rules
3 units

MATH 285M. Advanced Topics in Pure Mathematics

Selected topics in Pure Mathematics. Topics vary each semester. Prerequisite: Upper-division coursework in mathematics or instructor consent.

Repeatable for credit
Normal Grade Rules
3 units

MATH 285S. Advanced Topics in Statistics

Selected topics in Statistics. Topics vary each semester. Prerequisite: Upper-division coursework in statistics or instructor consent.

Repeatable for credit
Normal Grade Rules
3 units

MATH 287. Professional Development in College Teaching

Required for all teaching assistants in the master's program. Practical and technical aspects of college teaching; current pedagogical techniques and educational issues.

Corequisite: TA position in the Mathematics and Statistics Department

Repeatable for credit
Credit / No Credit
1 unit

MATH 288I. Internships

Professional work experience under the supervision of a statistician.

Prerequisite: Graduate standing and MS Statistics Project Coordinator consent.

Mandatory CR/NC/RP
3 units

MATH 288J. Applied Mathematics Internship

Professional work experience under the supervision of an applied mathematician.

Prerequisite: Graduate standing in the MS Math program and instructor consent.

Mandatory CR/NC/RP
3 units

MATH 295E. Mathematics Comprehensive Exam Preparation

Preparation for Mathematics Master's Comprehensive Examination. Review of topics and representative problems covered by the various parts of the Exam. CR grade assigned when student has passed both parts of the Comprehensive Exam. Successful completion satisfies graduate Culminating Experience requirement.

Prerequisite: Approval of Mathematics Graduate Advisor is required. Students must file for Advancement to Candidacy before enrolling. Not open to students electing Thesis/Writing Project option.

Mandatory CR/NC/RP
3 units

MATH 297A. Preparation for Writing Project, Research Project or Thesis

Supervised individual research and project work to prepare for a master's writing project, research project or thesis.

Prerequisite: Fully classified standing in the MS/MA Math or MS Statistics program, department chair consent.

Corequisite: GWAR

Repeatable for credit
Credit / No Credit
3 units

MATH 298. Special Study

Advanced individual research and writing projects.

Prerequisite: Admission to candidacy for the MA or MS degree, Math 297 and Department Chair consent. Not available to Open University Students.

Repeatable for credit
Mandatory CR/NC/RP
1-4 units

MATH 299. Master's Thesis

Prerequisite: Admission to candidacy for the MA or MS degree, Math 297 and Department Chair consent. Not available to Open University Students.

Repeatable for credit
Mandatory CR/NC/RP
1-4 units

UPPER DIVISION

MATH 1001S. Supported Instruction for MATH 001

Reviews relevant background material prior to the corresponding content for MATH 001. Required corequisite for enrollment category M-III and M-IV students in MATH 001.

Notes: No Degree Credit.

Misc/Lab: Activity 2 hours.

No Degree Credit
1 unit

MATH 1010AS. Support Course for Math 10A

Support course that reviews relevant background material prior to the corresponding content for Math 10A. Required for MATH 10A students in Enrollment Category M-III and M-IV.

No Degree Credit
1 unit

MATH 1015D. Statway Algebra Review Activity

See UNVS 1015D.

No Degree Credit
1 unit

MATH 1015W. Statway Supplemental Activity

See UNVS 1015W.

No Degree Credit
1 unit

MATH 1018AS. Support Course for MATH 18A

Support course that reviews relevant background material prior to the corresponding content for MATH 18A. Required for Category M-III and Category M-IV students in MATH 18A.

Note: Credit/No credit, No Degree Credit.

Misc/Lab: Activity 2 hours.

No Degree Credit
1 unit

MATH 1019S. Supported Instruction for MATH 019

Reviews relevant background material prior to the corresponding content for MATH 019. Required corequisite for enrollment category M-III and M-IV students in MATH 019. Note: No Degree Credit. Misc/Lab: Activity 2 hours.

No Degree Credit
1 unit

MATH 1290R. Culminating Experience Supervision

Continued work on thesis or project.

Prerequisite: Outstanding RP grade in a preceding semester in a project or thesis class

Note: No Degree Credit.

Repeatable for credit
No Degree Credit
1 unit

MATHEMATICS EDUCATION

UPPER DIVISION

MTED 184S. Math Education Phase II Seminar

This seminar will support the student teaching field experience. Students will be asked to extend their pedagogical content knowledge in light of their phase II experiences and will be supported in the preparation of their Performance Assessment for California Teachers.

Prerequisites: EDSC 184X and good standing in the Secondary Education Credential program

Corequisite: MTED 184Y and/or MTED 184Z

Credit / No Credit
1 unit

MTED 184X. Student Teaching Phase I

Student teaching in Mathematics Education (Phase I) is designed to provide students with the experiences they need to be successful in Phase II. During the Phase I semester, student teachers work with their mentor teacher in a mathematics classroom one period each day, with additional times set aside each week to confer, debrief, and plan.

Prerequisite: MTED 394

Credit / No Credit
4 units

MTED 184Y. Student Teaching II - Classroom Teaching

Minimum 80-120 class periods of classroom teaching, laboratory or field teaching in appropriate single subjects, grades K-12 and related teaching activities. Attendance at a weekly seminar is required.

Prerequisite: MTED 394 and joint approval of Mathematics and Education departments.

Repeatable for credit
Credit / No Credit
4-6 units

MTED 184Z. Student Teaching III - Classroom Teaching

Same as MTED 184Y, including the seminar, but in a different course. May be in a different school.

Prerequisite: MTED 394 and joint approval of the Mathematics and Teacher Education Departments.

Repeatable for credit
Credit / No Credit
4-6 units

MTED 394. Secondary School Mathematics

The place and function of mathematics in secondary education, improvement and evaluation of instruction. Teaching the subject matter of secondary mathematics.

Prerequisite: MATH 201A or MATH 201B and, either passing score on the CSET exams or be within 3 courses of completing the subject matter preparation program, or instructor consent.

Normal Grade Rules
3 units

MTED 394F. Middle School Mathematics Methods

The place and function of mathematics in middle grades education, improvement and evaluation of instruction. Teaching the subject matter of middle grades mathematics.

Prerequisite: EDEL 108D, Passing scores on CSET I and II or Instructor consent.

Normal Grade Rules
3 units

Mechanical Engineering Department Courses

MECHANICAL ENGINEERING

LOWER DIVISION

ME 020. Design and Graphics

Introduction to design and graphical solutions to three-dimensional design problems involving points, lines, surfaces and solids. Development of visualization and technical sketching skills in conjunction with orthographic and pictorial projections. Focus on computer-aided design and graphical analytical methods.

Corequisite: Engineering majors: ENGR 10; Technology majors: none

Misc/Lab: Lecture 1 hour/lab 3 hours.

Normal Grade Rules
2 units

ME 030. Computer Applications

Using a computer to solve engineering problems through programming and the use of engineering application procedures. Use of procedural and informational problem solving methods and practices applied to software design, application, programming and testing.

Misc/Lab: Lecture 1 hour/lab 3 hours.

Normal Grade Rules
2 units

ME 041. Machine Shop Safety

See TECH 041.

Repeatable for credit
Normal Grade Rules
1 unit

ME 042. Manufacturing and Machine Shop Projects and Practices

See TECH 042.

Repeatable for credit
Credit / No Credit
1 unit

UPPER DIVISION

ME 100. Mechanical Engineering Career Development

Further intellectual, personal, and professional growth in Mechanical Engineering. Directed discussions and activities focused on building professional presence and communication strategies for a professional career starting with the internship and ending with employment post-graduation.

Prerequisite: ENGL 1B or second semester Composition Course, Mechanical Engineering Majors Only.

Credit / No Credit
1 unit

ME 101. Dynamics

Vector mechanics. Two and three dimensional motion of particles and rigid bodies. Force, energy and momentum principles.

Prerequisite: CE 095 or 099 and MATH 032 (with a grade of "C-" or better in each). Sophomore or upper division standing. Allowed Declared Majors: Any Engineering.

Normal Grade Rules
3 units

ME 101H. Honors Dynamics

Kinematics and dynamics of particles and rigid bodies. Mass distribution, forces, moments, and torques. Principles of work, power, potential and kinetic energy, impulse, and momentum. Laws of motion. Computational solutions to equations governing dynamic systems. Demonstrations and physical examples.

Prerequisite: Math 32 and either CE 95 or CE 99 (with a grade of B or better in each)

Normal Grade Rules
3 units

ME 106. Fundamentals of Mechatronics Engineering

Foundational concepts in mechatronics including analog and digital electronics, sensors, actuators, microprocessors and microprocessor interfacing to electromechanical systems. Hands-on laboratory experiments with components and measurement equipment used in the design of mechatronic products.

Prerequisites: EE 098 and ME 030 (with a grade of 'C-' or better in each). For IT majors: TECH 060, MATH 071, CMPE 046 (with a grade of 'C-' or better in each).

Misc/Lab: Lecture 2 hours/lab 3 hours.

Normal Grade Rules
3 units

ME 109. Heat Transfer in Electronics

See CHE 109.

Normal Grade Rules
3 units

ME 110. Manufacturing Processes

Fundamentals of manufacturing processes such as machining, forming, casting, molding and welding. Surface treatments, powder-based processes, and microfabrication methods. Materials behavior and selection for manufacturing. Geometric dimensions and tolerancing.

Prerequisite: ME 020 with a grade of "C-" or better.

Pre/Corequisites: MATE 025.

Normal Grade Rules
3 units

ME 111. Fluid Mechanics

Fluid properties, statics, dynamics of fluids; continuity, linear and angular momentum and energy principles. Viscous and non-viscous flow. Pumps, turbines, flow in pipes and around submerged obstacles. Dimensional analysis and dynamic similitude.

Prerequisite: CE 095 or 099 and MATH 032 (with a grade of "C-" or better in each). Sophomore or upper division standing. Allowed Declared Majors: Engineering, Civil Engineering, Industrial and Systems Engineering, Materials Engineering, Mechanical Engineering.

Normal Grade Rules
3 units

ME 113. Thermodynamics

Properties of simple compressible substances, ideal gas and other equations of state. First and Second Laws of Thermodynamics, energy, and irreversibility. Power cycles and refrigeration cycles. Gas mixtures, gas-vapor mixtures, and air conditions processes.

Prerequisite: PHYS 070 or PHYS 052, and MATH 032 (with a grade of 'C-' or better in each).

Normal Grade Rules
4 units

ME 114. Heat Transfer

Conduction, convection and radiation heat transfer with applications. Analytical, experimental, and computational methods of analyzing heat transfer behavior.

Prerequisites: MATH 133A or MATH 123, and ME 113 (with a grade of 'C-' or better in each).

Normal Grade Rules
3 units

ME 115. Thermal Engineering Laboratory

Thermodynamics and heat transfer experiments. Temperature, pressure, and flow rate measurements. Technical reports and presentations.

Pre/Corequisite: ME 114.

Misc/Lab: 3 hour Lab.

Normal Grade Rules
1 unit

ME 120. Experimental Methods

Theory and practice of experimental methods and sensors for mechanical measurements; statistical and uncertainty analysis; computer-hosted data acquisition, processing and analysis; formal report writing and presentations.

Prerequisite: CE 112 and ENGR 100W (with a grade of 'C-' or better in each).

Corequisite: ME 130. AE majors may use AE 162 and AE 168 to satisfy corequisite requirements.

Misc/Lab: Lecture 1 hour/lab 3 hours.

Normal Grade Rules
2 units

ME 130. Applied Engineering Analysis

Analytic models for physical systems in mechanical engineering. Practical interpretations of analytical solutions. Introduction to linear algebra and statistics.

Prerequisite: MATH 133A and ME 101 (with a grade of 'C-' or better in both). Allowed Declared Majors: Mechanical Engineering.

Pre/Corequisite: ME 113

Normal Grade Rules
3 units

ME 135. Introduction to Composite Materials

See MATE 135.

Normal Grade Rules
3 units

ME 136. Design for Manufacturability

Principles and practice of design and manufacturability, design parameters; manufacturing techniques; reliability; design for quality, assembly and environmental considerations; case study projects and laboratory activities.

Prerequisite: ME 110 and either ME 154 or AE 114, all with C- or better.

Normal Grade Rules
3 units

ME 140. Green & Sustainable Product Design

See TECH 140.

Repeatable for credit
Normal Grade Rules
3 units

ME 147. Dynamic Systems Vibration and Control

Mathematical representation of dynamic systems. Damped and undamped free and forced vibrations for single and multiple degree of freedom systems. Vibration control and isolation. Dynamic analysis of control systems. Transient response, frequency response and the stability criteria. State-variables approach. Feedback and feedforward compensation. Emphasis on engineering problems involving analysis and design.

Prerequisite: ME 130 (with a grade of 'C-' or better). Upper Division Standing. Allowed Declared Majors: Aerospace Engineering, Mechanical Engineering.

Normal Grade Rules
3 units

ME 149. Engineering Acoustics

Generation, transmission and absorption of sound. Noise measurement. Applications to architectural design, control and reduction of noise.

Prerequisite: ME 130. Upper division standing.

Normal Grade Rules
3 units

ME 154. Mechanical Engineering Design

Introduction to the design and analysis of mechanisms and machine elements. Linkage synthesis. Kinematic and dynamic analysis of mechanisms. Application of statics, dynamics, strength of materials, static failure theories and fatigue theory to the design of machine components. Threaded fasteners. Group design project.

Prerequisite: ME101, ME20, CE112, MatE 25, all with a C- or better. Junior or senior only. Allowed Declared Majors: Any Engineering.

Corequisite: TECH/ME 041

Normal Grade Rules
4 units

ME 157. Mechanical System Design

Introduction to the mechanical design process. Design and selection of specific machine components including springs, bearings, brakes, clutches and gears. Introduction to fatigue design using fracture mechanics. Application of plastics, composite materials and finite element methods in design. Group design project. Computer applications in the design process and in design optimization.

Prerequisite: ME 154, ME 130 with a grade of 'C-' or better.

Corequisites: ME 110

Normal Grade Rules
3 units

ME 160. Introduction to Finite Element Method

Matrix algebra, interpolation functions. Deformation and stress analysis, using truss, beam, plate and axisymmetric elements.

Prerequisite: ME 20, CE 112, and either ME 130 or Math 129A, with a grade of C- or better in each

Normal Grade Rules
3 units

ME 165. Computer-Aided Design in Mechanical Engineering

Theory and application of CAD. 2-dimensional and 3-dimensional modeling, commercial CAD software. Application to finite element analysis.

Prerequisite: ME 020, CE 112, and either ME 130 or MATH 129A, with a grade of C- or better in each. Allowed Declared Majors: Aerospace Engineering, Mechanical Engineering

Normal Grade Rules
3 units

ME 167. Introduction to Engineering Biomechanics

Introduction to the mechanical behavior of biological systems: mechanics of cells, mechanics of biological fluids (blood circulation), mechanics of blood vessels, biomechanics of the muscular-skeletal system. Kinematics and dynamics of motion. Application of engineering fundamentals to the human body structure and functional relationships.

Prerequisites: MatE 25 and either CE 095 or CE 099.

Normal Grade Rules
3 units

ME 168. Microfluid Fabrication and Design

Hands-on design, fabrication, and testing of microfluidic devices. Processes including photolithography, soft lithography, and plasma bonding. Design problems for microfluidic devices. Introduction to microfluidics simulation.

Prerequisite: MATE 025 or MATE 153 or MATE/EE 129.

Normal Grade Rules
1 unit

ME 169. Microelectromechanical Systems Fabrication and Design

Hands-on design, fabrication, and testing of micro electro-mechanical systems (MEMS). Processes including photolithography, etching, and metal deposition applied to MEMS. Design problems for MEMS transducer components. Introduction to MEMS simulation.

Prerequisite: MATE 25 or MATE 153 or MATE/EE 129.

Misc/Lab: Lab 3 hours.

Normal Grade Rules
1 unit

ME 170. Solar Energy Engineering

Fundamentals of solar energy engineering, basic principles, design and operation of solar systems. Solar energy generation, storage and system efficiency.

Prerequisites: EE 98 and ME 109, ME 114 or CHE 190 (with a grade of 'C-' or better in each)

Normal Grade Rules
3 units

ME 172. Alternative and Renewable Energy Resources

An introduction to alternative energy sources such as solar, wind, nuclear, geothermal, hydroelectric, biomass and fuel cell. Stationary power generation and storage.

Prerequisite: ME 114 or CHE/ME 109 or CHE 190.

Normal Grade Rules
3 units

ME 180. Individual Studies

Individual work on special topics. By arrangement.

Prerequisite: Upper division standing and instructor consent. Allowed Declared Majors: Aerospace Engineering, Mechanical Engineering. Not available to Open University Students.

Repeatable for credit
Credit / No Credit
1-3 units

ME 181. Fundamentals of Biosensors

Operating principles, design and applications of the most commonly used biosensors: Electrochemical (Potentiometric, Amperometric, Voltammetric), Optical-based (Fluorescence, Electrophoresis, and Fiber Optic), Piezoelectric-based (Mechano, QCM Enzyme/ Cell, Acoustic), and AFM (Atomic Force Microscopy) biosensors/transducers. Immunosensors and biosensors for virus detection. Biosensor signal processing and electronics. Biosensor design, materials, and applications. Case studies to explore state-of-the-art biosensor products. Invited speakers to share their first-hand experience in biosensor design and manufacturing. Term projects to design practical and functional biosensors.

Prerequisite: EE 98 with a C- or better

Normal Grade Rules
3 units

ME 182. Thermal Systems Design

Integration of thermodynamics, fluid mechanics, heat transfer and economics in the design of energy conversion and transfer systems, e.g., power generation, electronics and human thermal control.

Prerequisite: ME 114, and either ME 111 or AE 160 (with a grade of 'C-' or better in each).

Normal Grade Rules
3 units

ME 183. HVAC Systems Design

Calculation of heating and cooling loads. Psychrometrics and human comfort. Heating, ventilation and air conditioning systems and equipment. Design of secondary systems for heating and cooling of buildings.

Pre/Corequisite: ME 114. Junior or senior only. Allowed Declared Major: Mechanical Engineering.

Misc/Lab: Lecture 2 hours/lab 3 hours.

Normal Grade Rules
3 units

ME 185. Hybrid and Electric Vehicle Fundamentals

This course covers the key technical fundamentals of hybrid and electric vehicles including propulsion system design, controls, batteries and storage management, electric machines and power electronics. Review of critical technologies and components used in modern hybrid and electric vehicles. Hands-on experience through demonstrations, laboratory activities, and a term project. Guest speakers will present technical seminars on selected topics.

Prerequisite: EE 98 and ME 130, both with a C- or better

Normal Grade Rules
3 units

ME 186. Automotive Engineering

Overview of automotive engineering including aerodynamics, structures, suspension, steering, brakes and drive-train. Application of engineering principles in automotive design and analysis. Use of vehicle dynamic simulation for performance analysis.

Prerequisite: ME 114, ME 130, ME 154 with a grade of C- or better in each.

Normal Grade Rules
3 units

ME 187. Automatic Control Systems Design

Analysis of dynamic systems in time and frequency domain. Design of automatic control systems. Analog and digital control systems design. Computer aided control system design and performance evaluation.

Prerequisite: ME 147 with a grade of C- or better. Junior or senior only. Allowed Declared Majors: Aerospace Engineering, Mechanical Engineering.

Normal Grade Rules
3 units

ME 189. Design and Manufacture of Microsystems

Overview of design and manufacture of microdevices and systems including MEMS. Engineering physics and mechanics; scaling laws for miniaturization, microfabrication technique, material selection, microsystems design methodologies, microsystems packaging design.

Prerequisite: ME 106, ME 154.

Normal Grade Rules
3 units

ME 190. Mechatronics System Design

Process modeling from test data. Computer-aided dynamic system control analysis and design. Application and integration of micro-controller for digital process and servo control. Development of smart and intelligent products with micro-controller.

Prerequisite: ME 106 (with a grade of 'C-' or better).

Corequisite: ME 147.

Misc/Lab: Lecture 2 hours/lab 3 hours.

Normal Grade Rules
3 units

ME 192. Robotics and Manufacturing Systems

Scientific and engineering principles of robotics in the area of mechanical manipulation, dynamics, sensing, actuation, control, computer vision and manufacturing automation application. Motor, motion control, digital control devices application and integration.

Prerequisite: ME 106 and ME 130 (with a grade of 'C-' or better in each).

Misc/Lab: Lecture 2 hours/lab 3 hours.

Normal Grade Rules
3 units

ME 195A. Senior Design Project I

First half of a one-year team project carried out under faculty supervision. Project proceeds from problem definition to analysis, design and validation, experimentation including possible construction and testing. GE Area: S when taken as part of the ME major sequence.

Prerequisite: ME 114, ME 154 and ENGR 100W (with a grade of 'C-' or better in each).

Pre/Corequisite: ME 120, good standing in the program with an approved major form.

Note: ME 195A and B sequence must be completed in the same academic year. Meets SJSU Studies Area S and V when course is taken in combination with: ME 195B, ENGR 195A and ENGR 195B. All SJSU Studies courses require completion of the WST and Upper Division Standing.

Misc/Lab: Lab 3 hours.

Normal Grade Rules
GE: S
3 units

ME 195B. Senior Design Project II

Continuation of ME 195A. Culmination of project requiring a formal report consisting of documentation of project results and oral presentation. GE Area: V when taken with ME Major sequence.

Prerequisite: ME 195A with a C- or better

Note: Note: ME 195A and B sequence must be completed in the same academic year. Meets SJSU Studies Area S and V when course is taken in combination with: ME 195B, ENGR 195A and ENGR 195B. All SJSU Studies courses require completion of the WST and Upper Division Standing.

Misc/Lab: Lab 3 hours.

Normal Grade Rules
GE: V
3 units

ME 197. Cooperative Education Project

See ENGR 197.

Normal Grade Rules
3 units

ME 198. Technology and Civilization

See TECH 198.

Normal Grade Rules
GE: V
3 units

ME 199. Special Topics in Mechanical Engineering

Special Topics in Mechanical Engineering. Content varies from semester to semester. A total of six units may be repeated.

Prerequisite: Instructor Consent.

Repeatable for credit
Normal Grade Rules
3 units

GRADUATE

ME 201. Project Planning

Preparation for independent projects, research investigations, and professional engineering proposals. Review of scholarly literature. Development of formal objective statements and research hypotheses. Planning and articulation of tangible deliverables, resources, tasks, and milestones.

Note: This course satisfies graduate-level GWAR in this master's program.

Normal Grade Rules
GE: GWAR
3 units

ME 210. Advanced Thermodynamics

Application of the first and second laws of thermodynamics to the analysis of engineering systems. Equations of state and thermodynamic property relations. Chemical equilibrium and combustion.

Prerequisite: BSME or Instructor Consent.

Normal Grade Rules
3 units

ME 211. Advanced Heat Transfer

Conduction, convection and radiation heat transfer, including conjugate problems. Numerical methods and use of the computer to solve heat transfer problems.

Prerequisite: ME 114 or equivalent.

Normal Grade Rules
3 units

ME 221. Viscous Flow Analysis and Computation

The Navier-Stokes equations for laminar flow; exact solutions, lubrication theory and boundary layer forms with computer-based solution techniques. Reynolds-averaging and turbulent flow; solution of the Reynolds-averaged full and boundary layer equations using computers.

Prerequisite: ME 200 and ME 270. Allowed Declared Majors: Aerospace Engineering, Mechanical Engineering.

Normal Grade Rules
3 units

ME 230. Advanced Mechanical Engineering Analysis

Designed to supplement and enrich students with advanced mathematical methods in treating problems selected from various areas of mechanical engineering. Topics discussed will include Fourier series, special functions, solutions to partial differential equations and numerical methods.

Prerequisite: BSME or BSAE or Instructor Consent.

Normal Grade Rules
3 units

ME 240. Rigid Body Dynamics

Introduction to Euler's method, Lagrange's equations of motion and Hamilton's principle. Three-dimensional dynamics in vector and tensor notation. Multi-body dynamics. Application to engineering problems including numerical solutions.

Prerequisite: BSME or Instructor Consent.

Normal Grade Rules
3 units

ME 243. Vibration of Mechanical Systems

Vibration of MDOF (Multi-degree of Freedom) systems. Eigenvalue problems. Modal analysis of damped systems. Superposition and direct integration methods. Complex frequency response. Random vibration of MDOF systems. Shock and impulse. Vibration of strings, rods and beams.

Prerequisite: BSME degree or instructor consent.

Normal Grade Rules
3 units

ME 250. Precision Machine Design

Principles of precision machine design. Exact kinematic constraint. Error motions of a machine. Integration of mechanical design, materials, sensors, and metrology for precision applications.

Prerequisite: BSME or Instructor Consent.

Normal Grade Rules
3 units

ME 256. Product Design and Development

Introduction to the product development process as followed in the industry, latest developments in identifying product opportunities, understanding customer requirements, converting them to technical requirements, functional modeling, concept generation, selection and evaluation, latest trends in product design, patenting and intellectual property rights, group design project.

Prerequisite: Graduate standing with solid modelling knowledge

Normal Grade Rules
3 units

ME 260. Applied Stress Analysis

Introduction to stress analysis techniques, including advanced strength of materials, energy methods and theory of elasticity. Elastic-plastic stresses, creep, fatigue, fracture mechanics, failure analysis.

Prerequisite: BSME or Instructor Consent. Allowed Declared Majors: Aerospace Engineering, Mechanical Engineering.

Normal Grade Rules
3 units

ME 265. Computer-Aided Mechanical Engineering Design

Integrated approach to CAD including: overview of CAD, numerical techniques for CAD, computer graphics and design, principles and management of design database systems, finite element analysis and CAD, design optimization, computer-aided linkage design and integrated CAD systems.

Prerequisite: BSME or Instructor Consent. Allowed Declared Majors: Aerospace Engineering, Mechanical Engineering.

Note: This course satisfies graduate-level GWAR in this master's program.

Normal Grade Rules
GE: GWAR
3 units

ME 267. Engineering Biomechanics

Application of engineering mechanics to human body structure and function, involving 3-D kinematics, deformable bodies, viscoelastic behavior, and non-Newtonian fluids. Modeling of hard and soft tissues and analysis of response to loading conditions. Design considerations for biomedical and orthopedic devices.

Prerequisite: Graduate standing and CE 112 or equivalent.

Normal Grade Rules
3 units

ME 268. 3D Printing and Additive Manufacturing

Application of fundamental technologies in 3D printing and additive processes for polymers, metals, composites, and biomaterials. Equipment, process, and material selection for design applications such as electronics, medical devices, aerospace, vehicles and consumer products. Hands-on experience to design and perform a 3D scanning and converting digital data into physical objects.

Prerequisite: Graduate Standing or Instructor Consent

Normal Grade Rules
3 units

ME 271. Computational Fluid Dynamics for ME

Introduction to methods and techniques for computational solutions of fluid mechanics and heat transfer problems. Model problems from mechanical engineering are used to study the interaction of physical processes and numerical techniques. A commercial CFD package is used for analysis.

Prerequisite: BSME or instructor's consent

Normal Grade Rules
3 units

ME 273. Finite Element Methods in Engineering

Introduction into various finite element methods for developing stiffness equation. Truss, beam, 2-D, 3-D and axisymmetric elements. Applications and case studies.

Prerequisite: BSME or Instructor Consent.

Normal Grade Rules
3 units

ME 274. Advanced Finite Element Methods In Engineering

Advanced concepts in finite element analysis, assembly modeling, contact and welded joints, anisotropy and composites, structural dynamics, nonlinear modeling, linear and nonlinear multiphysics coupled heat transfer and fluid flow, thermal stress analysis, and electromechanical coupling.

Prerequisites: ME 160 or ME 273, or instructor consent.

Normal Grade Rules
3 units

ME 280. Automatic Control Engineering

Formulation of multiple dynamic systems in state space form. System transient response, stability, controllability and observability. Design of control system using conventional and modern methods. Optimum system design. Computer aided dynamic system analysis, control system design and simulation.

Prerequisite: BSME or Instructor Consent. Allowed Declared Majors: Aerospace Engineering, Mechanical Engineering.

Normal Grade Rules
3 units

ME 281. Advanced Control System Design

Establishment of design criteria. Digital control system design based on conventional and modern approaches. Intelligent control system design. Digital control system hardware and software. Case studies. Microprocessor implementation of control systems.

Prerequisite: ME 280 or equivalent.

Normal Grade Rules
3 units

ME 283. Automatic Control of Manufacturing Processes

Develops general concepts for control of manufacturing processes. The concepts of and tools for process modeling, process optimization and process control. Emphasizes the integrated approach combining statistical process control (SPC) and automatic process control.

Prerequisite: BSME or Instructor Consent.

Normal Grade Rules
3 units

ME 284. Sensor Technology and Principles

Sensors and principles, including mechanical and magnetic sensors, optical sensors, chemical sensors, and bio sensors; Sensor circuitry, signal characterization and processing; Sensor design, fabrication and applications.

Prerequisite: BSME or Instructor Consent.

Normal Grade Rules
3 units

ME 285. Mechatronic Systems Engineering

Introduction of mechatronic systems. Combine hardware, software and system integration. Subjects include basic circuits, logic gates, OpAmps, encoder/decoder, DC and stepper motor, A/D and D/A, C-language, interfacing and control. Hands-on lab practices.

Prerequisite: BSME or Instructor Consent.

Misc/Lab: Lecture 2 hours/Lab 3 hours.

Normal Grade Rules
3 units

ME 286. Autonomous and Connected Vehicles

Application of fundamentals of robotics, computer vision, and mechanical engineering in a vehicle-to-vehicle and vehicle-to-infrastructure connected environment for safe-driving and reducing traffic congestion. Defining levels of autonomy in relation to driver-assist and self-driving technologies. Occupant monitoring, distracted driving, and government regulations.

Prerequisite: Graduate Standing or Instructor Consent

Normal Grade Rules
3 units

ME 295A. Mechanical Engineering Project I

Advanced individual work in mechanical engineering, including but not limited to research, design, development, and simulation studies.

Prerequisite: Admission to Candidacy for Master's Degree in Mechanical Engineering; written proposal approved by instructor and graduate advisor. Not available to Open University Students.

Normal Grade Rules
3 units

ME 295B. Mechanical Engineering Project II

Continuation of ME 295A. Students complete the in-depth project, write a detailed engineering report and make a comprehensive presentation.

Prerequisite: ME 295A. Not available to Open University Students.

Normal Grade Rules
3 units

ME 296N. Applied Nonlinear Control

Practical considerations in control systems design: system nonlinearities, parametric uncertainties, integrator windup effects, and response optimality; Lyapunov-based analysis and control design: sliding mode, adaptive, and adaptive-sliding control; nonlinear state observers, trajectory optimization, and repetitive learning control.

Normal Grade Rules
3 units

ME 297. Special Topics in Mechanical Engineering

Special topics in Mechanical Engineering. Content varies from semester to semester.

Prerequisite: Instructor Consent.

Repeatable for credit
Normal Grade Rules
3 units

ME 298. Special Project in Mechanical Engineering

Advanced individual work in mechanical engineering.

Prerequisite: Consent of project advisor. Not available to Open University Students

Repeatable for credit
Mandatory CR/NC/RP
1-3 units

ME 299. Master's Thesis

Advanced individual work in mechanical engineering for Plan A.

Prerequisite: Consent of thesis advisors. Not available to Open University Students.

Repeatable for credit
Mandatory CR/NC/RP
3 units

UPPER DIVISION

ME 1290R. Culminating Experience Supervision

Continued work on thesis or project beyond minimum required units, for cases in which final deliverables are still in progress.

Prerequisite: RP grade in a preceding thesis or project semester.

Note: No Degree Credit.

Repeatable for credit
No Degree Credit
1 unit

Medical Product Development Management Courses

SCIENCE MEDICAL PRODUCT DEVELOPMENT

GRADUATE

SMPD 202T. MPDM Seminars: Biomedical Business

Special Topics seminar in the management principles and practices of medical product development. Repeatable for credit when topic changes.

Prerequisite: Graduate Standing

Repeatable for credit
Normal Grade Rules
3 units

SMPD 281A. Clinical Development Seminar I

Provides a comprehensive overview of the regulated medical product development process. Topics include initial drug development/device invention to drug/device approval and post-market surveillance. Discussions include non-clinical and clinical studies, regulations, clinical indication determination, research methodology and ethical conduct. Fulfills GWAR requirement

Prerequisite: Admission to MPDM program or certificate

Note: This course satisfies graduate-level GWAR in this master's program.

Normal Grade Rules
GE: GWAR
3 units

SMPD 281B. Clinical Development Seminar II

Current practices for medical product development and the clinical and regulatory pathways required for approval in the USA; including non-clinical study design and GMP process. Emphasis on oral and written communication. Presentations from experts in the field.

Prerequisite: Admission to the Medical Product Development Management program and completion of SMPD 281A.

Misc/Lab: Lecture 2 hour/Activity 4 hours.

Normal Grade Rules
2 units

SMPD 283A. Regulatory Affairs I, Biopharmaceutical

Provide foundational knowledge of the pharmaceutical, biotechnology and biomedical industries with focus on company organization, product development and commercialization-associated activities such as chemical synthesis, device prototyping, quality assurance, regulatory affairs, manufacturing, control, marketing, and post-marketing surveillance.

Normal Grade Rules
3 units

SMPD 283B. Regulatory Affairs II Device-Diagnostics

Overview of laws and regulations enforced by the US Food and Drug Administration (FDA) and other Regulatory Agencies as they relate to biotechnology, medical device and diagnostic industries

Prerequisite: Admission to the MPDM program.

Normal Grade Rules
3 units

SMPD 285. MPDM Research / Practicum

Independent research project / practicum to explore deeper understanding or breadth of experience in medical product development management.

Prerequisite: Admission to MPDM program.

Repeatable for credit
Credit / No Credit
1 unit

SMPD 286. Statistical Methods in Clinical Trials

Overview of statistical methods used in the design and interpretation of clinical trials of drugs and medical devices.

Prerequisite: Admission to the MPDM program.

Normal Grade Rules
3 units

SMPD 287. Informatics in Drug and Device Development

Provides business and regulatory perspectives on electronic information technologies, processes and standards in the conduct of clinical trials. Special emphasis: data collection, clinical trial & data management randomization and drug supply, statistical processes, safety databases and electronic regulatory submission, electronic records and signatures, sys validation processes, and data standards.

Prerequisite: Admission to the MPDM program and completion of SMPD 286.

Normal Grade Rules
3 units

SMPD 289A. Special Topics in Clinical Trials Management I

Seminar focusing on critical issues in clinical development. This programmatic capstone series of seminars challenges the students to demonstrate a mature, professional manner and technical proficiency in the field. Emphasis on oral and written communications. Course includes numerous presentations by industry experts.

Prerequisite: Admission to MPDM program and completion of SMPD 285.

Misc/Lab: Lecture 2 hour/Activity 4 hours

Normal Grade Rules
2 units

SMPD 289B. Clinical Trials Seminar II

Capstone course of the MPDM program

Prerequisite: Admission to MPDM program.

Normal Grade Rules
3 units

Meteorology and Climate Science Department Courses

METEOROLOGY AND CLIMATE SCIENCE

LOWER DIVISION

METR 010. Weather and Climate
A descriptive introduction to the atmosphere, with emphasis on weather phenomena, climate, climate change, forecasting and air pollution. GE Area: B1

Normal Grade Rules
GE: B1
3 units

METR 012. Global Warming: Science and Solutions
Examination of past, present and future climates. Examination of global warming and mitigation strategies. GE Area: B1

Normal Grade Rules
GE: B1
3 units

METR 040. Weather Seminar
Meteorology program planning; careers in Meteorology; a survey of major problems in the atmosphere; faculty research programs; department, college and university resources, survival in the university; strategies for success.

Repeatable for credit
Credit / No Credit
1 unit

METR 050. Scientific Computing I
Computer systems and structured programming, emphasizing solutions of problems in the atmospheric sciences using Python programming. Includes the UNIX operating system, mass data handling and data visualization.

Prerequisite: MATH 030

Corequisite: For METR majors: MATH 31, METR 60, PHYS 50. For Climate Science majors: METR 60 and CHEM 1A.

Misc/Lab: Lecture 1 hour/Lab 3 hours.

Normal Grade Rules
2 units

METR 051. Scientific Computing II
Computer systems and advanced programming in Python emphasizing solutions of problems in the atmospheric sciences. Other related topics include UNIX scripting, advanced data visualization and basic HTML techniques. Introduction to Fortran.

Prerequisite: METR 050 (or equivalent).

Corequisite: For METR majors: METR 61. For Climate Science majors: METR 61 or 71.

Misc/Lab: Lecture 1 hours/lab 3 hours.

Normal Grade Rules
2 units

METR 060. Meteorology I
A quantitative introduction to Atmospheric Science for Meteorology majors.

Prerequisite(s): MATH 030 or MATH 030P (and PHYS 002B for Climate Science Concentration).

Corequisite(s): MATH 031, PHYS 050, METR 050 (or CHEM 001A and METR 050 for Climate Science Concentration).

Misc/Lab: Lecture 2 hours/Lab 3 hours

Normal Grade Rules
3 units

METR 061. Meteorology II
A continuation of METR 060, introducing Meteorology majors to quantitative aspects of the science.

Prerequisite: METR 060, CHEM 001A .

Corequisite: METR 051, MATH 032, PHYS 052, METR 163.

Normal Grade Rules
2 units

METR 071. Introduction to Climate Science
Continuation of METR 060, but with an emphasis on Climate Science.

Prerequisite: METR 060.

Corequisite(s): METR 051, BIOL 031.

Misc/Lab: Lecture 2 hour/Lab 3 hours

Normal Grade Rules
2 units

UPPER DIVISION

METR 100W. Writing Workshop: Meteorological Reports
Introduction to scientific writing, research methods and preparation of technical reports in the meteorology field. GE Area: Z

Prerequisite: A3 or equivalent second semester composition course (with a grade of C- or better); Completion of core GE, satisfaction of Writing Skills Test and upper division standing.

Corequisite: METR 121A or METR 135, or instructor consent.

Note: Must be passed with C or better to satisfy the CSU Graduation Writing Assessment Requirement (GWAR).

Normal Grade Rules
GE: Z
3 units

METR 112. Global Climate Changes
Formation and evolution of the atmosphere. Climate changes in the Earth's past. Interactions between climate and life. Anthropogenic climate change. GE Area: R

Prerequisite: Passage of the Writing Skills Test (WST) or ENGL/LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

Note: All SJSU Studies courses require completion of the WST and upper division standing.

Normal Grade Rules
GE: R
3 units

METR 113. Atmospheric Pollution
Descriptive discussion of the sources, effects and fates of pollutants in the atmosphere. Interaction of pollutants and weather systems, including acid precipitation, ozone destruction; air pollution policy and regulations. GE Area: R

Prerequisite: Passage of the Writing Skills Test (WST) or ENGL/LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

Note: All SJSU Studies courses require completion of the WST and upper division standing.

Normal Grade Rules
GE: R
3 units

METR 115. Wildfire in the Earth System
Introduces students to the science of wildland fire on earth and in various ecosystems. Topics include extreme fire behavior in a changing climate, fire weather, fire danger, and national policies on fire suppression strategies and prescribed fire use in land management. GE Area: R

Prerequisite: Passage of the Writing Skills Test (WST) or ENGL/LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

Normal Grade Rules
GE: R
3 units

METR 121A. Dynamic Meteorology
Theoretical examination of the motion and behavior of the atmosphere. Governing equations and applications; vorticity; waves; numerical prediction; baroclinic instability.

Prerequisite: METR 051, METR 061

Corequisite: MATH 133A

Notes: Year course.

Normal Grade Rules
4 units

METR 121B. Dynamic Meteorology

Theoretical examination of the motion and behavior of the atmosphere. Governing equations and applications; vorticity; waves; numerical prediction; baroclinic instability.

Prerequisite: METR 121A.

Notes: Year course.

Normal Grade Rules
3 units

METR 123. Advanced Climatology

The physical basis of climate with emphasis on the theory of global warming.

Prerequisite: METR 061 or METR 071.

Normal Grade Rules
3 units

METR 125. Physical Meteorology

Cloud and precipitation physics, atmospheric electricity, optics and acoustics.

Prerequisite: METR 124 or instructor consent.

Normal Grade Rules
3 units

METR 130. Boundary Layer Meteorology

Structure of the atmospheric planetary boundary layer with applications to air pollution, agriculture and cities; meso-circulations such as sea breeze.

Prerequisite: METR 121B or instructor consent.

Normal Grade Rules
3 units

METR 131. Air Pollution Meteorology

Quantitative description of contaminants in the atmosphere: sources, dispersion and sinks; their effects on atmospheric energy balance and condensation.

Prerequisite: METR 121B or instructor consent.

Normal Grade Rules
3 units

METR 135. The Global Carbon Cycle

A quantitative examination of the global carbon cycle through the solid earth, atmosphere, oceans, and biosphere.

Prerequisite: METR 071.

Normal Grade Rules
3 units

METR 136. Empirical Techniques in Meteorology

Applications of statistical methods to analysis of meteorological and climatological data; use of the internet to obtain climate data; objective forecasting methods; elementary decision theory; data analysis using contemporary computer software.

Prerequisite: METR 061 or METR 071 (for Climate Science Concentration), or STAT 095 and METR 012 (or METR 112), and upper division standing (for ENVS majors).

Misc/Lab: Lecture 2 hours/lab 3 hours.

Normal Grade Rules
3 units

METR 143C. Numerical Analysis and Scientific Computing

See MATH 143C.

Normal Grade Rules
3 units

METR 150. Computers in Meteorology III

Computer applications to advanced problems in atmospheric science, including specialized computer systems, mass data handling, weather data communications.

Prerequisite: MATH 043, METR 051 or instructor consent.

Misc/Lab: Lecture 2 hours/lab 3 hours.

Notes: Offered only occasionally.

Normal Grade Rules
3 units

METR 155. Remote Sensing

This course will cover the background of remote sensing, current status of sensors and platforms, and recent satellite-based results on climate change.

Prerequisite: METR 124.

Normal Grade Rules
3 units

METR 160. Tropical Meteorology

Local and diurnal variations in tropical weather; mean and synoptic fields of meteorological parameters in the tropics; general circulation; hurricanes; monsoons.

Prerequisite: METR 121B.

Notes: Offered on an irregular basis only.

Normal Grade Rules
3 units

METR 163. Meteorological Instrumentation

Measurement techniques and instruments used in atmospheric and climate sciences, using lecture, laboratory and field work. Students will learn techniques of instrument calibration, deployment, and data acquisition.

Prerequisite: METR 060 (or PHYS 002B; CHEM 001A; STAT 095; AND METR 012 or METR 112 for ENVS majors).

Corequisites: METR 061 (METR majors)

Misc/Lab: Lecture 2 hours/lab 3 hours.

Normal Grade Rules
3 units

METR 164. Introduction to Fire Weather

Quantitative description of weather conditions that lead to fire danger around the world and atmospheric conditions leading to extreme fire behavior.

Prerequisite: METR 061.

Normal Grade Rules
3 units

METR 165. Mountain Meteorology

Examination of atmospheric processes in mountain environments including micro and mesoscale wind systems, precipitation processes and convection, snow and avalanche mechanics.

Prerequisite: METR 061.

Corequisite: METR 121A.

Normal Grade Rules
3 units

METR 166. Field Studies in Meteorology

Intensive summer observing campaign in the field.

Prerequisite: METR 100W, METR 121B, METR 124, METR 170B.

Misc/Lab: Lecture 3 hour/Activity 4 hours

Normal Grade Rules
3 units

METR 168A. Global Climate Change I

See COMM 168A.

Normal Grade Rules
6 units

METR 168B. Global Climate Change II

See COMM 168B.

Normal Grade Rules
GE: RSV
3 units

METR 170A. Weather Briefing

Weather briefing associated with Meteorology 121A,B.

Corequisite: METR 121A.

Misc/Lab: Lab 3 hours.

Notes: Year course 1 unit each semester.

Credit / No Credit
1 unit

METR 170B. Weather Briefing

Weather briefing associated with Meteorology 121A,B.

Corequisite: METR 121B.

Misc/Lab: Lab 3 hours.

Credit / No Credit
1 unit

METR 171A. Synoptic Weather Analysis and Forecasting

Structure and behavior of atmospheric circulation systems, practical weather analysis and forecasting techniques. Acquisition, manipulation and display of real-time data sets, verbal presentations of weather analyses and forecasts.

Prerequisite: METR 100W, METR 121B or instructor consent.

Pre/Corequisite: METR 125 .

Misc/Lab: Lecture 1 hour/lab 6 hours each semester.

Notes: Year course.

Normal Grade Rules
3 units

METR 171B. Synoptic Weather Analysis and Forecasting

Structure and behavior of atmospheric circulation systems, practical weather analysis and forecasting techniques. Acquisition, manipulation and display of real-time data sets, verbal presentations of weather analyses and forecasts.

Prerequisite: METR 171A.

Misc/Lab: Lecture 1 hour/lab 6 hours each semester.

Normal Grade Rules
3 units

METR 172. Mesoscale Meteorology

Structure and behavior of mesocale atmospheric circulations, practical weather forecasting techniques.

Prerequisite: METR 171A.

Normal Grade Rules
3 units

METR 173. Global Climate Modeling

Senior level course focused on climate modeling using the CMIP 3 intercomparison (models used for the IPCC 2007) as the primary study area.

Prerequisites: METR 051, METR 071, METR 100W, METR 136.

Misc/Lab: Lecture 3 hour/Lab 3 hours

Normal Grade Rules
3 units

METR 174. Climate Change Solutions

Senior level capstone course in which students will define and conduct a project which is both climate change related and of a practical nature.

Prerequisite(s): METR 173, METR 100W.

Normal Grade Rules
3 units

METR 179. Topics in Senior Thesis

Supervised research and the preparation of a senior thesis.

Prerequisite: METR 100W. Not available to Open University Students.

Pre/Corequisite: METR 171A (first semester) METR 171B (second semester).

Repeatable for credit
Credit / No Credit
1-2 units

METR 180. Individual Studies

Independent work on topics by special arrangement. A maximum of four units may be repeated.

Prerequisite: Meteorology major or minor. Not available to Open University Students.

Repeatable for credit
Credit / No Credit
1-4 units

METR 182. Tutor Assistant in Meteorology

Supervised instructional experience as a tutor assistant. A maximum of four units may be repeated.

Prerequisite: Upper division standing and instructor consent. Not available to Open University Students.

Repeatable for credit
Credit / No Credit
1 unit

METR 185. Special Topics

Selected topics in meteorology. Topics vary and are announced each semester.

Prerequisite: METR 121B.

Repeatable for credit
Normal Grade Rules
1-3 units

GRADUATE

METR 202. Research Methods in Meteorology

The nature of research in meteorology with particular reference to formulation of the problem, methods of attack and presentation of results. Proposal writing and selection of MS thesis topic.

Prerequisite: Instructor consent.

Notes: Offered on an irregular basis only. This course satisfies graduate-level GWAR in this master's program.

Normal Grade Rules
GE: GWAR
3 units

METR 205. Advanced Atmospheric and Climate Dynamics

Dynamics of larger-scale atmospheric flows over short and climate timescales. Quasi-geostrophic theory and applications; atmospheric waves; baroclinic instability; energetics of atmospheric and climate systems; dynamics of the general circulation; dynamics of the climate system; dynamics of climate change.

Prerequisite: METR 121B or equivalent

Normal Grade Rules
3 units

METR 206. Advanced Synoptic Meteorology

Structure and theory of the observed features of atmospheric circulation regimes. Dynamical and thermodynamical interpretation of various scales of disturbances; application of numerical weather analysis and prediction methods; use of satellite data.

Prerequisite: METR 171B (or equivalent).

Notes: Offered on an irregular basis only.

Normal Grade Rules
3 units

METR 209. Adv Fire Behavior

Advanced topics in meteorology of extreme fire behavior. Includes fire-atmosphere interactions, microscale turbulence, flame properties, combustion physics, fuel dynamics, and extreme fire behavior such as fire whirls. Offered every fourth year. Prerequisite: METR 124 or instructor consent.

Normal Grade Rules
3 units

METR 215. Advanced Physical Meteorology

Thermodynamics of moist air; nucleation processes; particulates in air, microphysics and cloud dynamics, sampling techniques.

Prerequisite: METR 125 (or equivalent).

Normal Grade Rules
3 units

METR 225. Topics in Advanced Atmosphere Dynamics

Gravity wave theory and observation; atmospheric tides; chaos theory; climate change dynamics; teleconnections; the MJO.

Prerequisite: METR 205 or equivalent.

Normal Grade Rules
3 units

METR 240. Numerical Modeling

Numerical analysis and prediction in meteorology. Numerical methods and their errors; finite-difference and spectral methods; atmospheric models.

Prerequisite: METR 050 (or equivalent); METR 205A or instructor consent.

Normal Grade Rules
3 units

METR 241. Parameterization in NWP

Studies of parameterization schemes for sub-gridscale physics in numerical models. Included are schemes for surface fluxes, soil-vegetation models, convection, clouds, and radiative transfer. Why these are needed, and how they are developed and implemented.

Prerequisite: METR 240

Normal Grade Rules
3 units

METR 245. Mesoscale Modeling

Formulation and solution techniques for numerical models of the polluted atmospheric boundary layer, including meso-circulations such as sea breezes.

Prerequisite: METR 130 and METR 240.

Normal Grade Rules
3 units

METR 245L. Mesoscale Modeling Lab

Experience porting, compiling, initializing and running mesoscale models, data analysis and visualization.

Prerequisite: METR 245.

Normal Grade Rules
1 unit

METR 280. Recent Developments in Meteorology

Intensive study of a particular topic in the atmospheric sciences with special emphasis on recent research results, such as instrumentation or modeling techniques. Topics vary and are announced each semester.

Prerequisite: Instructor consent.

Repeatable for credit
Normal Grade Rules
1-3 units

METR 285. Colloquium

Advanced studies in special fields, including original work by faculty, guest speakers and graduate students. One presentation required of each enrolled student and attendance required for all graduate students.

Prerequisite: Instructor consent.

Repeatable for credit
Mandatory CR/NC/RP
1 unit

METR 298. Research

Supervised individual laboratory or field work.

Prerequisite: Instructor consent. Not available to Open University Students.

Repeatable for credit
Mandatory CR/NC/RP
1-4 units

METR 299. Master's Thesis or Project

Prerequisite: Admission to candidacy for the MS degree and approval of topic by thesis advisor.

Prerequisites: Not available to Open University Students.

Repeatable for credit
Mandatory CR/NC/RP
1-6 units

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DESCRIPTION CONTENTS

Military Science Department (Army ROTC) Courses

MILITARY SCIENCE

LOWER DIVISION

MILS 001A. Leadership & Personal Development

Introduction to the personal challenges and competencies that are critical for effective leadership. The focus is on developing basic knowledge and comprehension of Army leadership dimensions while gaining a big picture understanding of the ROTC program.

Normal Grade Rules
2 units

MILS 001B. Introduction to Tactical Leadership

Overviews leadership fundamentals such as setting direction, problem-solving, listening, presenting briefs, providing feedback, and using effective writing skills. Students explore leadership attributes and core leader competencies in the context of practical, hands-on, and interactive exercises.

Normal Grade Rules
2 units

MILS 002A. Innovative Team Leadership

Explores creative and innovative tactical leadership strategies and styles by examining team dynamics and trait and behavior theories. Students practice aspects of personal motivation and team building during planning, executing, and assessment of team exercises and participation in leadership labs.

Normal Grade Rules
2 units

MILS 002B. Foundations of Tactical Leadership

Examines the challenges of leading tactical teams in today's complex world. The course highlights dimensions of terrain analysis, patrolling, and orders. Students develop greater awareness as they assess their own leadership styles and practice communication and team building skills.

Normal Grade Rules
2 units

UPPER DIVISION

MILS 130A. Adaptive Team Leadership

Challenges students to study, practice, and evaluate adaptive leadership skills as they overcome challenging squad tactical operations scenarios. Cadets hone their leadership and critical thinking while they prepare for success at ROTC's summer Leadership Development and Assessment Course (LDAC).

Normal Grade Rules
4 units

MILS 130B. Applied Team Leadership

Uses situational team leadership challenges to build awareness and skills in leading small units. Students review aspects of full spectrum operations, and conduct military briefings to develop proficiency giving operation orders. This is the final course before students attend LDAC.

Normal Grade Rules
4 units

MILS 140A. Adaptive Leadership

Students learn how to train, mentor and evaluate underclassmen. They will learn the duties and responsibilities of an Army staff officer and apply those lessons during weekly training meetings to plan, execute and assess battalion training events.

Normal Grade Rules
4 units

MILS 140B. Leadership in a Complex World

Explores the realities of leading in the Contemporary Operating Environment (COE). Students learn to adapt to operations in unfamiliar lands and international terrorism. The course places significant emphasis on preparing cadets for their first assignment in the US Army.

Normal Grade Rules
4 units

MILS 180. Individual Studies

Individual work on special topics by arrangement.

Prerequisite: Instructor consent and Military Science Chair approval.

Repeatable for credit
Credit / No Credit
1-4 units

MILS 199. American Military History

A survey of diplomatic, international, military and economic aspects of American involvement in conflicts from the Anglo-Indian Wars to present time. Study of leadership, weapons technology, politics, humanitarian operations and critical thinking.

Prerequisite: Upper division standing.

Normal Grade Rules
3 units

Moss Landing Marine Laboratories Courses

MARINE SCIENCE

UPPER DIVISION

MS 103. Marine Ecology
Field-oriented introduction to interrelationship between marine and estuarine organisms and their environment emphasis on quantitative data collection and analysis.

Prerequisite: Ecology, statistics (or concurrent registration in MS 104), or instructor consent.

Misc/Lab: Lecture 2 hours; lab/field 6 hours.

Notes: Offered fall semester.

Normal Grade Rules
4 units

MS 104. Quantitative Marine Science
Mathematical methods for analysis of biological, chemical and physical from the marine environment; experimental design, parametric and non-parametric statistics.

Prerequisite: College mathematics.

Notes: Course cannot be used to meet 30-unit degree requirement. Offered fall semester.

Misc/Lab: Lecture 3 hours/lab 3 hours.

Normal Grade Rules
4 units

MS 105. Marine Science Diving
Skin and SCUBA diving course; pool-training culminates in ten ocean dives. Topics covered include diving physics physiology, diving environments night diving and research diving. Successful completion gives NAUI and MLML certification.

Prerequisite: Certified SCUBA diver (or equivalency as determined by instructor), upper division science major status, thorough physical examination, ability to pass swimming test

Notes: Course cannot be used to meet 30-unit degree requirement. Offered fall & summer.

Misc/Lab: Lecture 1 hour; lab/field 6 hours.

Normal Grade Rules
3 units

MS 112. Marine Birds and Mammals
Systematics, morphology, ecology and biology of marine turtles, birds, and mammals.

Prerequisite: Upper division college vertebrate zoology, instructor's consent; MS 103 recommended.

Misc/Lab: Lecture 2 hours lab/field 6 hours.

Notes: Course is generally offered alternate fall semesters during the odd years.

Normal Grade Rules
4 units

MS 113. Marine Ichthyology
A description of the taxonomy, morphology and ecology of marine fishes. Both field and laboratory work concentrate on the structure, function and habits of marine fishes and the ecological interactions of these fishes with their biotic and abiotic surroundings.

Prerequisite: College zoology (or equivalent) or instructor's consent. MS 103 recommended.

Misc/Lab: Lecture 2 hours lab/field 6 hours.

Notes: Offered spring semester.

Normal Grade Rules
4 units

MS 114. Physiological Ecology of Marine Animals
Examines the adaptations animals have evolved to live in marine environments to deal with gradients in water, temperature, salinity, oxygen, exercise, nutrients as well as short-term physiological responses to environmental changes. Topics include metabolism, sensory systems, respiration, circulation, thermoregulation, osmoregulation.

Prerequisite: upper division vertebrate biology (physiology)

Misc/Lab: 2 hours lecture/ 6 hours lab

Normal Grade Rules
4 units

MS 124. Marine Invertebrate Zoology I
A field-oriented introduction to the structure, systematics, evolution and life histories of the major marine phyla.

Prerequisite: College zoology or instructor consent; MS 103 recommended.

Misc/Lab: Lecture 2 hours lab/field 6 hours.

Notes: Course is generally offered alternate fall semesters during the odd years.

Normal Grade Rules
4 units

MS 131. Marine Botany
Introduction to the plants of the sea, marshes and dunes, with emphasis on the morphology, taxonomy and natural history of seaweeds and vascular plants.

Prerequisite: MS 103 recommended, or instructor consent.

Misc/Lab: Lecture 2 hours/lab 6 hours.

Notes: Offered fall semester.

Normal Grade Rules
4 units

MS 135. Physiological Ecology of Marine Algae
Understanding the adaptations of marine algae to their environment, including respiration, enzyme activity, and biochemical composition. Hands-on experience in basic electronic instrumentation, chemical separations, optical measurements, culturing methods and radioisotope techniques. Designed for students interested in the biology of seaweeds and phytoplankton.

Prerequisite: MS 103, 131, 144 or instructor consent.

Misc/Lab: Lecture 2 hours/lab and field 6 hours.

Notes: Offered fall semester.

Normal Grade Rules
4 units

MS 141. Geological Oceanography
A study of the structures, physiography and sediments of the sea bottom and shoreline.

Prerequisite: Instructor consent.

Misc/Lab: Lecture 2 hours; lab/field 6 hours.

Notes: Offered fall semester.

Normal Grade Rules
4 units

MS 142. Physical Oceanography
An introduction to the nature and causes of various oceanic motions including currents, waves, tides and mixing, and the physical properties of seawater including transmission of sound and light. Limited use of calculus.

Prerequisite: College algebra, college physics recommended, or instructor consent.

Misc/Lab: Lecture 2 hours/lab 4 hours.

Notes: Offered fall semester.

Normal Grade Rules
4 units

MS 143. Chemical Oceanography
An introduction to the theoretical and practical aspects of the chemistry of the oceans, including major salts, dissolved gases, nutrient ions, carbonate system, transient tracers and shipboard sampling techniques.

Prerequisite: One year of college chemistry.

Misc/Lab: Lecture 2 hours/lab 6 hours.

Notes: Offered spring semester.

Normal Grade Rules
4 units

MS 144. Biological Oceanography
The ocean as an ecological system. Emphasis on the complexity of environmental influences on plankton, the transfer of organic matter between trophic levels and nutrient cycles. Laboratory sessions will include methods in sampling, shipboard techniques, identification of the plankton, and current analytical techniques.

Prerequisite: General biology, general chemistry, or instructor consent.

Misc/Lab: Lecture 2 hours/lab 6 hours.

Notes: Offered spring semester.

Normal Grade Rules
4 units

MS 175B. Topics in Marine Sciences (Lab)

Study of selected area of marine sciences. Subjects vary depending upon demand and availability of instructors. May be repeated once for credit when topic changes.

Prerequisite: Instructor consent.

Misc/Lab: Lab 3-12 hours.

Repeatable for credit
Credit / No Credit
1-4 units

MS 180. Independent Studies

Faculty-directed study of selected problems; open to undergraduate students with adequate preparation. Offered every semester. May be repeated once for credit.

Prerequisite: Instructor consent.

Repeatable for credit
Normal Grade Rules
1-4 units

GRADUATE

MS 201. Library Research Methods in Marine Science

Students will gain an advanced understanding of the nature of scientific information. Lectures, discussions and assignments will provide the framework for using and evaluating a variety of information sources in marine and ocean sciences. Strong emphasis will be placed on developing critical skills to interweave knowledge of the history of science into the context of bibliographic tools including the digital realm.

Prerequisite: Graduate standing, instructor consent.

Notes: Offered spring semester.

Normal Grade Rules
1 unit

MS 202. Oceanographic Instrumentation

Principles of instruments used in oceanographic research, introduction to electronics, and applications of instrument measurements. Emphasis will vary from CTD profilers, current meters, radiometry and chemical measurement.

Prerequisite: Graduate standing; MS 141, MS 142 and instructor consent.

Misc/Lab: Lecture/discussion 2 hours; lab/field 6 hours.

Notes: Offered alternate spring semesters.

Normal Grade Rules
4 units

MS 203. Advanced Marine Ecology

Marine ecology is the study of factors determining the distribution and abundance of marine organisms. This course focuses on the major ecological processes determining the structure and diversity of species assemblages at several scales, primarily at that of the community.

Prerequisite: Ecology, Statistics, Instructor Consent, graduate level

Misc/Lab: 2 hours lecture/ 6 hours lab

Normal Grade Rules
4 units

MS 204. Sampling and Experimental Design

Basic design of experiments and field sampling. Biases and problems of sampling marine biota.

Prerequisite: Graduate standing; MS 103 and MS 104.

Notes: Offered spring semester.

Normal Grade Rules
4 units

MS 206. Molecular Biological Techniques

Laboratory-based overview of concepts and techniques for the isolation, characterization, and analysis of DNA and RNA. Covers standard methods (amplification, cloning, and sequencing), and selected specialized techniques (analysis of gene expression), emphasizing marine science applications.

Prerequisite: Graduate standing; college level genetics, molecular biology, or instructor consent.

Misc/Lab: Lecture 2 hours/Lab 6 hours.

Notes: Offered spring semester.

Normal Grade Rules
4 units

MS 208. Scientific Methods

Course is designed to help students develop an understanding of strengths and limitations of various types of scientific reasoning, methodology, and analysis as they relate to scientific progress. Course centers on: round-table discussions of papers and techniques; interactive computer , laboratory, and field learning experiences; and development of critical thinking and writing skills.

Prerequisite: Graduate standing; instructor consent and approved thesis proposal.

Misc/Lab: Lecture 3 hours/Lab 2 hours.

Notes: Offered spring semester.

Normal Grade Rules
4 units

MS 210. Advanced Marine Mammals, Birds & Turtles

This course examines the biology of marine mammals, birds and turtles. Topics include systematics and evolution, adaptations to the marine environment, diving physiology and behavior, communication and echolocation, ecology, and conservation. This class consists of lectures, discussions of recent literature, and laboratory exercises.

Prerequisite: Introductory Biology, upper division vertebrate biology (physiology, ecology or similar)

Misc/Lab: 2 hours lecture/ 6 hours lab

Normal Grade Rules
4 units

MS 211. Ecology of Marine turtles, Birds, and Mammals

Community approach to the ecology of marine birds and mammals using experimental and sampling methodology. The class will examine the distribution, abundance, trophic ecology, and behavior of birds and mammals in Elkhorn Slough and Monterey Bay.

Prerequisite: Graduate standing; MS 103, MS 104 and MS 112 and instructor consent.

Misc/Lab: Lecture/discussion 2 hours; lab and field 6 hours.

Notes: Generally offered alternate fall semesters during even years.

Normal Grade Rules
4 units

MS 212. Advanced Topics in Marine Vertebrates

Advanced consideration of the ecology, physiology and phylogeny of fishes, birds, reptiles or mammals, emphasizing current literature and research. Topics and emphasis will vary with term and instructor. May be repeated once for credit.

Prerequisite: Graduate standing; MS 112 or MS 113 and instructor consent.

Misc/Lab: Lecture, lab and field work variable.

Repeatable for credit
Normal Grade Rules
1-4 units

MS 213. Advanced Marine Ichthyology

This course covers taxonomy and systematics, functional morphology, physiology, biogeography, and ecology of marine fishes at an advanced level. Accompanying laboratory and field sessions focus on taxonomic identification, morphological structure and function, and habits of marine fishes, and the ecological interactions of these fishes with their biotic and abiotic surroundings.

Prerequisite: College zoology or equivalent or consent of instructor; MS 103 recommended.

Misc/Lab: Lecture 4 hours/Lab 12 hours

Normal Grade Rules
4 units

MS 214. Physiological Ecology of Marine Animals

Examines the adaptations animals have evolved to live in marine environments to deal with gradients in water, temperature, salinity, oxygen, exercise, nutrients as well as short-term physiological responses to environmental changes. Topics include metabolism, sensory systems, respiration, circulation, thermoregulation, osmoregulation.

Prerequisite: upper division vertebrate biology (physiology)

Misc/Lab: 2 hours lecture/ 6 hours lab

Normal Grade Rules
4 units

MS 221. Advanced Topics in Marine Invertebrates

Advanced consideration of the ecology, physiology and phylogeny of the various invertebrate phyla emphasizing current literature and research. Topics and emphasis will vary from term to term. May be once repeated for credit when topic changes.

Prerequisite: MS 124 and instructor consent.

Misc/Lab: Lecture, laboratory and field work variable.

Repeatable for credit
Normal Grade Rules
1-4 units

MS 231. Biology of Seaweeds

Discussions on on marine macroalgal biology with extensive reading of original literature. Ecologically-oriented individual research projects involving laboratory culture and field experimentation.

Prerequisite: Graduate standing; MS 131 or instructor consent.

Misc/Lab: Lecture 2 hours; lab/field work 6 hours.

Notes: Offered fall semester.

Normal Grade Rules
4 units

MS 233. Advanced Topics in Marine Ecology

Selected topics and current issues in marine ecology. Subjects vary depending on student demand and availability of instructors. May be repeated once for credit when topic changes.

Prerequisite: Graduate standing; MS 103 and instructor consent.

Misc/Lab: Lecture, lab/field work variable.

Repeatable for credit
Normal Grade Rules
1-4 units

MS 234. Advanced Biological Oceanography

Experimental techniques in biological oceanography with emphasis on problems important in plankton ecology. An individual research project involving the use of one or more modern analytical tools will be required.

Prerequisite: Graduate standing; MS 144 or instructor consent.

Misc/Lab: Lecture 2 hours; lab/field work 6 hours.

Notes: Offered fall semester.

Normal Grade Rules
4 units

MS 248. Marine Benthic Habitat Techniques

Collection and interpretation of geophysical data used to characterize marine benthic habitats. Basic geophysical principals will be reviewed. Application of techniques to identify and characterize marine benthic habitats, including echosounders, multibeam bathymetry and backscatter, sidescan sonar, seismic profiling, and GIS.

Prerequisite: Graduate standing; MS 141 or instructor consent.

Misc/Lab: Lecture 2 hours; lab/field work 6 hours.

Notes: Offered alternate spring semesters during odd years.

Normal Grade Rules
4 units

MS 261. Mixing, Estaurine and Sediment Transport

The mathematical description of the distribution of properties (density, dissolved oxygen, etc.) in the oceans relating to physical and biochemical processes. Equations of motion, geotropic method, and theory of distribution of variables.

Prerequisite: Graduate standing; MS 142 and college physics strongly recommended, or instructor consent.

Misc/Lab: Lecture 3 hours; lab/field work 3 hours.

Notes: Offered alternate spring semesters during odd years.

Normal Grade Rules
4 units

MS 263. Data Analysis in Marine Science

Introduction to using observational oceanographic data, with hands on practice in scientific programming for data analysis. Lecture, discussion, and practical experience including the use of existing programs and subroutine libraries. Semester project required.

Prerequisite: Graduate standing; MS 104, college math and instructor consent.

Misc/Lab: Lecture 2 hours/lab 6 hours.

Notes: Offer spring semester.

Normal Grade Rules
4 units

MS 272. Subtidal Ecology

The ecology of nearshore rocky subtidal populations and communities with emphasis on kelp forests. Lectures and discussions of original literature. Field work with SCUBA including group projects on underwater research techniques and community analysis. Individual research on ecological questions chosen by the student. Knowledge of marine algae, invertebrates and statistics recommended.

Prerequisite: Graduate standing; MS 103; MLML diver certification and marine ecology.

Misc/Lab: Lecture 2 hours; lab/field work 6 hours.

Notes: Offered alternate spring semesters during odd years.

Normal Grade Rules
4 units

MS 273. Marine Environmental Studies of the Gulf of California

An analysis of Gulf of California marine environments. Lectures, readings, intensive field work, and written scientific paper based on original research. Topics vary. Taught with Mexican faculty and students from La Paz, Mexico. Must be able to participate in 2 weeks of field work.

Prerequisite: Graduate standing; instructor consent.

Misc/Lab: Lecture 2 hours/lab 6 hours.

Notes: Offered spring semester.

Normal Grade Rules
4 units

MS 274. Advanced Topics in Oceanography

Study of selected area in oceanography. Subjects vary depending on student demand and availability of instructors. May be repeated once for credit when topic changes.

Prerequisite: Graduate standing and instructor consent.

Misc/Lab: Lecture, lab/field work variable.

Repeatable for credit
Normal Grade Rules
1-4 units

MS 280. Scientific Writing

Techniques and strategies of scientific writing used for proposals, journal submissions and abstracts of meetings. Emphasis to develop writing skills by preparing, editing, and rewriting manuscripts.

Prerequisite: Graduate standing and instructor consent.

Notes: Offered spring semester.

Normal Grade Rules
3 units

MS 281. Coastal Dynamics

Oceanographic dynamics of coastal environments, with an emphasis on eastern boundary current systems influenced by coastal upwelling. Interactions of physical and geological oceanography and how both affect coastal ecosystem dynamics.

Prerequisite: Graduate standing and MS 142 or MS 141.

Notes: Offered spring semester.

Misc/Lab: Lecture 4 hour/Lab 12 hours.

Normal Grade Rules
4 units

MS 285. Graduate Seminar in Marine Science

Seminar will be held on topics changing each semester. Each student will be required to give at least one seminar.

Prerequisite: Graduate standing and instructor consent.

Notes: Offered fall and spring semesters.

Repeatable for credit
Normal Grade Rules
2 units

MS 298. Research in the Marine Science

Independent investigations of an advanced character for the graduate student with adequate preparation.

Prerequisite: Graduate standing and instructor consent.

Repeatable for credit
Mandatory CR/NC/RP
1-4 units

MS 299. Master's Thesis

Offered spring and fall semesters. Available only to MLML Masters' students in good standing with the approval of their major advisor.

Prerequisites: classified graduate standing, advancement to candidacy.

Repeatable for credit
Mandatory CR/NC/RP
1-4 units

UPPER DIVISION

MS 1290R. Culminating Experience Supervision

Continued work on thesis.

Prerequisite: Outstanding RP grade in a preceding semester in MS 299

Note: No Degree Credit.

Repeatable for credit
No Degree Credit
1 unit

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Music and Dance, School of Courses

DANCE

LOWER DIVISION

DANC 010. Dance Appreciation
A survey of dance as art in the Western world. The course examines the diversity of people, cultures and events that led to the development of Ballet, Modern, Jazz, Tap and Musical Theatre Dance. GE Area: C1

Normal Grade Rules
GE: C1
3 units

DANC 012. Ensemble Dance Rehearsal and Performance
ENS: Training and performance experience in the field of dance. Fully-staged productions of original professional choreographic works.

Pre-requisite: Audition and Instructor Consent

Repeatable for credit
Normal Grade Rules
2 units

DANC 040A. Topics in Modern Dance I
Training experience in the field of beginning modern dance with varied topics. Can be repeated when topic changes.

Misc/Lab: Activity 4 hours.

Repeatable for credit
Normal Grade Rules
GE: PE
2 units

DANC 041A. Topics in Ballet I
Training experience in the field of beginning ballet dance with varied topics. Can be repeated when topic changes.

Misc/Lab: Activity 4 hours.

Repeatable for credit
Normal Grade Rules
GE: PE
2 units

DANC 042A. Topics in Jazz Dance I
Training experience in the field of beginning Jazz dance with varied topics. Can be repeated when topic changes.

Misc/Lab: Activity 4 hours.

Repeatable for credit
Normal Grade Rules
GE: PE
2 units

DANC 043. Dance Improvisation
Introduction to dance improvisation, developing skills in creativity in preparation for DANC 145A.

Prerequisite: Intermediate technique standing and permission of instructor.

Normal Grade Rules
1 unit

DANC 045A. Beginning Lindy Hop and Night Club Swing
See KIN 045A.

Normal Grade Rules
GE: PE
1 unit

DANC 046A. Beginning Social Dance
See KIN 046A.

Normal Grade Rules
GE: PE
1 unit

DANC 046B. Intermediate Social Dance
See KIN 046B.

Normal Grade Rules
GE: PE
1 unit

DANC 048A. Beginning Latin Dance
See KIN 048A.

Normal Grade Rules
GE: PE
1 unit

DANC 048B. Intermediate Latin Dance
See KIN 048B.

Normal Grade Rules
GE: PE
1 unit

DANC 049A. Topics in Tap Dance I
Training and experience in the field of beginning tap dance with varied topics. Can be repeated when topic changes.

Misc/Lab: Activity 3 hours.

Repeatable for credit
Normal Grade Rules
1 unit

DANC 049B. Topics in Tap Dance II
Training and experience in the field of intermediate tap dance with varied topics. Can be repeated for up to 2 units of credit when topic changes.

Prerequisite: DANC 49A (or equivalent).

Misc/Lab: Activity 3 hours

Repeatable for credit
Normal Grade Rules
1 unit

DANC 051A. Dance Production
Practical experience in technical aspects of producing a dance concert.

Prerequisite: Instructor consent.

Misc/Lab: Lecture 1 hour/activity 3 hours.

Repeatable for credit
Normal Grade Rules
3 units

DANC 051B. Topics in Dance Crewing
The purpose of this course is to apply practical application of skills in dance production.

Repeatable for credit
Credit / No Credit
0.5 units

DANC 053. Techniques in World Dance
Traditional or theatrical dance forms selected from one or at the most two specific cultures. Classical ballet, modern, jazz, and tap dance are excluded.

Prerequisite: Level II technique standing.

Misc/Lab: Activity 3 hours.

Repeatable for credit
Normal Grade Rules
1 unit

DANC 054. Topics in Dance Technique II
Beginning/Intermediate Dance with varied topics.

Prerequisite: Audition or Instructor Consent

Repeatable for credit
Normal Grade Rules
GE: PE
3 units

DANC 075. Rhythm and Dynamics in Dance
Basic music theory and the relationship of dance and music.

Misc/Lab: Activity 2 hours.

Normal Grade Rules
1 unit

UPPER DIVISION

DANC 102. Dance in World Cultures
Survey of dance in selected world cultures; the role of dance in society; consideration of style, historical background and religious/cultural influences. Included are: Caribbean, West African, Mexican, Balkan, European, Asian and American cultures. GE Area: V

Prerequisite: Passage of the Writing Skills Test (WST) or ENGL/LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

Note: All SJSU Studies courses require completion of the WST and upper division standing.

Normal Grade Rules
GE: V
3 units

DANC 112. ENS: Dance Rehearsal and Performance
ENS: Training and performance experience in the field of dance. Fully-staged productions of original professional choreographic works of varying styles.

Prerequisite: Audition and instructor consent

Misc/Lab: Lab hours required.

Repeatable for credit
Credit / No Credit
2 units

DANC 140B. Topics in Modern Dance IV

Training experience in the field of advanced modern dance with varied topics. Can be repeated for credit when topic changes.

Prerequisite: DANC 140A and permission of instructor.

Misc/Lab: Activity 6 hours.

Repeatable for credit
Normal Grade Rules
2 units

DANC 141B. Topics in Ballet IV

Training experience in the field of advanced ballet with varied topics. Can be repeated for credit when topic changes.

Prerequisite: DANC 141A and permission of instructor.

Misc/Lab: Activity 6 hours.

Repeatable for credit
Normal Grade Rules
2 units

DANC 142B. Topics in Jazz Dance IV

Training experience in the field of advanced Jazz dance with varied topics. Can be repeated for credit when topic changes.

Prerequisite: DANC 142A and permission of instructor.

Misc/Lab: Activity 6 hours.

Repeatable for credit
Normal Grade Rules
2 units

DANC 144A. Dance History and Repertory

History of dance and dances from ancient time to the court of King Louis XIV. Selected repertory works.

Prerequisite: Upper division standing.

Misc/Lab: Lecture 2 hours/activity 3 hours.

Normal Grade Rules
3 units

DANC 144B. Dance History and Repertory

History of dance and dances from the court of King Louis XIV through the twentieth century. Selected repertory works.

Prerequisite: Upper division standing.

Misc/Lab: Lecture 2 hours/activity 3 hours.

Normal Grade Rules
3 units

DANC 145A. Choreography I

Presentation and criticism of solo choreography; introduction to improvisational techniques.

Prerequisite: DANC 043 and Audition.

Misc/Lab: Activity 4 hours.

Normal Grade Rules
3 units

DANC 145B. Choreography II

Styles; forms; use of improvisation; presentation and criticism of small group dance.

Prerequisite: DANC 145A and Audition.

Misc/Lab: Activity 4 hours.

Normal Grade Rules
3 units

DANC 145C. Choreography III

Practical application of external style in relationship with art from tribal to contemporary times. Concepts, styles and forms of modern dance in the twentieth century.

Prerequisite: DANC 145B and Audition.

Misc/Lab: Activity 4 hours.

Repeatable for credit
Normal Grade Rules
3 units

DANC 147A. Dance Seminar

Course geared toward the understanding of a broader perspective of the Art of Dance with emphasis on current trends, development of personal artistic statement and introductory teaching techniques.

Prerequisite: Senior standing and completion or concurrent enrollment in DANC 144A and/or DANC 144B.

Normal Grade Rules
3 units

DANC 148. Children's Dance

Study of dance for children as personal expression through movement. Use of creative dance as a tool for the enrichment of learning. Experiencing dance in a variety of cultures.

Prerequisite: Upper division standing.

Misc/Lab: Lecture 2 hours/activity 2 hours.

Normal Grade Rules
3 units

DANC 150A. Kinesiology I

This course is designed to help provide the dancer with essential information about structure and function of the human body and the achievement of optimal performance through the science of human motion.

Misc/Lab: Lecture 2 hours/lab 2 hours.

Normal Grade Rules
3 units

DANC 150B. Kinesiology II

This course is designed to help provide the dancer with essential information about injury prevention and introduce active somatic techniques to increase muscular efficiency, balance and overall awareness of the body.

Prerequisite: DANC 150A.

Misc/Lab: Lecture 2 hours/activity 2 hours.

Normal Grade Rules
3 units

DANC 151. Introduction to Dance Pedagogy

Examines methods and modes of teaching dance as an art form, and embodied practice for producing and constructing knowledge and as movement research. Course investigates both theory and practice with concentrated focus on experiential, relational and holistic learning modes.

Prerequisite: Danc 54 and instructor approval

Misc/Lab: 1 hour lecture/ 2 hours activity

Normal Grade Rules
2 units

DANC 154A. Topics in Dance Technique III

Intermediate/advanced dance with varied topics.

Prerequisite: Audition or Instructor Approval

Repeatable for credit
Normal Grade Rules
GE: PE
3 units

DANC 154B. Topics in Dance Technique IV

Advanced Dance with varied topics.

Prerequisite: Audition or Instructor Approval

Repeatable for credit
Normal Grade Rules
GE: PE
3 units

DANC 186. Choreographing the Musical

Study and practice of staging and choreographing musical comedy. Analysis of scripts and choreographic techniques.

Prerequisite: DANC 75, DANC 145A and permission of instructor.

Misc/Lab: Lecture/activity 3 hours.

Normal Grade Rules
3 units

DANC 194. Dance Repertory Activity

Training and performance experience in the field of dance. Fully-staged productions of original student choreographic works. Can be repeated up to 12 times when repertory changes.

Prerequisite: DANC 51A or instructor consent.

Repeatable for credit
Mandatory CR/NC/RP
1 unit

DANC 198. Internship in Dance

Supervised internship with approved dance organization. Written evaluation submitted by organizations and student after field work.

Prerequisite: Instructor consent.

Repeatable for credit
Credit / No Credit
1-3 units

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MUSIC

LOWER DIVISION

MUSC 001A. Music Systems IA

First course in a four-semester core sequence of study of analytical systems of music. Topics include rhythm, melody, harmony, timbre, structure, style and contexts for performance and composition.

Prerequisite: Placement examination or completion of MUSC 9 with a grade of 'C' or better.

Normal Grade Rules
2 units

MUSC 001B. Music Systems IB

First course in a four-semester core sequence of aural skills acquisition, including dictation, sight-singing and analysis.

Prerequisite: Placement examination.

Normal Grade Rules
1 unit

MUSC 002A. Music Systems IIA

Second course in a four-semester core sequence of study of analytical systems of music. Topics from MUSC 1A are continued in greater detail with increased complexity.

Prerequisite: MUSC 1A or placement examination.

Normal Grade Rules
2 units

MUSC 002B. Music Systems IIB

Second course in a four-semester core sequence of aural skills acquisition, including diction, sight-singing and analysis.

Prerequisite: MUSC 1B or placement examination.

Normal Grade Rules
1 unit

MUSC 003A. Music Systems IIIA

Third course in a four-semester core sequence of study of analytical systems of music. Topics from MUSC 2A are continued in greater detail with increased complexity.

Prerequisite: MUSC 2A or placement examination.

Normal Grade Rules
2 units

MUSC 003B. Music Systems IIIB

Third course in a four-semester core sequence of aural skills acquisition, including dictation, sight-singing and analysis.

Prerequisite: MUSC 2B or placement examination.

Normal Grade Rules
1 unit

MUSC 004A. Music Systems IVA

Fourth course in a four-semester core sequence of study of analytical systems of music. Topics from MUSC 3A are continued in greater detail and with increased complexity. GE Area: C1 when taken as part of the Music Intensive Package.

Prerequisite: MUSC 3A or placement examination.

Note: Music Intensive Package also requires MUSC 4B and MUSC 12

Normal Grade Rules
GE: C1
2 units

MUSC 004B. Music Systems IVB

Fourth course in a four-semester core sequence of aural skills acquisition, including dictation, sight-singing and analysis. GE Area: C1 when taken as part of the Music Intensive Package.

Prerequisite: MUSC 3B or placement examination.

Note: Music Intensive Package also requires MUSC 4A and MUSC 12

Normal Grade Rules
GE: C1
1 unit

MUSC 006. Jazz Theory

Understanding of traditional jazz nomenclature including chord symbols, chord/scale relationships, and jazz harmony. Various scales, their modes and their applications will be addressed as well as their applications to harmonic progressions common to the jazz idiom.

Prerequisite: MUSC 1A, MUSC 1B, MUSC 25A.

Normal Grade Rules
2 units

MUSC 009. Music Fundamentals

Understanding music terminology, fundamental concepts in music theory and techniques in music reading. Required of all music minors. Acceptable as elective credit for music major (as review of fundamentals or for individual instruction in conjunction with applied music study) only with prior advisor approval.

Misc/Lab: Lecture 2 hours/activity 2 hours.

Normal Grade Rules
3 units

MUSC 010A. Music Appreciation

General survey of Western music focusing on recorded and live performances. GE Area: C1

Normal Grade Rules
GE: C1
3 units

MUSC 010B. Introduction to Music

Beginning piano playing as a means to understanding music. Listening skills developed through exposure to a variety of music: Popular/classical, old/new, Western/non-Western. GE Area: C1

Normal Grade Rules
GE: C1
3 units

MUSC 012. Medieval and Renaissance Music

A brief introduction to the six major periods of music history (Ancient and Medieval, Renaissance, Baroque, Classical, Romantic and Modern) followed by a survey of the Ancient, Medieval, and Renaissance periods with a study of notation, theory, composers, works, and cultural history. GE Area: C2 when taken as part of the Music Intensive Package.

Prerequisite: MUSC 2A or instructor consent.

Note: Music Intensive Package also requires MUSC 4A and MUSC 4B

Normal Grade Rules
GE: C2
3 units

MUSC 013. Music Technology

Hands-on skills development in music hardware and software, including music integration in word processing and graphics, music notation and Internet/WWW-based research tools for music majors or non-music majors with some music background.

Normal Grade Rules
1 unit

MUSC 019. Music in World Cultures

Introduction to music in various cultural contexts outside European classical tradition. Live performances, film, video tapes and slides. Projects involving related arts encouraged. GE Area: C1

Normal Grade Rules
GE: C1
3 units

MUSC 025A. Piano Proficiency I

Skills development in performing four-part harmony; harmonizing melodies in pianistic style, modulation, simple score reading and sight-reading. First in three-course sequence to prepare applied music students for piano proficiency exam at the end of MUSC 25C. Prerequisite: MUSC 9 (or equivalent) or instructor consent. Misc/Lab: Activity 2 hours.

Normal Grade Rules
1 unit

MUSC 025B. Piano Proficiency II

25B continuation of 25A.

Prerequisite: MUSC 25A or equivalent, instructor consent

Normal Grade Rules
1 unit

MUSC 025C. Piano Proficiency III

Preparation for Piano Proficiency Exam

Prerequisite: MUSC 9, 25B or equivalent, instructor consent

Repeatable for credit
Normal Grade Rules
1 unit

MUSC 026A. Voice Fundamentals

Principles of voice production and performance.

Prerequisite: MUSC 9 or MUSC 10B (or equivalent).

Normal Grade Rules
1 unit

MUSC 027A. Fundamentals of Jazz Keyboard I

For any instrumental/voice student. Basic skills in jazz keyboard: Chord voicings, symbols, progressions and rhythmic patterns, jazz styles, simple melodic techniques and accompaniment.

Normal Grade Rules
1 unit

MUSC 027B. Fundamentals of Jazz Keyboard II

Advanced applications of materials presented in MUSC 27A, including keyboard performance of selected lead-sheet literature; chord symbol recognition, keyboard techniques, chord substitutions introduced, polychords.

Prerequisite: MUSC 27A (or equivalent).

Normal Grade Rules
1 unit

MUSC 028. Guitar Fundamentals

The purpose of this course is to develop basic skills and techniques in guitar playing, applicable to various types of music and teaching.

Prerequisite: Ability to read music.

Normal Grade Rules
1 unit

MUSC 029. Electro-Acoustics

Incorporating current music technology and instrumentation in creating works and projects. Required each semester of lower division electro-acoustic majors.

Pre-requisite: Audition or Instructor Consent

Normal Grade Rules
1-2 units

MUSC 029A. Electro-Acoustics 1

APPLIED LESSONS: Electro-acoustics level 1, incorporating current music technology and instrumentation into projects. For music technology majors.

Pre-requisite: Audition and instructor consent

Normal Grade Rules
1-2 units

MUSC 029AX. Applied Electro-Acoustic 1

The course is an intensive study of electro-acoustic music and audio production methods. Works and projects are created incorporating current music technology and instrumentation.

Prerequiste: Successful audition into the applied area

Normal Grade Rules
1 unit

MUSC 029B. Electro-Acoustics 2

APPLIED LESSONS: Electro-acoustics level 2, incorporating current music technology and instrumentation into projects. For music technology majors.

Pre-requisite: Audition and instructor consent, MUSC 29A or equivalent

Normal Grade Rules
1-2 units

MUSC 029BX. Applied Electro-Acoustic 2

The course is an intensive study of electro-acoustic music and audio production methods. Works and projects are created incorporating current music technology and instrumentation.

Prerequisite: Successful audition into the applied area

Normal Grade Rules
1 unit

MUSC 029C. Electro-Acoustics 3

APPLIED LESSONS: Electro-acoustics level 3, incorporating current music technology and instrumentation into projects. For music technology majors.

Pre-requisite: Audition and instructor consent, MUSC 29B or equivalent

Normal Grade Rules
1-2 units

MUSC 029CX. Applied Electro-Acoustic 3

The course is an intensive study of electro-acoustic music and audio production methods. Works and projects are created incorporating current music technology and instrumentation.

Prerequisite: Successful audition into the applied area

Normal Grade Rules
1 unit

MUSC 029D. Electro-Acoustics 4

APPLIED LESSONS: Electro-acoustics level 4, incorporating current music technology and instrumentation into projects. For music technology majors.

Pre-requisite: Audition and instructor consent, MUSC 29C or equivalent

Normal Grade Rules
1-2 units

MUSC 029DX. Applied Electro-Acoustic 4

The course is an intensive study of electro-acoustic music and audio production methods. Works and projects are created incorporating current music technology and instrumentation.

Prerequisite: Successful audition into the applied area

Normal Grade Rules
1 unit

MUSC 029X. Electro-Acoustics

The course is an intensive study of electro-acoustic music and audio production methods. Works and projects are created incorporating current music technology and instrumentation.

Prerequisite: Successful audition into the applied area

Normal Grade Rules
1 unit

MUSC 030. Piano

Required each semester of lower division piano majors.

Prerequisite: Audition or instructor consent.

Normal Grade Rules
1-2 units

MUSC 030A. Piano 1

APPLIED LESSONS: Piano level 1. Required of BM piano majors every semester.

Pre-requisite: Audition and instructor consent

Normal Grade Rules
1-2 units

MUSC 030AX. Applied Piano 1

The objective of applied lessons is for the instructor to work intensively with the individual piano major in acquiring skills both technical and interpretive in the mastery of standard repertory.

Prerequisite: Successful audition into applied area

Normal Grade Rules
1 unit

MUSC 030B. Piano 2

APPLIED LESSONS: Piano level 2. Lessons required of BM piano majors every semester.

Pre-requisite: Audition and instructor consent

Normal Grade Rules
1-2 units

MUSC 030BX. Applied Piano 2

The objective of applied lessons is for the instructor to work intensively with the individual piano major in acquiring skills both technical and interpretive in the mastery of standard repertory.

Prerequisite: Successful audition into applied area

Normal Grade Rules
1 unit

MUSC 030C. Piano 3

APPLIED LESSONS: Piano level 3. Lessons required of BM piano majors every semester.

Pre-requisite: Audition and instructor consent, MUSC 30B or equivalent.

Normal Grade Rules
1-2 units

MUSC 030CX. Applied Piano 3

The objective of applied lessons is for the instructor to work intensively with the individual piano major in acquiring skills both technical and interpretive in the mastery of standard repertory.

Prerequisite: Successful audition into applied area

Normal Grade Rules
1 unit

MUSC 030D. Piano 4

APPLIED LESSONS: Piano level 4. Lessons required of BM piano majors every semester.

Pre-requisite: Audition and instructor consent, MUSC 30C or equivalent.

Normal Grade Rules
1-2 units

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MUSC 030DX. Applied Piano 3

The objective of applied lessons is for the instructor to work intensively with the individual piano major in acquiring skills both technical and interpretive in the mastery of standard repertory.

Prerequisite: Successful audition into applied area

Normal Grade Rules
1 unit

MUSC 030X. Applied Piano

The objective of applied lessons is for the instructor to work intensively with the individual piano major in acquiring skills both technical and interpretive in the mastery of standard repertory.

Prerequisite: Successful audition into applied area

Normal Grade Rules
1 unit

MUSC 031. Harpsichord or Organ

APPLIED LESSONS: Harpsichord or organ. Required of BM harpsichord or organ majors every semester.

Prerequisite: Audition or instructor consent.

Normal Grade Rules
1-2 units

MUSC 031A. Harpsichord or Organ 1

APPLIED LESSONS: Harpsichord or organ level 1. Required of BM piano majors every semester.

Pre-requisite: Audition or Instructor Consent

Normal Grade Rules
1-2 units

MUSC 031AX. Harpsichord or Organ 1

APPLIED LESSONS: Harpsichord or organ. Required each semester of lower division BA, BM-Composition or BM-Jazz Studies majors for whom harpsichord or organ is the applied area.

Prerequisite: Audition and instructor approval

Normal Grade Rules
1 unit

MUSC 031B. Harpsichord or Organ 2

APPLIED LESSONS: Harpsichord or organ level 2. Required of BM piano majors every semester.

Pre-requisite: Audition and instructor consent, MUSC 31A or equivalent

Normal Grade Rules
1-2 units

MUSC 031BX. Harpsichord or Organ 2

APPLIED LESSONS: Harpsichord or organ. Required each semester of lower division BA, BM-Composition or BM-Jazz Studies majors for whom harpsichord or organ is the applied area.

Prerequisite: Audition and instructor approval

Normal Grade Rules
1 unit

MUSC 031C. Harpsichord or Organ 3

APPLIED LESSONS: Harpsichord or organ level 3. Required of BM piano majors every semester.

Pre-requisite: Audition and instructor consent, MUSC 31B or equivalent

Normal Grade Rules
1-2 units

MUSC 031CX. Harpsichord or Organ 3

APPLIED LESSONS: Harpsichord or organ. Required each semester of lower division BA, BM-Composition or BM-Jazz Studies majors for whom harpsichord or organ is the applied area.

Prerequisite: Audition and instructor approval

Normal Grade Rules
1 unit

MUSC 031D. Harpsichord or Organ 4

APPLIED LESSONS: Harpsichord or organ level 4. Required of BM piano majors every semester.

Pre-requisite: Audition and instructor consent, MUSC 31C or equivalent

Normal Grade Rules
1-2 units

MUSC 031DX. Harpsichord or Organ 4

APPLIED LESSONS: Harpsichord or organ. Required each semester of lower division BA, BM-Composition or BM-Jazz Studies majors for whom harpsichord or organ is the applied area.

Prerequisite: Audition and instructor approval

Normal Grade Rules
1 unit

MUSC 031X. Harpsichord or Organ

APPLIED LESSONS: Harpsichord or organ. Required each semester of lower division BA, BM-Composition or BM-Jazz Studies majors for whom harpsichord or organ is the applied area.

Prerequisite: Audition and instructor approval

Normal Grade Rules
1 unit

MUSC 033. Voice

Required each semester of lower division voice majors. Study and development of vocal techniques and performance of representative repertoire from principal periods in music. Includes compositions embracing the English, Italian, French and German languages.

Prerequisite: Audition or instructor consent.

Normal Grade Rules
1-2 units

MUSC 033A. Voice 1

APPLIED LESSONS: Voice level 1. Required of BM vocal majors every semester.

Pre-requisite: Audition and instructor consent

Normal Grade Rules
1-2 units

MUSC 033AX. Applied Voice 1

Applied Lessons 1-8, required each semester for lower and upper division Voice majors.

Prerequisite: Audition and/or the prior course in the sequence

Normal Grade Rules
1 unit

MUSC 033B. Voice 2

APPLIED LESSONS: Voice level 2. Required of BM vocal majors every semester.

Pre-requisite: Audition and instructor consent, 33A or equivalent

Normal Grade Rules
1-2 units

MUSC 033BX. Applied Voice 2

Applied Lessons 1-8, required each semester for lower and upper division Voice majors.

Prerequisite: Audition and/or the prior course in the sequence

Normal Grade Rules
1 unit

MUSC 033C. Voice 3

APPLIED LESSONS: Voice level 3. Required of BM vocal majors every semester.

Pre-requisite: Audition and instructor consent, 33B or equivalent

Normal Grade Rules
1-2 units

MUSC 033CX. Applied Voice 3

Applied Lessons 1-8, required each semester for lower and upper division Voice majors.

Prerequisite: Audition and/or the prior course in the sequence

Normal Grade Rules
1 unit

MUSC 033D. Voice 4

APPLIED LESSONS: Voice level 4. Required of BM vocal majors every semester.

Pre-requisite: Audition and instructor consent, 33C or equivalent

Normal Grade Rules
1-2 units

MUSC 033DX. Applied Voice 4

Applied Lessons 1-8, required each semester for lower and upper division Voice majors.

Prerequisite: Audition and/or the prior course in the sequence

Normal Grade Rules
1 unit

MUSC 033X. Applied Voice

Applied Lessons 1-8, required each semester for lower and upper division Voice majors.

Prerequisite: Audition and/or the prior course in the sequence

Normal Grade Rules
1 unit

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MUSC 034. Strings
Required each semester of lower division string majors.

Pre-requisite: Audition or instructor consent.

Normal Grade Rules
1-2 units

MUSC 034A. Strings 1
APPLIED LESSONS: Strings level 1. Required of BM string majors every semester.

Pre-requisite: Audition and instructor consent

Normal Grade Rules
1-2 units

MUSC 034AX. Strings 1
Applied lessons A-D, required each semester of upper and lower division string majors.

Prerequisite: Audition or instructor consent

Normal Grade Rules
1 unit

MUSC 034B. Strings 2
APPLIED LESSONS: Strings level 2. Required of BM string majors every semester.

Pre-requisite: Audition and instructor consent, MUSC 34A or equivalent

Normal Grade Rules
1-2 units

MUSC 034BX. Strings 2
Applied lessons A-D, required each semester of upper and lower division string majors.

Prerequisite: Audition or instructor consent

Normal Grade Rules
1 unit

MUSC 034C. Strings 3
APPLIED LESSONS: Strings level 3. Required of BM string majors every semester.

Pre-requisite: Audition and instructor consent, MUSC 34B or equivalent

Normal Grade Rules
1-2 units

MUSC 034CX. Strings 3
Applied lessons A-D, required each semester of upper and lower division string majors.

Prerequisite: Audition or instructor consent

Normal Grade Rules
1 unit

MUSC 034D. Strings 4
APPLIED LESSONS: Strings level 4. Required of BM string majors every semester.

Pre-requisite: Audition and instructor consent, MUSC 34C or equivalent

Normal Grade Rules
1-2 units

MUSC 034DX. Strings 4
Applied lessons A-D, required each semester of upper and lower division string majors.

Prerequisite: Audition or instructor consent

Normal Grade Rules
1 unit

MUSC 034X. Strings
Applied lessons A-D, required each semester of upper and lower division string majors.

Prerequisite: Audition or instructor consent

Normal Grade Rules
1 unit

MUSC 035. Woodwinds
Required each semester of lower division woodwind majors.

Pre-requisite: Audition or instructor consent.

Normal Grade Rules
1-2 units

MUSC 035A. Woodwinds 1
APPLIED LESSONS: Woodwinds level 1. Required of BM woodwind majors every semester. Flute, oboe, bassoon, clarinet or saxophone.

Pre-requisite: Audition and instructor consent

Normal Grade Rules
1-2 units

MUSC 035AX. Woodwinds 1
Applied Lessons 1-8, required each semester for lower and upper division woodwind majors.

Prerequisite: Audition and/or the prior course in the sequence

Normal Grade Rules
1 unit

MUSC 035B. Woodwinds 2
APPLIED LESSONS: Woodwinds level 2. Required of BM woodwind majors every semester. Flute, oboe, bassoon, clarinet or saxophone.

Pre-requisite: Audition and instructor consent, MUSC 35A or equivalent

Normal Grade Rules
1-2 units

MUSC 035BX. Woodwinds 2
Applied Lessons 1-8, required each semester for lower and upper division woodwind majors.

Prerequisite: Audition and/or the prior course in the sequence

Normal Grade Rules
1 unit

MUSC 035C. Woodwinds 3
APPLIED LESSONS: Woodwinds level 3. Required of BM woodwind majors every semester. Flute, oboe, clarinet,bassoon or saxophone.

Pre-requisite: Audition and instructor consent, MUSC 35B or equivalent

Normal Grade Rules
1-2 units

MUSC 035CX. Woodwinds 3
Applied Lessons 1-8, required each semester for lower and upper division woodwind majors.

Prerequisite: Audition and/or the prior course in the sequence

Normal Grade Rules
1 unit

MUSC 035D. Woodwinds 4
APPLIED LESSONS: Woodwinds level 4. Required of BM woodwind majors every semester. Flute, oboe, bassoon, clarinet or saxophone.

Pre-requisite: Audition and instructor consent, MUSC 35C or equivalent

Normal Grade Rules
1-2 units

MUSC 035DX. Woodwinds 4
Applied Lessons 1-8, required each semester for lower and upper division woodwind majors.

Prerequisite: Audition and/or the prior course in the sequence

Normal Grade Rules
1 unit

MUSC 035X. Woodwinds 1
Applied Lessons 1-8, required each semester for lower and upper division woodwind majors.

Prerequisite: Audition and/or the prior course in the sequence

Normal Grade Rules
1 unit

MUSC 036. Brass
Required each semester of lower division brass majors.

Pre-requisite: Audition or instructor consent.

Repeatable for credit
Normal Grade Rules
1-2 units

MUSC 036B. Brass 1
APPLIED LESSONS: Brass level 1. Required of BM brass majors every semester. Trumpet, trombone, french horn, euphonium, tuba.

Pre-requisite: Audition and instructor consent

Normal Grade Rules
1-2 units

MUSC 036BX. Brass 1
Required each semester for lower and upper division brass majors.

Prerequisite: Successful audition into the applied area.

Normal Grade Rules
1 unit

MUSC 036C. Brass 2
APPLIED LESSONS: Brass level 2. Required of BM brass majors every semester. Trumpet, trombone, french horn, euphonium, tuba.

Pre-requisite: Audition and instructor consent, MUSC 36B or equivalent

Normal Grade Rules
1-2 units

MUSC 036CX. Brass 2

Required each semester for lower and upper division brass majors.

Prerequisite: Successful audition into the applied area.

Normal Grade Rules
1 unit

MUSC 036D. Brass 3

APPLIED LESSONS: Brass level 3. Required of BM brass majors every semester. Trumpet, trombone, french horn, euphonium, tuba.

Pre-requisite: Audition and instructor consent, MUSC 36C or equivalent

Normal Grade Rules
1-2 units

MUSC 036DX. Brass 3

Required each semester for lower and upper division brass majors.

Prerequisite: Successful audition into the applied area.

Normal Grade Rules
1 unit

MUSC 036E. Brass 4

APPLIED LESSONS: Brass level 4. Required of BM brass majors every semester. Trumpet, trombone, french horn, euphonium, tuba.

Pre-requisite: Audition and instructor consent, MUSC 36D or equivalent

Normal Grade Rules
1-2 units

MUSC 036EX. Brass 4

Required each semester for lower and upper division brass majors.

Prerequisite: Successful audition into the applied area.

Normal Grade Rules
1 unit

MUSC 036X. Applied Brass

Required each semester for lower and upper division brass majors.

Prerequisite: Successful audition into the applied area.

Normal Grade Rules
1 unit

MUSC 037. Percussion

Required each semester of lower division percussion majors.

Pre-requisite: Audition or instructor consent.

Normal Grade Rules
1-2 units

MUSC 037A. Percussion 1

APPLIED LESSONS: Percussion level 1. Required of BM percussion majors every semester.

Pre-requisite: Audition and instructor consent

Normal Grade Rules
1-2 units

MUSC 037AX. Applied Percussion 1

Applied Lessons - Instruction in technical, stylistic, and aesthetic elements of artistic performance in percussion.

Prerequisite: Successful audition into the percussion studio

Normal Grade Rules
1 unit

MUSC 037B. Percussion 2

APPLIED LESSONS: Percussion level 2. Required of BM percussion majors every semester.

Pre-requisite: Audition and instructor consent, 37A or equivalent

Normal Grade Rules
1-2 units

MUSC 037BX. Applied Percussion 2

Applied Lessons - Instruction in technical, stylistic, and aesthetic elements of artistic performance in percussion.

Prerequisite: Successful audition into the percussion studio

Normal Grade Rules
1 unit

MUSC 037C. Percussion 3

APPLIED LESSONS: Percussion level 3. Required of BM percussion majors every semester.

Pre-requisite: Audition and instructor consent, 37B or equivalent

Normal Grade Rules
1-2 units

MUSC 037CX. Applied Percussion 3

Applied Lessons - Instruction in technical, stylistic, and aesthetic elements of artistic performance in percussion.

Prerequisite: Successful audition into the percussion studio

Normal Grade Rules
1 unit

MUSC 037D. Percussion 4

APPLIED LESSONS: Percussion level 4. Required of BM percussion majors every semester.

Pre-requisite: Audition and instructor consent, 37C or equivalent

Normal Grade Rules
1-2 units

MUSC 037DX. Applied Percussion 4

Applied Lessons - Instruction in technical, stylistic, and aesthetic elements of artistic performance in percussion.

Prerequisite: Successful audition into the percussion studio

Normal Grade Rules
1 unit

MUSC 037X. Applied Percussion

Applied Lessons - Instruction in technical, stylistic, and aesthetic elements of artistic performance in percussion.

Prerequisite: Successful audition into the percussion studio

Normal Grade Rules
1 unit

MUSC 038. Composition

Required each semester of lower division composition majors. Works created incorporating traditional and twentieth century procedures.

Pre-requisite: Audition or instructor consent.

Normal Grade Rules
1-2 units

MUSC 038B. Composition 1

APPLIED LESSONS: Composition level 1. Required of BM composition majors every semester.

Pre-requisite: Audition and instructor consent

Normal Grade Rules
1-2 units

MUSC 038BX. Applied Instruction in Music Composition 1

The course is an intensive study of the materials of art music composition. Works are created incorporating common practice and twentieth century procedures

Normal Grade Rules
1 unit

MUSC 038C. Composition 2

APPLIED LESSONS: Composition level 2. Required of BM composition majors every semester.

Pre-requisite: Audition and instructor consent, MUSC 1A, MUSC 1B, MUSC 38B, with a B or better

Co-requisite: MUSC 2A and MUSC 2B

Normal Grade Rules
1-2 units

MUSC 038CX. Applied Instruction in Music Composition 2

The course is an intensive study of the materials of art music composition. Works are created incorporating common practice and twentieth century procedures

Normal Grade Rules
1 unit

MUSC 038D. Composition 3

APPLIED LESSONS: Composition level 3. Required of BM composition majors every semester.

Pre-requisite: Audition and instructor consent, MUSC 2A and MUSC 2B, MUSC 38C, with a B or better

Co-requisite: MUSC 3A and MUSC 3B

Normal Grade Rules
1-2 units

MUSC 038DX. Applied Instruction in Music Composition 3

The course is an intensive study of the materials of art music composition. Works are created incorporating common practice and twentieth century procedures

Normal Grade Rules
1 unit

MUSC 038E. Composition 4

APPLIED LESSONS: Composition level 4. Required of BM composition majors every semester.

Pre-requisite: Audition and instructor consent, MUSC 3A and MUSC 3B, MUSC 38D, with a B or better

Co-requisite: MUSC 4A and MUSC 4B

Normal Grade Rules
1-2 units

MUSC 038EX. Applied Instruction in Music Composition 4

The course is an intensive study of the materials of art music composition. Works are created incorporating common practice and twentieth century procedures

Normal Grade Rules
1 unit

MUSC 038X. Applied Instruction in Music Composition

The course is an intensive study of the materials of art music composition. Works are created incorporating common practice and twentieth century procedures

Normal Grade Rules
1 unit

MUSC 039A. Jazz: Improvisation, Composition or Arranging 1

APPLIED LESSONS: Jazz. Vocal or instrumental improvisation, composition or arranging, level 1. Required of BM Jazz Studies majors every semester.

Pre-requisite: Audition and instructor consent

Normal Grade Rules
1-2 units

MUSC 039AX. Jazz: Improvisation, Composition or Arranging 1

APPLIED LESSONS: Jazz. Vocal or instrumental improvisation, composition or arranging, level 1. Required of BA, BM-Composition, or BM Jazz Studies majors every semester.

Prerequisite: Audition and instructor approval

Normal Grade Rules
1 unit

MUSC 039B. Jazz: Improvisation, Composition or Arranging 2

APPLIED LESSONS: Jazz. Vocal or instrumental improvisation, composition or arranging, level 2. Required of BM Jazz Studies majors every semester.

Pre-requisite: Audition and instructor consent, MUSC 39A or equivalent

Normal Grade Rules
1-2 units

MUSC 039BX. Jazz: Improvisation, Composition or Arranging 2

APPLIED LESSONS: Jazz. Vocal or instrumental improvisation, composition or arranging, level 2. Required of BA, BM-Composition, or BM Jazz Studies majors every semester.

Prerequisite: MUSC 39AX or equivalent

Normal Grade Rules
1 unit

MUSC 039C. Jazz: Improvisation, Composition or Arranging 3

APPLIED LESSONS: Jazz. Vocal or instrumental improvisation, composition or arranging, level 3. Required of BM Jazz Studies majors every semester.

Pre-requisite: Audition and instructor consent, MUSC 39B or equivalent

Normal Grade Rules
1-2 units

MUSC 039CX. Jazz: Improvisation, Composition or Arranging 3

APPLIED LESSONS: Jazz. Vocal or instrumental improvisation, composition or arranging, level 3. Required of BA, BM-Composition, or BM Jazz Studies majors every semester.

Prerequisite: MUSC 39BX or equivalent

Normal Grade Rules
1 unit

MUSC 039D. Jazz: Improvisation, Composition and Arranging 4

APPLIED LESSONS: Jazz. Vocal or instrumental improvisation, composition or arranging, level 5. Required of BM Jazz Studies majors every semester.

Pre-requisite: Audition and instructor consent, MUSC 39C or equivalent

Normal Grade Rules
1-2 units

MUSC 039DX. Jazz: Improvisation, Composition or Arranging 4

APPLIED LESSONS: Jazz. Vocal or instrumental improvisation, composition or arranging, level 4. Required of BA, BM-Composition, or BM Jazz Studies majors every semester.

Prerequisite: MUSC 39CX or equivalent

Normal Grade Rules
1 unit

MUSC 039X. Applied Jazz Saxophone

The goal of Applied Jazz Saxophone at any level is to present each student with the appropriate materials to increase his/her ability as an improvising musician. Emphasis will be placed on learning standard jazz repertoire; the transcription of jazz solos; the assimilation of technical patterns associated with improvisation; and internalizing an idiomatic stylistic approach.

Prerequisite: MUSC 39AxBxCxDx: Successful audition into the BA Music Degree

MUSC 39ABCD: Successful audition into the BM Jazz Studies Degree

MUSC 139ABCD: Successful completion of Junior Qualifying Examination

MUSC 224: Successful audition into the MM Jazz Studies Degree

MUSC 239: With graduate advisors and applied instructors consent

Normal Grade Rules
1 unit

MUSC 040A. Jazz Improvisation - I

Development of performance skills for lead-sheet interpretation: response and interplay, ear-training for improvisers, basic chord-scales and jazz vocabulary. Vocal, instrumental, and transcription exercises. In-class performance. Emphasis will be placed on blues, modal compositions, and simple song forms.

Pre/Corequisite: MUSC 1A, MUSC 1B and MUSC 25A; or equivalent.

Misc/Lab: Seminar 1 hour/activity 2 hours.

Normal Grade Rules
2 units

MUSC 041A. Applied Lyric Diction

Pronunciation and applied execution of correct diction in English and Italian for singers in a master class setting. Performance of specific literature of these languages with emphasis on correct usage of the International Phonetic alphabet for lyric diction.

Prerequisite: Instructor consent.

Normal Grade Rules
1 unit

MUSC 041B. Applied Lyric Diction

Pronunciation and applied execution of correct diction in French and German for singers in a master class setting. Performance of specific literature of these languages with emphasis on correct usage of the International Phonetic Alphabet for lyric diction.

Prerequisite: Instructor consent.

Normal Grade Rules
1 unit

MUSC 050A. ENS: Concert Choir

Ensemble. Large select choral ensemble, specializing in advanced a cappella and symphonic major works from all periods.

Prerequisite: Audition and instructor consent

Repeatable for credit
Normal Grade Rules
1 unit

MUSC 051. ENS: University Chorales

ENS: Rehearsal and performance of choral masterpieces and music with wide popular appeal. Students involved in the University Chorales will participate in either the SJSU Women's Chorus, Men's Glee Club, or other specialized choral ensemble and will have the opportunity to study and perform high quality choral literature.

Prerequisite: Audition or Instructor Consent

Repeatable for credit
Normal Grade Rules
1 unit

MUSC 052. ENS: Opera Theater

Ens: Training and performance experience in the field of opera. Fully-staged productions of one-act and conventional length works of varying styles.

Prerequisite: Audition and instructor consent.

Repeatable for credit
Normal Grade Rules
1 unit

MUSC 053. ENS: University Symphony Orchestra

Ens: Rehearsal and performance of standard orchestral and operatic repertory.

Prerequisite: Audition and Instructor Consent

Repeatable for credit
Normal Grade Rules
1 unit

MUSC 054. ENS: Symphonic Band

ENS: Rehearsal and performance of large symphonic band repertory.

Prerequisite: Audition and Instructor Consent

Repeatable for credit
Normal Grade Rules
1 unit

MUSC 055. ENS: Wind Ensemble

ENS: Major performing group open to all wind instrumentalists by audition. Select group that performs the most advanced and high quality contemporary and traditional literature for wind ensemble from all periods. Programming changes every semester. Performances can include but not be limited to state and national conferences.

Prerequisite: Audition and instructor consent

Repeatable for credit
Normal Grade Rules
1 unit

MUSC 056. ENS: Spartan Marching Band

ENS: Open by permission to all students who play saxophone, brass or percussion instruments. Performs at all home and selected away Spartan football games.

Prerequisite: Audition and Instructor Consent

Repeatable for credit
Normal Grade Rules
2 units

MUSC 057. ENS: Jazz Orchestra

ENS: Big band jazz performance for instrumentalists and singers. Classic and new repertoire. Concert performances.

Prerequisite: Audition and Instructor Consent

Repeatable for credit
Normal Grade Rules
1 unit

MUSC 059. ENS: Afro-Latin Jazz Ensemble

ENS:Performance of Afro-Latin jazz and popular music repertoires of the US, the Caribbean, and Latin America. Ensemble techniques and solo improvisation. Concert performances.

Prerequisite: Audition and Instructor Consent

Repeatable for credit
Normal Grade Rules
1 unit

MUSC 060A. ENS: Choraliers

ENS: Small select chamber vocal group specializing in music from all periods, Renaissance to Contemporary.

Prerequisite: Audition and Instructor Consent

Repeatable for credit
Normal Grade Rules
1 unit

MUSC 060B. ENS: Chamber Orchestra

ENS: Study and performance of advanced literature for small orchestra, with music selected from a broad range of stylistic periods and composers

Prerequisite: Audition or Instructor Consent

Repeatable for credit
Normal Grade Rules
1 unit

MUSC 060C. ENS: Chamber Music

ENS: In-depth chamber music study and performance of standard repertoire with two or more instruments plus piano.

Prerequisite: Audition and instructor consent

Repeatable for credit
Normal Grade Rules
1 unit

MUSC 060D. ENS: Collegium Musicum

ENS: Reinforces music history studies through performance. Authenticating performance of pre-Classical music on period instruments and accurate vocal/instrumental practices. Vocal and instrumental, sacred and secular music performed.

Prerequisite: Audition and Instructor Consent

Repeatable for credit
Normal Grade Rules
1 unit

MUSC 060E. ENS: Jazz Singers

ENS: Performance of advanced literature for chamber jazz chorus in concerts, festivals, and special events. Performance techniques, improvisation, musicianship and studio-recording techniques.

Prerequisite: Audition and Instructor Consent

Repeatable for credit
Normal Grade Rules
1 unit

MUSC 060F. ENS: Small Jazz Ensembles

ENS: Small-group jazz performance: standard literature, informal ("head") arrangements. In-class and/or public performances.

Prerequisite: MUSC 001A, MUSC 001B, MUSC 40A and MUSC 40B or equivalent. Instructor consent.

Repeatable for credit
Normal Grade Rules
1 unit

MUSC 060G. ENS: Pep Band

ENS: Limited to twenty-five woodwind, brass and percussion players; performs at home Spartan basketball games and certain campus functions.

Prerequisite: Audition and Instructor Consent

Repeatable for credit
Normal Grade Rules
1 unit

MUSC 060H. ENS: Percussion Ensemble

ENS: Performing class consisting of percussion majors. Master classes during fall semester.

Prerequisite: Non-majors by audition and instructor consent

Repeatable for credit
Normal Grade Rules
1 unit

MUSC 060I. ENS: Jazz Ensemble

ENS: Large jazz ensemble focused on learning standard repertoire, style, pedagogy and improvisation.

Prerequisite: Audition and instructor consent

Repeatable for credit
Normal Grade Rules
1 unit

MUSC 060J. ENS: String Ensemble

ENS: Chamber works for various string combinations studied and performed. Rehearsal and performance techniques for small chamber groups.

Prerequisite: Audition and Instructor Consent

Repeatable for credit
Normal Grade Rules
1 unit

MUSC 060K. ENS: Brass Ensemble

ENS: Performance of duet, trio, quartet and quintet literature for mixed and homogeneous brass instruments. Literature used represents all style periods with either original or transcription materials.

Prerequisite: Audition and Instructor Consent

Repeatable for credit
Normal Grade Rules
1 unit

MUSC 060L. ENS: Woodwind Ensemble

ENS: Chamber works for various woodwind combinations. Rehearsal and performance techniques for small chamber groups.

Prerequisite: Audition or Instructor Consent

Repeatable for credit
Normal Grade Rules
1 unit

MUSC 060M. ENS: Saxophone Ensemble

ENS: Overview of music for saxophone ensemble for two to twenty players. All styles studied from Renaissance to Jazz.

Prerequisite: Audition and Instructor Consent

Repeatable for credit
Normal Grade Rules
1 unit

MUSC 060O. ENS: Trombone Ensemble

ENS: Rehearsal and performance of literature for trombone ensemble. Weekly meetings will also include discussion of brass related topics.

Prerequisite: Audition and instructor consent

Repeatable for credit
Normal Grade Rules
1 unit

MUSC 061. REP: Styles and Interpretation of Opera I

REP: Introduction to styles of opera composition and presentation focusing on opera scenes being presented by the Opera Theater.

Prerequisite: Audition and Instructor Consent

Repeatable for credit
Normal Grade Rules
1 unit

MUSC 062. ENS: Opera Production

ENS: Hands-on training and experience in all phases of opera production.

Prerequisite: Audition and Instructor Consent

Repeatable for credit
Normal Grade Rules
1 unit

MUSC 063. REP:Styles and Interpretation of Opera II

REP: Advanced styles of opera composition and presentation focusing on opera scenes being presented by the Opera Theater

Prerequisite: Audition and Instructor Consent

Repeatable for credit
Normal Grade Rules
1 unit

MUSC 081. Concert Listening I

Active involvement in the professional musical life of the campus and community through attending programs from the master list published each semester and writing five critical reviews.

Notes: Open to all university students.

Repeatable for credit
Credit / No Credit
1 unit

UPPER DIVISION

MUSC 100W. Written Communication II

Examines the process of critique, creative description, research, and professional communications central to the performing arts. Students develop writing skills through the study of varied formats focused on the arts. GE Area: Z

Prerequisite: A3 or equivalent second semester composition course (with a grade of C- or better); Completion of core GE, satisfaction of Writing Skills Test and upper division standing.

Note: All SJSU Studies courses require completion of the WST and upper division standing. Must be passed with C or better to satisfy the CSU Graduation Writing Assessment requirement (GWAR).

Normal Grade Rules
GE: Z
3 units

MUSC 102. Orchestration

Ranges, sonorities, transposition and technical considerations of orchestral instruments. Performance of project for full orchestra as culminating activity.

Prerequisite: MUSC 13, MUSC 4A and MUSC 4B or equivalents

Notes: May be taken singly or in any sequence.

Normal Grade Rules
3 units

MUSC 103. Form and Analysis

Formal design and pitch structure of Western art music.

Prerequisite: MUSC 4A and MUSC 4B.

Normal Grade Rules
3 units

MUSC 104. Counterpoint

The study of the art of counterpoint from the sixteenth century to the present. Includes analysis, imitative and original composition. Prerequisite: MUSC 4A and MUSC 4B (both with C or better); placement examination. Notes: May be taken singly or in any sequence. Emphasis may vary.

Normal Grade Rules
3 units

MUSC 106A. Jazz Arranging I

First in a two -semester sequence of jazz arranging and composition required of all jazz majors. Deals primarily with techniques involved in writing and arranging music for the small jazz ensemble and addresses skills used jazz composition.

Prerequisite: MUSC 2A, MUSC 2B, MUSC 6, MUSC 40A.

Normal Grade Rules
2 units

MUSC 106B. Jazz Arranging II

Second in a two-semester sequence of jazz arranging and composition required of all jazz majors. Deals primarily with techniques involved in writing and arranging music for the large jazz ensemble. Computer notation is required on all finished projects.

Prerequisite: MUSC 2A, MUSC 2B, MUSC 6, MUSC 106A.

Normal Grade Rules
2 units

MUSC 109. Film Scoring Techniques

Production-oriented introduction to techniques of applied composition and sound for film, television, video and related visual media. Concepts of style and orchestration.

Prerequisite: MUSC 102 or equivalent.

Notes: Emphasis may vary.

Normal Grade Rules
3 units

MUSC 110. Baroque and Classical Music History

Exploration and survey of the Baroque and Classical periods with study of styles, composers, works, music theory, performance practices, and cultural and intellectual history. Application of research and library skills through research assignments.

Prerequisite: MUSC 12, MUSC 3A (or equivalent), or instructor consent.

Normal Grade Rules
3 units

MUSC 111. Romantic and Modern Music History

Exploration and survey of Romantic and Modern classical music with study of styles, composers, works, music theory, performance practices, and cultural and intellectual history. Demonstration of research and library skills through a term paper.

Prerequisite: MUSC 110, or equivalent.

Normal Grade Rules
3 units

MUSC 116. Aspects of Twentieth Century Music

In-depth study of contemporary music from the various major musical cultures of the world including the European-American classical tradition. Content will vary depending upon national and international trends, compositional techniques and performance media. Formal analysis, listening and performance.

Prerequisite: MUSC 111 (or equivalent).

Note: Emphasis may vary. Offered only occasionally.

Repeatable for credit
Normal Grade Rules
3 units

MUSC 117. Music and Culture in Latin America

Traces development of musical traditions in Latin America. Analyzes formation of musical styles resulting from socio-political, cultural and economic processes. GE Area: V

Prerequisite: Passage of the Writing Skills Test (WST) or ENGL/LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

Note: All SJSU Studies courses require completion of the WST and upper division standing.

Normal Grade Rules
GE: V
3 units

MUSC 118. Global Soundtracks

The course focuses on the analysis of the aural semiotics of narrative music to reflect and critique the subjectivities, themes, and cultures of their respective films, and historically traces their trans-global evolution and interchange of approaches over the past century.

Prerequisites: Completion of core GE, upper division standing, passage of WST

Pre/CoRequisite: Any 100w

Normal Grade Rules
3 units

MUSC 120. Worlds of Jazz

Course approaches jazz as part of American and global cultural history, exploring the changing social contexts in which jazz musicians in the US and abroad have worked and lived throughout the 20th century and today. GE Area: S

Prerequisite: Passage of the Writing Skills Test (WST) or ENGL/LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

Note: All SJSU Studies courses require completion of the WST and upper division standing.

Normal Grade Rules
GE: S
3 units

MUSC 122A. Fundamental Techniques and Literature: Instrumental

Woodwinds: Flute, Clarinet, and Saxophone. Required for credential. Instrumental emphasis in music education must take two units including clarinet, saxophone, flute, oboe, and bassoon. Choral/general emphasis must take a minimum of one unit to include flute, clarinet and saxophone.

Prerequisite: Upper division standing.

Misc/Lab: Activity 4 hours.

Normal Grade Rules
1 unit

MUSC 122B. Fundamental Techniques and Literature: Instrumental

Woodwinds: double reeds and saxophone. Required for credential. Instrumental emphasis in music education must take two units including flute, clarinet, saxophone and double reeds. Choral/general emphasis must take a minimum of one unit including flute, clarinet, and saxophone.

Prerequisites: Upper Division Standing, and Instructor Consent

Normal Grade Rules
1 unit

MUSC 123A. Fundamental Techniques and Literature: Instrumental

Upper Brass. Required for credential. Instrumental emphasis in music education must take two units including upper and lower brass. Choral/general emphasis must take a minimum of one unit of brass.

Prerequisite: Upper division standing.

Misc/Lab: Activity 4 hours.

Normal Grade Rules
1 unit

MUSC 123B. Fundamental Techniques and Literature: Instrumental

Lower Brass. Required for credential. Instrumental emphasis in music education must take two units including upper and lower brass. Choral/general emphasis must take a minimum of one unit of upper brass.

Prerequisite: Upper Division Standing and Instructor Consent

Normal Grade Rules
1 unit

MUSC 124. Special Topics in Music History/ Literature

Content varies to allow presentation of one-time courses by specialists from artist-faculty and guests.

Prerequisite: Upper division standing or instructor consent.

Repeatable for credit
Normal Grade Rules
1-3 units

MUSC 125D. Fundamental Techniques and Literature: Instrumental

Percussion. Required for credential.

Prerequisite: Upper division standing.

Misc/Lab: Activity 2 hours.

Normal Grade Rules
1 unit

MUSC 126. Marching Band Techniques

Methods and materials of marching band instruction. Techniques of show development, arranging, drill design, charting, and drill instruction. Principles of band administration, such as budget management, purchasing, and program development. Required for credential.

Prerequisite: Upper division standing and instructor consent.

Notes: Offer through Extended Studies.

Normal Grade Rules
1 unit

MUSC 127A. Fundamental Techniques and Literature: Instrumental

Upper Strings. Required for credential. Instrumental emphasis in music education must take two units including upper and lower strings. Choral/general emphasis must take a minimum of one unit of strings.

Prerequisite: Upper division standing.

Misc/Lab: Activity 4 hours.

Normal Grade Rules
1 unit

MUSC 127B. Fundamental Techniques and Literature: Instrumental

Lower Strings. Required for credential. Instrumental emphasis in music education must take two units including upper and lower strings. Choral/general emphasis must take a minimum of one unit of upper strings.

Prerequisite: Upper Division Standing and Instructor Consent

Normal Grade Rules
1 unit

MUSC 129. Electro-Acoustics

Incorporating current music technology and instrumentation in creating advanced works and projects. Required each semester of upper division electro-acoustic majors.

Prerequisite: Audition or instructor consent

Repeatable for credit
Normal Grade Rules
1-2 units

MUSC 129A. Electro-Acoustics 5

APPLIED LESSONS: Electro-acoustics level 5, incorporating current music technology and instrumentation into projects. For music technology majors.

Pre-requisite: Audition and instructor consent, MUSC 29D or equivalent

Normal Grade Rules
1-2 units

MUSC 129B. Electro-Acoustics 6

APPLIED LESSONS: Electro-acoustics level 6, incorporating current music technology and instrumentation into projects. For music technology majors.

Pre-requisite: Audition and instructor consent, MUSC 129A or equivalent

Normal Grade Rules
1-2 units

MUSC 129C. Electro-Acoustics 7

APPLIED LESSONS: Electro-acoustics level 7, incorporating current music technology and instrumentation into projects. For music technology majors.

Pre-requisite: Audition and instructor consent, MUSC 129B or equivalent

Normal Grade Rules
1-2 units

MUSC 129D. Electro-Acoustics 8

APPLIED LESSONS: Electro-acoustics level 8, incorporating current music technology and instrumentation into projects. For music technology majors.

Pre-requisite: Audition and instructor consent, MUSC 129C or equivalent

Normal Grade Rules
1-2 units

MUSC 130. Piano

Required each semester of upper division piano majors. Continuation of MUSC 30. Study and performance of selections comparable to Bach Preludes and Fugues from Well-Tempered Clavier; Beethoven Sonata, Op. 31 No. 3; Chopin Ballade in A-flat and Debussy Preludes.

Prerequisite: Audition or instructor consent.

Normal Grade Rules
1-2 units

MUSC 130A. Piano 5

APPLIED LESSONS: Piano level 5. Lessons required of BM piano majors every semester.

Pre-requisite: Audition and instructor consent, MUSC 30D or equivalent.

Normal Grade Rules
1-2 units

MUSC 130B. Piano 6

APPLIED LESSONS: Piano level 6. Lessons required of BM piano majors every semester.

Pre-requisite: Audition and instructor consent, MUSC 130A or equivalent.

Normal Grade Rules
1-2 units

MUSC 130C. Piano 7

APPLIED LESSONS: Piano level 7. Lessons required of BM piano majors every semester.

Pre-requisite: Audition and instructor consent, MUSC 130B or equivalent.

Normal Grade Rules
1-2 units

MUSC 130D. Piano 8

APPLIED LESSONS: Piano level 8. Lessons required of BM piano majors every semester.

Pre-requisite: Audition and instructor consent, MUSC 130C or equivalent.

Normal Grade Rules
1-2 units

MUSC 131. Keyboard

APPLIED LESSONS: Harpsichord or organ. Required of BM piano majors every semester. Upper division.

Prerequisite: Audition or instructor consent, 31D or equivalent.

Normal Grade Rules
1-2 units

MUSC 131A. Harpsichord or Organ 5

APPLIED LESSONS: Harpsichord or organ level 5. Required of BM piano majors every semester.

Pre-requisite: Audition and instructor consent, MUSC 31D or equivalent

Normal Grade Rules
1-2 units

MUSC 131B. Harpsichord or Organ 6

APPLIED LESSONS: Harpsichord or organ level 6. Required of BM piano majors every semester.

Pre-requisite: Audition and instructor consent, MUSC 131A or equivalent

Normal Grade Rules
1-2 units

MUSC 131C. Harpsichord or Organ 7

APPLIED LESSONS: Harpsichord or organ level 7. Required of BM piano majors every semester.

Pre-requisite: Audition and instructor consent, MUSC 131B or equivalent

Normal Grade Rules
1-2 units

MUSC 131D. Harpsichord or Organ 8

APPLIED LESSONS: Harpsichord or organ level 8. Required of BM piano majors every semester.

Pre-requisite: Audition and instructor consent, MUSC 131C or equivalent

Normal Grade Rules
1-2 units

MUSC 133. Voice

Required each semester of upper division voice majors. Continuation of MUSC 33. Study of more advanced repertoire and techniques.

Prerequisite: Audition or instructor consent.

Normal Grade Rules
1-2 units

MUSC 133A. Voice 5

APPLIED LESSONS: Voice level 5. Required of BM vocal majors every semester. Upper division.

Pre-requisite: Audition and instructor consent, 33D or equivalent

Repeatable for credit
Normal Grade Rules
1-2 units

MUSC 133B. Voice 6

APPLIED LESSONS: Voice level 6. Required of BM vocal majors every semester. Upper division.

Pre-Requisite: Audition and instructor consent, MUSC 133A or equivalent, MUSC 25C or equivalent

Normal Grade Rules
1-2 units

MUSC 133C. Voice 7

APPLIED LESSONS: Voice level 7. Required of BM vocal majors every semester. Upper division.

Pre-Requisite: Audition and instructor consent, 133B or equivalent.

Normal Grade Rules
1-2 units

MUSC 133D. Voice 8

APPLIED LESSONS: Voice level 8. Required of BM vocal majors every semester. Upper division.

Pre-requisite: Audition and instructor consent, 133C or equivalent

Normal Grade Rules
1-2 units

MUSC 134. Strings

Required each semester of upper division string majors. Violin: All major and minor scales and arpeggios in three octaves; double stops; Kreutzer, Fiorillo, Rode etudes; Bach unaccompanied sonatas and standard concert repertoire, including concerti and sonatas by Vivaldi, Bach, Mozart, Mendelssohn, Beethoven and Brahms. Viola: All major and minor scales in three octaves; double stops; standard etudes including Kreutzer, Mazas, Bruni; Bach suites; all standard repertoire including Block suites, Brahms, Hindemith and Schubert. Cello: All major and minor scales and arpeggios in three octaves; double stops; standard etudes including Duport, Popper, Piatti. Solo literature will include selections by Bach, Beethoven, Boccherini, Brahms, Dvorak, Faure, Haydn, Saint-Saens, Shostakovich and Vivaldi. String Bass: All major and minor scales and arpeggios; Simandl Reinshagen, Bille, Storch, Hrabe etudes. Includes solo literature of Bottesini, Dittersdorf, Dragonetti, Koussevitzky, Hindemith, Marcello, Vivaldi and standard orchestral literature. Harp: Literature and techniques, with solo and ensemble performances. Etudes by Salzedo, Lariviere and standard concert works comparable to Ravel Introduction and Allegro, Salzedo Preludes, Prescetti Sonata and Pierne Impromptu CapriGuitar: Literature and technique of the guitar including studies by Shearer, Casassi, Guiliani, Torrega and Segovia, and solos by J. S. Bach, Carulli, De Visee, Fernando Sor and Paganini.

Prerequisite: Audition or instructor consent.

Normal Grade Rules
1-2 units

MUSC 134A. Strings 5

APPLIED LESSONS: Strings level 5. Required of BM string majors every semester. Upper division.

Pre-requisite: Audition and instructor consent, MUSC 34D or equivalent

Normal Grade Rules
1-2 units

MUSC 134B. Strings 6

APPLIED LESSONS: Strings level 6. Required of BM string majors every semester. Upper division.

Pre-requisite: Audition and instructor consent, MUSC 134A or equivalent, MUSC 25C or equivalent

Normal Grade Rules
1-2 units

MUSC 134C. Strings 7

APPLIED LESSONS: Strings level 7. Required of BM string majors every semester. Upper division.

Pre-requisite: Audition and instructor consent, MUSC 135B or equivalent

Normal Grade Rules
1-2 units

MUSC 134D. Strings 8

APPLIED LESSONS: Strings level 8. Required of BM string majors every semester. Upper division.

Pre-requisite: Audition and instructor consent, MUSC 134C or equivalent

Normal Grade Rules
1-2 units

MUSC 135. Woodwinds

Required each semester of upper division woodwind majors. Clarinet: Selections comparable to Mozart Clarinet Concerto, Brahms Sonatas and Weber Concertino. Saxophone: Comprehensive pedagogical approach to study of modern Saxophone technique from classical to jazz to avant-garde. Repertory comparable to Dahl Concerto, Woods Sonata, Wirth Indonesian Landscapes, Snyder Variations. Oboe: Selections comparable to Handel Concerto in G Minor. Haydn Oboe Concerto, Hindemith Oboe Sonata, Barret Oboe Studies. Double-reed construction is required. Flute: Selections comparable to Bach Sonata IV, Debussy Syrinx, Mozart concerti and Varese Density. Bassoon: Sonatas comparable to those of Etler, Saint-Saens and Mozart Sonata for Cello and Bassoon; concerti comparable to those of Weber, J. C. Bach, Mozart and Jacob, and representative excerpts from orchestral and chamber repertoire. Double-reed construction is required.

Prerequisite: Audition or instructor consent.

Normal Grade Rules
1-2 units

MUSC 135A. Woodwinds 5

APPLIED LESSONS: Woodwinds level 5. Required of BM woodwind majors every semester. Flute, oboe, saxophone, clarinet or bassoon. Upper division.

Pre-requisite: Audition and instructor consent, MUSC 35D or equivalent

Normal Grade Rules
1-2 units

MUSC 135B. Woodwinds 6

APPLIED LESSONS: Woodwinds level 6. Required of BM woodwind majors every semester. Flute, oboe, saxophone, clarinet or bassoon. Upper division.

Pre-requisite: Audition and instructor consent, MUSC 25C or equivalent, MUSC 135A or equivalent

Normal Grade Rules
1-2 units

MUSC 135C. Woodwinds 7

APPLIED LESSONS: Woodwinds level 7. Required of BM woodwind majors every semester. Flute, oboe, saxophone, clarinet or bassoon. Upper division.

Pre-requisite: Audition and instructor consent, MUSC 135B or equivalent

Normal Grade Rules
1-2 units

MUSC 135D. Woodwinds 8

APPLIED LESSONS: Woodwinds level 8. Required of BM woodwind majors every semester. Flute, oboe, saxophone, clarinet or bassoon. Upper division.

Pre-requisite: Audition and instructor consent, MUSC 135C or equivalent

Normal Grade Rules
1-2 units

MUSC 136. Brass

Required each semester of upper division brass majors. Trumpet: Selections comparable to Haydn Concerto, Hummel Concerto, Arutunian Concerto, Neruda Concerto and Hindemith Sonata. Trombone: Selections comparable to Concerto in B flat by Albrechtsberger or 15 Rhythmical Etudes by Bitsch. French Horn: Selections comparable to Concerto in E flat by Strauss, Concerti Nos. 2 and 4 by Mozart and Hindemith Sonata. Baritone Horn: Selections comparable to literature listed for trombone. Tuba: Selections comparable to Sonata Capriccioso by Takzcs, Concerto by Vaughn Williams and Suite No. 2 by Wilder.

Prerequisite: Audition or instructor consent.

Normal Grade Rules
1-2 units

MUSC 136A. Vocal-Instrumental Improvisation

Advanced vocal and instrumental private lessons. Development of performing skills in various styles, with emphasis on soloing, reading lead sheets and advanced levels of musicianship and musicality.

Prerequisite: Instructor consent.

Repeatable for credit
Normal Grade Rules
1 unit

MUSC 136B. Brass 5

APPLIED LESSONS: Brass level 5. Required of BM brass majors every semester. Trumpet, trombone, french horn, euphonium, tuba. Upper division.

Pre-requisite: Audition and instructor consent, MUSC 36D or equivalent

Normal Grade Rules
1-2 units

MUSC 136C. Brass 6

APPLIED LESSONS: Brass level 6. Required of BM brass majors every semester. Trumpet, trombone, french horn, euphonium, tuba. Upper division.

Pre-requisite: Audition and instructor consent, MUSC 25C or equivalent, MUSC 136B or equivalent

Normal Grade Rules
1-2 units

MUSC 136D. Brass 7

APPLIED LESSONS: Brass level 7. Required of BM brass majors every semester. Trumpet, trombone, french horn, euphonium, tuba. Upper division.

Pre-requisite: Audition and instructor consent, MUSC 136C or equivalent.

Normal Grade Rules
1-2 units

MUSC 136E. Brass 8

APPLIED LESSONS: Brass level 8. Required of BM brass majors every semester. Trumpet, trombone, french horn, euphonium, tuba. Upper division.

Pre-requisite: Audition and instructor consent, MUSC 136D or equivalent.

Normal Grade Rules
1-2 units

MUSC 137. Percussion

Required each semester of upper division percussion majors. Performance on timpani, keyboard percussion and snare drum as well as the accessory percussion instruments. Timpani etudes: Goodman, Firth, Cirone and the classical timpani repertoire. Keyboard repertoire includes Orchestral Mallet Player by Cirone. Goldenberg etudes, standard orchestral literature plus 4-mallet literature. Snare drum methods of Podemski, Whaley and Cirone and the standard orchestral literature.

Prerequisite: Audition or instructor consent.

Normal Grade Rules
1-2 units

MUSC 137A. Percussion 5

APPLIED LESSONS: Percussion level 5. Required of BM percussion majors every semester. Upper division.

Pre-requisite: Audition and instructor consent, 37D or equivalent

Repeatable for credit
Normal Grade Rules
1-2 units

MUSC 137B. Percussion 6

APPLIED LESSONS: Percussion level 6. Required of BM percussion majors every semester. Upper division.

Pre-Requisite: Audition and instructor consent, MUSC 137A or equivalent, MUSC 25C or equivalent

Normal Grade Rules
1-2 units

SJSU SAN JOSÉ STATE UNIVERSITY

Academic Year 2019-2020

Course Descriptions

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MUSC 137C. Percussion 7

APPLIED LESSONS: Percussion level 7. Required of BM percussion majors every semester. Upper division.

Pre-requisite: Audition and instructor consent, 137B or equivalent

Normal Grade Rules
1-2 units

MUSC 137D. Percussion 8

APPLIED LESSONS: Percussion level 8. Required of BM percussion majors every semester. Upper division.

Pre-requisite: Audition and instructor consent, MUSC 137C or equivalent

Normal Grade Rules
1-2 units

MUSC 138A. Composition

Private studio lessons. Advanced applications of the process needed to bring personal musical ideas and concepts to realities, such as compositions or arrangements in concert performance and video productions.

Prerequisite: Instructor consent.

Repeatable for credit
Normal Grade Rules
1 unit

MUSC 138B. Composition 5

APPLIED LESSONS: Composition level 5. Required of BM composition majors every semester. Upper division.

Pre-requisite: Audition and instructor consent, MUSC 4A and MUSC 4B, MUSC 38E

Normal Grade Rules
1-2 units

MUSC 138C. Composition 6

APPLIED LESSONS: Composition level 6. Required of BM composition majors every semester. Upper division.

Pre-requisite: Audition and instructor consent, MUSC 25C or equivalent, MUSC 138B

Normal Grade Rules
1-2 units

MUSC 138D. Composition 7

APPLIED LESSONS: Composition level 7. Required of BM composition majors every semester. Upper division.

Pre-requisite: Audition and instructor consent, MUSC 102, MUSC 103, MUSC 104 and MUSC 138C

Normal Grade Rules
1-2 units

MUSC 138E. Composition 8

APPLIED LESSONS: Composition level 8. Required of BM composition majors every semester. Upper division.

Pre-requisite: Audition and instructor consent, MUSC 138D

Normal Grade Rules
1-2 units

MUSC 139A. Jazz Studies 5

APPLIED LESSONS: Jazz. Vocal or instrumental improvisation, composition or arranging, level 5. Required of BM Jazz Studies majors every semester. Upper Division.

Pre-requisite: Audition and instructor consent, MUSC 39D or equivalent

Normal Grade Rules
1-2 units

MUSC 139B. Jazz Studies 6

APPLIED LESSONS: Jazz. Vocal or instrumental improvisation, composition or arranging, level 6. Required of BM Jazz Studies majors every semester. Upper division.

Pre-requisite: Audition and instructor consent, MUSC 139A or equivalent, MUSC 25C or equivalent, MUSC 27A

Normal Grade Rules
1-2 units

MUSC 139C. Jazz Studies 7

APPLIED LESSONS: Jazz. Vocal or instrumental improvisation, composition or arranging, level 7. Required of BM Jazz Studies majors every semester. Upper division.

Pre-requisite: Audition and instructor consent, MUSC 139B or equivalent

Normal Grade Rules
1-2 units

MUSC 139D. Jazz Studies 8

APPLIED LESSONS: Jazz. Vocal or instrumental improvisation, composition or arranging, level 8. Required of BM Jazz Studies majors every semester. Upper division.

Pre-requisite: Audition and instructor consent, MUSC 139C or equivalent

Normal Grade Rules
1-2 units

MUSC 140B. Jazz Improvisation-II

Continuation of 40A in greater depth and complexity: developing coherent solos and musical conversations, building bebop vocabulary, working with alternate melodic and rhythmic resources. Vocal, instrumental, and transcription exercises. In-class performance. Emphasis will be placed on bebop compositions, complex song forms, and rhythm changes.

Pre/Corequisite: MUSC 2A, MUSC 2B and MUSC 40A; or equivalent.

Misc/Lab: Seminar 1 hour/activity 2 hours.

Repeatable for credit
Normal Grade Rules
2 units

MUSC 140C. Jazz Improvisation-III

Continuation of MUSC 140B in greater depth and complexity: advanced transcription projects, style analysis, developing personal improvisatory style, advanced rhythmic, melodic, and harmonic techniques. Emphasis will be placed on complex jazz compositions-primarily those of Wayne Shorter, Chick Corea, and Tom Harrell.

Pre/Corequisite: MUSC 2A and MUSC 2B and MUSC 140B; or equivalent.

Misc/Lab: Seminar 1 hour/activity 2 hours.

Repeatable for credit
Normal Grade Rules
2 units

MUSC 142. REP: Art Song Repertoire

Content varies each semester, with focus on German, French, Italian and Spanish, English and American, or Russian, Polish, Slavic and Scandinavian literature. Performance practice, language, style and history.

Prerequisite: Upper division standing or instructor consent.

Prerequisite: Seminar 1 hour/activity 2 hours.

Repeatable for credit
Normal Grade Rules
1 unit

MUSC 143. REP: Collaborative Keyboard Performance

For piano majors who wish to broaden their pianistic skills by performing with singers and instrumentalists both in studio sessions and recital situations. A maximum of four units may be repeated.

Prerequisite: Upper division standing or instructor consent.

Repeatable for credit
Normal Grade Rules
1 unit

MUSC 144. REP: Solo Lit., Performance, Pedagogy

Performance of vocal or piano literature studied in studio lessons, with discussion of technique, pedagogy, recital preparation and interpretive, stylistic and linguistic aspects of literature in a master class setting to develop confidence and serve as a forum for exchange of ideas.

Prerequisite: Instructor consent.

Repeatable for credit
Normal Grade Rules
1 unit

MUSC 145. REP: Performance Concepts

Content varies to allow presentation of one-time courses by specialists from artist-faculty and guests. Repeatable for up to 4 units of credit when topic changes.

Prerequisite: Upper division standing or instructor consent.

Repeatable for credit
Normal Grade Rules
2 units

MUSC 146. Introduction to Applied Music Pedagogy

An introduction to the fundamentals of teaching applied music for the performing musician.

Prerequisite: MUSC 30D, 31D, 33D, 34D, 35D, 36E or 37D

Normal Grade Rules
2 units

MUSC 146A. Pedagogy - Piano

For piano majors and established teachers who primarily wish to teach. Teaching techniques and application of these skills from elementary to most advanced levels.

Prerequisite: Upper division standing or instructor consent.

Normal Grade Rules
2 units

MUSC 146B. Pedagogy - Percussion

Two projects chosen from the following areas: conducting, composition, clinics, orchestral repertoire, lesson plans, article, book or research projects.

Prerequisite: Upper division percussion majors only.

Normal Grade Rules
1 unit

MUSC 147A. Beginning Conducting

Basic choral and instrumental conducting techniques.

Prerequisite: Upper division standing or instructor consent.

Misc/Lab: Seminar 1 hour/activity 2 hours.

Normal Grade Rules
2 units

MUSC 147B. Advanced Conducting: Instrumental

Advanced instrumental conducting techniques. Rehearsal and performance of instrumental groups under supervision.

Prerequisite: MUSC 147A or instructor consent.

Misc/Lab: Seminar 1 hour/activity 2 hours.

Normal Grade Rules
2 units

MUSC 147C. Advanced Conducting: Choral

Advanced choral conducting techniques. Rehearsal and performance of choral groups under supervision.

Prerequisite: MUSC 147A or equivalent

Misc/Lab: Lecture 2 hours/Activity 2 hours.

Repeatable for credit
Normal Grade Rules
2 units

MUSC 148A. Improvisational Traditions of the World - Africa and Diaspora

Selected topics in performance practice and social context of improvisational musics from African and African-Diaspora cultures: selected genres from Sub-Saharan Africa and their relations to Diasporic traditions in the Americas, the Caribbean, and elsewhere. In-class and/or public performances.

Pre/Corequisite: MUSC 2A and MUSC 2B or equivalent.

Misc/Lab: Seminar 1 hour/activity 2 hours.

Repeatable for credit
Normal Grade Rules
2 units

MUSC 148B. Improvisational Traditions of the World - Asia

Selected topics in performance and social context of improvisational musics of Asia: gamelan and/or other selected genres. In-class and/or public performances.

Pre/Corequisite: MUSC 2A and MUSC 2B or equivalent.

Misc/Lab: Seminar 1 hour/activity 2 hours.

Normal Grade Rules
2 units

MUSC 150A. ENS: Concert Choir

Ensemble. Large select choral ensemble, specializing in advanced a cappella and symphonic major works from all periods.

Prerequisite: MUSC 50A or equivalent, audition and instructor consent

Repeatable for credit
Normal Grade Rules
1 unit

MUSC 151. ENS: University Chorales

ENS: Rehearsal and performance of choral masterpieces and music with wide popular appeal. Students involved in the University Chorales will participate in either the SJSU Women's Chorus, Men's Glee Club, or other specialized choral ensemble and will have the opportunity to study and perform high quality choral literature.

Prerequisite: MUSC 51 or equivalent, audition and instructor consent

Repeatable for credit
Normal Grade Rules
1 unit

MUSC 152. ENS: Opera Theater

ENS: Training and performance experience in the field of opera. Fully-staged productions of one-act and conventional length works of varying styles.

Prerequisite: MUSC 52 or equivalent. Audition and instructor consent.

Repeatable for credit
Normal Grade Rules
1 unit

MUSC 153. ENS: University Symphony Orchestra

ENS: Rehearsal and performance of standard orchestral and operatic repertory.

Prerequisite: MUSC 053 or equivalent. Audition and instructor consent.

Repeatable for credit
Normal Grade Rules
1 unit

MUSC 154. ENS: Symphonic Band

ENS: Rehearsal and performance of large symphonic band repertory.

Prerequisite: MUSC 54 or equivalent. Audition and instructor consent.

Repeatable for credit
Normal Grade Rules
1 unit

MUSC 155. Wind Ensemble

Major performing group open to all wind instrumentalists by audition. Select group that performs the most advanced and high quality contemporary and traditional literature for wind ensemble from all periods. Programming changes every semester. Performances can include but not be limited to state and national conferences.

Prerequisites: MUSC 55 or equivalent. Instructor's Consent

Repeatable for credit
Normal Grade Rules
1 unit

MUSC 156. ENS: Spartan Marching Band

ENS: Open by permission to all students who play saxophone, brass or percussion instruments. Performs at all home and selected away Spartan football games.

Prerequisite: MUSC 56 or equivalent. Audition and instructor consent.

Repeatable for credit
Normal Grade Rules
2 units

MUSC 157. ENS: Jazz Orchestra

ENS: Big band jazz performance for instrumentalists and singers. Classic and new repertoire. Concert performances.

Prerequisite: MUSC 057 or equivalent. Audition and instructor consent.

Repeatable for credit
Normal Grade Rules
1 unit

MUSC 159. ENS: Afro-Latin Jazz Ensemble

ENS:Performance of Afro-Latin jazz and popular music repertoires of the US, the Caribbean, and Latin America. Ensemble techniques and solo improvisation. Concert performances.

Prerequisite: MUSC 59 or equivalent. Audition and instructor consent.

Repeatable for credit
Normal Grade Rules
1 unit

MUSC 160A. ENS: Choraliers

ENS: Small select chamber vocal group specializing in music from all periods, Renaissance to Contemporary.

Prerequisite: 60A or equivalent. Audition and instructor consent.

Repeatable for credit
Normal Grade Rules
1 unit

MUSC 160B. ENS: Chamber Orchestra

Study and performance of advanced literature for small orchestra, with music selected from a broad range of stylistic periods and composers.

Prerequisite: MUSC 60B or equivalent. Instructor consent.

Repeatable for credit
Normal Grade Rules
1 unit

MUSC 160C. ENS: Chamber Music

ENS: In-depth chamber music study and performance of standard repertoire with two or more instruments plus piano.

Prerequisite: Audition and instructor consent

Repeatable for credit
Normal Grade Rules
1 unit

MUSC 160D. ENS: Collegium Musicum

ENS: Reinforces music history studies through performance. Authenticating performance of pre-Classical music on period instruments and accurate vocal/instrumental practices. Vocal and instrumental, sacred and secular music performed.

Prerequisite: MUSC 60D or equivalent. Instructor consent.

Repeatable for credit
Normal Grade Rules
1 unit

MUSC 160E. ENS: Jazz Singers

Performance of advanced literature for chamber jazz chorus in concerts, festivals, and special events. Performance techniques, improvisation, musicianship and studio-recording techniques.

Prerequisite: MUSC 060E or equivalent. Instructor consent.

Repeatable for credit
Normal Grade Rules
1 unit

MUSC 160F. ENS: Small Jazz Ensembles

Small-group jazz performance: standard literature, informal ("head") arrangements. In-class and/or public performances.

Prerequisite: MUSC 1A, MUSC 1B and MUSC 40A, MUSC 40B: or equivalents.

Repeatable for credit
Normal Grade Rules
1 unit

MUSC 160G. ENS: Pep Band

Limited to twenty-five woodwind, brass and percussion players; performs at home Spartan basketball games and certain campus functions.

Prerequisite: 60G or equivalent. Instructor consent.

Repeatable for credit
Normal Grade Rules
1 unit

MUSC 160H. ENS: Percussion Ensemble

Performing class consisting of percussion majors. Master classes during fall semester.

Prerequisite: 60H or equivalent. Instructor consent.

Repeatable for credit
Normal Grade Rules
1 unit

MUSC 160I. ENS: Jazz Ensemble

ENS: Large jazz ensemble focused on learning standard repertoire, style, pedagogy and improvisation.

Prerequisite: Audition and instructor consent

Repeatable for credit
Normal Grade Rules
1 unit

MUSC 160J. ENS: String Ensemble

Chamber works for various string combinations studied and performed. Rehearsal and performance techniques for small chamber groups.

Prerequisite: 60J or equivalent. Instructor consent.

Repeatable for credit
Normal Grade Rules
1 unit

MUSC 160K. ENS: Brass Ensemble

Performance of duet, trio, quartet and quintet literature for mixed and homogeneous brass instruments. Literature used represents all style periods with either original or transcription materials.

Prerequisite: 60K or equivalent. Instructor consent.

Repeatable for credit
Normal Grade Rules
1 unit

MUSC 160L. Woodwind Ensemble

Chamber works for various woodwind combinations. Rehearsal and performance techniques for small chamber groups.

Prerequisite: 60L or equivalent. Instructor consent.

Repeatable for credit
Normal Grade Rules
1 unit

MUSC 160M. ENS: Saxophone Ensemble

Overview of music for saxophone ensemble for two to twenty players. All styles studied from Renaissance to Jazz.

Prerequisite: 60M or equivalent. Instructor consent.

Repeatable for credit
Normal Grade Rules
1 unit

MUSC 160O. Trombone Ensemble

Rehearsal and performance of literature for trombone ensemble. Weekly meetings will also include discussion of brass related topics.

Prerequisites: MUSC 60O or equivalent. Instructor consent

Repeatable for credit
Normal Grade Rules
1 unit

MUSC 161. REP: Styles and Interpretation of Opera I

REP: Introduction to styles of opera composition and presentation focusing on opera scenes being presented by the Opera Theater.

Prerequisite: 61 or equivalent. Audition and instructor consent.

Repeatable for credit
Normal Grade Rules
1 unit

MUSC 162. ENS: Opera Production

ENS: Hands-on training and experience in all phases of opera production.

Prerequisite: MUSC 62 or equivalent. Audition and instructor consent.

Repeatable for credit
Normal Grade Rules
1 unit

MUSC 163. REP: Styles and Interpretation of Opera II

REP: Advanced styles of opera composition and presentation focusing on opera scenes being presented by the Opera Theater.

Prerequisite: MUSC 61 or equivalent. Audition and instructor consent.

Repeatable for credit
Normal Grade Rules
1 unit

MUSC 166. Physics of Music

See PHYS 166.

Normal Grade Rules
GE: R
3 units

MUSC 167. Electro-Acoustic Music I

Overview of electro-acoustic studio production/research techniques and hands-on study of analog, digital and hybrid synthesis techniques related to composition and performance. Introduction to signal processing, MIDI and basic software/hardware systems applications.

Prerequisite: MUSC 4A and MUSC 4B or instructor consent.

Repeatable for credit
Normal Grade Rules
3 units

MUSC 168. Electro-Acoustic Music II

Continuation of MUSC 167, covering advanced synthesis, programming and production. Development of strategies for sound design and music composition toward applications in studio and performance environments. Introduction to algorithmic composition.

Prerequisite: MUSC 167 or instructor consent.

Normal Grade Rules
3 units

MUSC 169. Digital Synthesis

Techniques of direct digital synthesis and digital signal processing as related to composition, performance and research in new music. In-depth study of hardware and software instrument configurations as applied to various synthesis and processing algorithms.

Prerequisite: MUSC 168 (or equivalent) or instructor consent.

Normal Grade Rules
3 units

MUSC 170A. Fundamentals of Sound Recording

Beginning techniques in studio sound and music recording: terminology, tape editing, overdubbing, microphone technique and production techniques.

Prerequisite: MUSC 1A and MUSC 1B.

Normal Grade Rules
3 units

MUSC 170B. Intermediate Sound Recording

Intermediate sound recording and processing techniques in audio production: emphasis on microphone techniques, analog processing and multi-track production.

Prerequisite: MUSC 170A or instructor consent.

Normal Grade Rules
3 units

MUSC 170C. Advanced Sound Recording Production

Advanced production techniques in multi-track recording and digital recording, including sound construction, modulation and digital processing. Emphasis on application of techniques to group productions in synchronized audio-visual media.

Prerequisite: MUSC 170B or instructor consent.

Normal Grade Rules
3 units

MUSC 172. The Arts in U.S. Society

See CA 172.

Normal Grade Rules
GE: S
3 units

MUSC 173. Thinking About Contemporary World Arts

See CA 173.

Normal Grade Rules
GE: V
3 units

MUSC 180. Individual Studies

Prerequisite: Upper division standing and instructor and director consent. May be repeated up to 4 units of credit.

Repeatable for credit
Credit / No Credit
1-2 units

MUSC 181. Concert Listening II

Required active involvement of all music majors in the professional musical life of the campus and community through attending programs from the master list published each semester and writing five critical reviews.

Prerequisite: Upper division music major.

Repeatable for credit
Credit / No Credit
1 unit

MUSC 182. Senior Project

Senior capstone project for B.A. in music. By advisement and according to degree requirements either a senior thesis, lecture/demonstration or lecture/recital.

Prerequisite: Upper division standing, instructor consent and area approval.

Credit / No Credit
1 unit

MUSC 185A. Music for Children

Music fundamentals for the classroom teacher. Singing, playing instruments, movement, reading notation, creating music. Kodaly, Orff, Dalcroze, techniques emphasized with multicultural approach. Technology for elementary music through lab experience.

Prerequisite: Upper division standing.

Normal Grade Rules
3 units

MUSC 186. Singing for Music Theatre

Theoretical and practical study of music as an extension, intensification and completion of the drama. Musical exercises and scenes, emphasizing singing, to introduce the functions and potentials of music in music theatre.

Prerequisite: MUSC 10B, MUSC 26A and MUSC 26B.

Misc/Lab: Lecture 2 hours/Lab 2 hours

Normal Grade Rules
2 units

MUSC 190A. Honors Project

Prerequisite: Upper division standing; instructor and director consent.

Notes: MUSC 190B must be completed before total of 3 units is granted.

Credit / No Credit
1 unit

MUSC 190B. Honors Project

Prerequisite: MUSC 190A.

Credit / No Credit
2 units

GRADUATE

MUSC 200. Methods of Music Research & Writing

Use and evaluation of resources for music research and writing; problems in critical writing and music literature history.

Note: This course satisfies graduate-level GWAR in this master's program.

Normal Grade Rules
GE: GWAR
3 units

MUSC 201. Seminar in Music History

Research and analytical studies on selected topics in music history. May be repeated once for elective credit.

Prerequisite: MUSC 200 and classified standing.

Normal Grade Rules
3 units

MUSC 202. Seminar in Music Systems & Theory

Research and analytical studies of selected theoretical and applied compositional techniques in music.

Prerequisite: MUSC 200 and classified standing.

Notes: Emphasis may vary.

Normal Grade Rules
3 units

MUSC 203. Seminar in Style & Performance Practices

Study of the history of performance practices and applications in contemporary performances. May be repeated once for elective credit.

Prerequisite: MUSC 200 and classified standing.

Normal Grade Rules
3 units

MUSC 204. Materials for Graduate Music Studies

This course presents the foundation knowledge and practical skills of music systems and music history for graduate music studies.

Normal Grade Rules
3 units

MUSC 220. Seminar in Advanced Conducting

Problems in conducting, advanced score reading and interpretation.

Prerequisite: Two semesters of undergraduate conducting (or equivalent) and instructor consent.

Normal Grade Rules
3 units

MUSC 221. Seminar in Jazz History

Research and analytical studies on selected topics in jazz history.

Prerequisite: MUSC 200 and classified standing.

Normal Grade Rules
3 units

MUSC 222. Special Topics in Music
Study of specialized subjects in music history, theory, performance or education.
Prerequisite: Instructor consent.
Repeatable for credit
Normal Grade Rules
1-3 units

MUSC 224. Supervised Graduate Study
Prerequisite: Audition and/or consent of instructor and graduate advisor. Repeatable for credit
Repeatable for credit
Normal Grade Rules
1-2 units

MUSC 230. Graduate Piano Lessons: Secondary
Applied piano lessons for graduate student in a secondary area. Continuation of work from undergraduate study.
Prerequisite: Audition and instructor approval
Repeatable for credit
Normal Grade Rules
1 unit

MUSC 231. Graduate Harpsichord or Organ Lessons: Secondary
Applied harpsichord or organ lessons for graduate student in a secondary area. Continuation of work from undergraduate study.
Prerequisite: Audition and instructor approval
Repeatable for credit
Normal Grade Rules
1 unit

MUSC 232. Advanced Field Experience--Pedagogy
Provides opportunity for the qualified graduate student to be involved in planning and assisting in teaching college courses in music. The work is carried on in conjunction with the regular college teacher and must have this supervising teacher's approval.
Repeatable for credit
Credit / No Credit
1 unit

MUSC 233. Graduate Voice Lessons: Secondary
Applied voice lessons for graduate student in a secondary area. Continuation of work from undergraduate study.
Prerequisite: Audition and instructor approval
Repeatable for credit
Normal Grade Rules
1 unit

MUSC 234. Graduate String Lessons: Secondary
Applied string lessons for graduate student in a secondary area. Continuation of work from undergraduate study.
Prerequisite: Audition and instructor approval
Repeatable for credit
Normal Grade Rules
1 unit

MUSC 235. Graduate Woodwind Lessons: Secondary
Applied woodwind (clarinet, oboe, flute, saxophone or flute) lessons for graduate student in a secondary area. Continuation of work from undergraduate study.
Prerequisite: Audition and instructor approval
Repeatable for credit
Normal Grade Rules
1 unit

MUSC 236. Graduate Brass Lessons: Secondary
Applied Brass (trumpet, French horn, trombone or tuba) lessons for graduate student in a secondary area. Continuation of work from undergraduate study.
Prerequisite: Audition and instructor approval
Repeatable for credit
Normal Grade Rules
1 unit

MUSC 237. Graduate Percussion Lessons: Secondary
Applied percussion lessons for graduate student in a secondary area. Continuation of work from undergraduate study.
Prerequisite: Audition and instructor approval
Repeatable for credit
Normal Grade Rules
1 unit

MUSC 239. Graduate Jazz Lessons: Secondary
Applied Jazz (saxophone, trumpet, guitar, piano,or trombone) lessons for graduate student in a secondary area. Continuation of work from undergraduate study.
Prerequisite: Audition and instructor approval
Repeatable for credit
Normal Grade Rules
1 unit

MUSC 250A. ENS: Graduate Concert Choir
ENS: Graduate large select choral ensemble, specializing in advanced acappella and symphonic major works from all periods.
Prerequisite: Audition and instructor approval
Repeatable for credit
Normal Grade Rules
1 unit

MUSC 251. ENS: Graduate University Chorales
ENS: Rehearsal and performance of choral masterpieces and music with wide popular appeal. Graduate students involved in the University Chorales will participate in either the SJSU Women's Chorus, Men's Glee Club, or other specialized choral ensemble and will have the opportunity to study and perform high quality choral literature.
Prerequisite: Audition and instructor approval
Repeatable for credit
Normal Grade Rules
1 unit

MUSC 252. ENS: Graduate Opera Theater
ENS: Training and performance experience in the field of opera. Fully-staged productions of one-act and conventional length works of varying styles.
Prerequisite: Audition and instructor approval
Repeatable for credit
Normal Grade Rules
1 unit

MUSC 253. ENS: Graduate University Symphony Orchestra
ENS: Rehearsal and performance of standard orchestral and operatic repertory for graduate students.
Prerequisite: Audition and instructor approval
Repeatable for credit
Normal Grade Rules
1 unit

MUSC 255. ENS: Graduate Wind Ensemble
ENS: Major performing group open to all graduate wind and percussion instrumentalists by audition. Select group that performs the most advanced and high quality contemporary and traditional literature for wind ensemble from all periods. Performances can include but not be limited to state and national conferences.
Prerequisite: Audition and instructor approval
Repeatable for credit
Normal Grade Rules
1 unit

MUSC 257. ENS: Graduate Jazz Orchestra
ENS: Big band jazz performance for graduate instrumentalists and singers. Classic and new repertoire. Concert performances.
Prerequisite: Audition and instructor approval
Repeatable for credit
Normal Grade Rules
1 unit

MUSC 259. ENS: Graduate Latin Jazz Ensemble
ENS:Performance of Afro-Latin jazz and popular music repertoires of the US, the Caribbean, and Latin America. Graduate level ensemble techniques and solo improvisation. Concert performances.
Prerequisite: Audition and instructor approval
Repeatable for credit
Normal Grade Rules
1 unit

MUSC 260A. ENS: Graduate Choraliers
ENS: Small select chamber vocal group of graduates and undergraduates specializing in music from all periods, Renaissance to Contemporary.
Prerequisite: Audition and instructor approval
Repeatable for credit
Normal Grade Rules
1 unit

MUSC 260C. ENS: Graduate Chamber Music
ENS: Graduate level in-depth chamber music study and performance of standard repertoire with two or more instruments plus piano.
Prerequisite: Audition and instructor approval
Repeatable for credit
Normal Grade Rules
1 unit

MUSC 260D. ENS: Graduate Collegium
ENS: Graduate. Reinforces music history studies through performance. Authenticating performance of pre-Classical music on period instruments and accurate vocal/instrumental practices. Vocal and instrumental, sacred and secular music performed.
Prerequisite: Audition and instructor approval
Repeatable for credit
Normal Grade Rules
1 unit

MUSC 260F. ENS: Graduate Small Jazz Ensembles
ENS: Graduate small-group jazz performance: standard literature, informal ("head") arrangements. In-class and/or public performances.
Prerequisite: Audition and instructor approval
Repeatable for credit
Normal Grade Rules
1 unit

MUSC 260H. ENS: Graduate Percussion Ensemble
ENS: Performance class consisting of graduate and undergraduate percussion majors. Master classes during fall semester. Small to larger percussion ensemble works performed.
Prerequisite: Audition and instructor approval
Repeatable for credit
Normal Grade Rules
1 unit

MUSC 260J. ENS: Graduate String Ensemble
ENS: Graduate chamber works for various string combinations studied and performed. Rehearsal and performance techniques for small chamber groups.
Prerequisite: Audition and instructor approval
Repeatable for credit
Normal Grade Rules
1 unit

MUSC 260K. ENS: Graduate Brass Ensemble
ENS: Graduate level performance of duet, trio, quartet and quintet literature for mixed and homogeneous brass instruments. Literature used represents all style periods with either original or transcription materials.
Prerequisite: Audition and instructor approval
Repeatable for credit
Normal Grade Rules
1 unit

MUSC 260L. ENS: Graduate Woodwind Ensemble
Graduate level chamber works for various woodwind combinations. Rehearsal and performance techniques for small chamber groups.
Prerequisite: Audition and instructor approval
Repeatable for credit
Normal Grade Rules
1 unit

MUSC 260M. ENS: Graduate Saxophone Ensemble
ENS: Graduate overview of and performance of music for saxophone ensemble for two to twenty players. All styles studied from Renaissance to Jazz.
Prerequisite: Audition and instructor approval
Repeatable for credit
Normal Grade Rules
1 unit

MUSC 298. Special Study
Special study in the field of music (excluding applied instruction).
Prerequisite: Consent of instructor, graduate advisor and the School of Music director.
Repeatable for credit
Mandatory CR/NC/RP
1-2 units

MUSC 299. Master's Thesis, Recital or Composition
Prerequisite: Admission to candidacy and consent and approval of graduate study instructor, graduate advisor and School of Music department chair.
Mandatory CR/NC/RP
1-3 units

UPPER DIVISION

MUSC 1290R. Culminating Experience Supervision
Continued work on thesis, composition, or project
Prerequisite: Outstanding RP grade in a preceding semesters in a thesis, composition, or project class.
Note: No Degree Credit.
Repeatable for credit
No Degree Credit
1 unit

MUSIC EDUCATION

UPPER DIVISION

MUED 140. Foundations of Music Education
Survey of music education's historical, philosophical, psychological and sociological foundations.
Prerequisite: Upper division standing or instructor consent.
Normal Grade Rules
3 units

MUED 142. Introduction to Music Education: Early Field Experience
Introduction to teaching music in the public schools. Includes in-school paraprofessional work in approved music program under supervision of university faculty and master teachers.
Prerequisite: Sophomore standing.
Credit / No Credit
1 unit

MUED 170A. Teaching Instrumental Music
Materials, literature, methods and pedagogy for teachers of instrumental music.
Normal Grade Rules
2 units

MUED 170B. Teaching Choral Music
Materials, literature, methods and pedagogy for teachers of choral music.
Prerequisite: Upper division standing.
Normal Grade Rules
2 units

MUED 175. Practicum in Music Education
Practical experience in music education including pedagogy, classroom management and practice teaching.
Prerequisite: MUED 140, MUED 170, MUED 147A, MUED147B or instructor consent.
Normal Grade Rules
3 units

MUED 184I. Student Teaching for Music Individualized Interns
Supervised student teaching in music class(es) in the public school where the student is employed as an Individualized Intern.
Prerequisite: Admission to Single Subject Credential Program; music advisor and Single Subject Coordinator consent.
Repeatable for credit
Credit / No Credit
2-4 units

MUED 184Y. Student Teaching II - Classroom Teaching
Minimum 80-120 class periods of classroom, teaching lab or field teaching in music subjects, grades K-12. Includes seminar.
Prerequisite: Upper division standing and joint approval of major and education departments.
Repeatable for credit
Credit / No Credit
4-6 units

MUED 184Z. Student Teaching III-Classroom Teaching

To be taken concurrently or in different semester than 184Y. May be in a different subject or in different school and will be at a different grade level.

Prerequisite: Upper division standing and joint approval of major and education departments.

Repeatable for credit
Credit / No Credit
4-6 units

MUED 188. Music Ed Trends

Investigation of current trends in music education. Topics vary with course offering.

Credit / No Credit
1-2 units

GRADUATE

MUED 221. Foundations of Music Education

This course provides an introduction to graduate studies in music education. Topics include; historical contexts; philosophy; sociology, aesthetics; psychology; and learning theory in music education.

Prerequisite: Graduate student standing and instructor consent

Normal Grade Rules
3 units

MUED 228. Research in Music Education

This course examines research in music education, concentrating on qualitative, quantitative, and historical methodologies. Attention will focus on applications of research within music education, and the course will culminate in a capstone project using one of these research methodologies.

Prerquisite: Graduate student standing, instructor consent

Normal Grade Rules
3 units

MUED 232. Directions and Issues in Music Education

This course examines current issues and directions in music education. Topics include historical, sociological, and philosophical contexts for music education; learning and development issues; curriculum and pedagogy; assessment; applied research in music education; and leadership development.

Prerequisite: Graduate student standing and instructor consent

Repeatable for credit
Normal Grade Rules
3 units

MUED 370A. Methodology for Music Educators: Elementary K-8

Study of Kodaly, Orff and Dalcroze elementary methods including a multicultural emphasis. A review of materials for the comprehensive elementary music curriculum. Peer teaching/field observations of classrooms, choral and instrumental classes required.

Prerequisite: Upper division standing or instructor consent.

Notes: Required for certification.

Normal Grade Rules
2 units

MUED 370B. Methodology for Music Educators: Secondary

Prepares secondary music instructors to teach non-performance courses, including music appreciation, theory, technology, history and multicultural survey. Peer teaching and field observations required. Organization of comprehensive secondary music departments included.

Prerequisite: MUED 370A.

Normal Grade Rules
2 units

UPPER DIVISION

MUED 1290R. Culminating Experience Supervision

Continued work on thesis or project

Prerequisite: Outstanding RP grade in a preceding semesters in a thesis, composition, or project class.

Note: No Degree Credit.

Repeatable for credit
No Degree Credit
1 unit

Nuclear Science Program Courses

NUCLEAR SCIENCE

UPPER DIVISION

NUCS 121S. Radiation Safety

Health hazards involved in working with radioactive substances. Physical nature of hazards, biological effects, standards of permissible exposures, safety precautions and protection techniques. Two units meet State of California recommendations.

Prerequisite: Lower division calculus, chemistry and physics.

Normal Grade Rules
1-2 units

NUCS 126. Introduction to Nuclear Science

See CHEM 126.

Normal Grade Rules
3 units

NUCS 127. Nuclear Science Lab

See CHEM 127.

ABC/No Credit
3 units

GRADUATE

NUCS 298. Research

Directed individual laboratory work or field studies in radiological health physics and nuclear science for students with adequate preparation. A maximum of 8 units may be repeated.

Prerequisite: Instructor consent.

Repeatable for credit
Mandatory CR/NC/RP
1-6 units

NUCS 299. Master's Thesis

Prerequisite: NUCS 298, instructor consent and admission to candidacy for the master's degree.

Repeatable for credit
Mandatory CR/NC/RP
2-4 units

Nursing, School of Courses

NURSING

LOWER DIVISION

NURS 012. Nursing Skills and Health Assessment I

Focuses on foundational nursing skills including health assessment, nursing process, communication, psychomotor skills and critical thinking in the context of diverse client populations. Person-centered care and safety are emphasized through the use of simulation.

Repeatable for credit
Normal Grade Rules
3 units

NURS 014. Geriatric Nursing Practicum

Provide supervised nursing care to geriatric clients in a variety of healthcare settings. Focus on applying professional fundamental nursing skills including therapeutic communications, nursing assessment and health promotion.

Repeatable for credit
Credit / No Credit
1 unit

NURS 023. Pathophysiology - Theory I

Introduction to biologic basis for health problems in children and adults. Focuses on the pathophysiology of a variety of disease processes using systems theory as an organizing framework.

Prerequisite: Admission to nursing program. BIOL 65, BIOL 66, CHEM 30A, MICR 20, ENGL 1A, COMM 20, STAT 95 with a C or better.

Corequisites: NURS 33, NURS 43, NURS 53; completion of core GE.

Normal Grade Rules
3 units

NURS 024. Adult Care Management I

Covers the knowledge, skills, and attitudes required to provide safe nursing care to adults / older adults. A systems approach integrates concepts of health promotion, disease prevention, and evidence-based interventions related to actual/potential alterations in: oxygenation, circulation, metabolism, and elimination.

Prerequisite: NURS 23, NURS 33, NURS 43, NURS 53

Normal Grade Rules
4 units

NURS 032. Health Assessment & Skills III

Focuses on the childrearing and childbearing population with integration of clinical reasoning (nursing process) during health assessments and psychomotor skills to provide safe client care in a variety of settings.

Repeatable for credit
Normal Grade Rules
1 unit

NURS 033. Professional Role Development I

An overview of the professional nursing role. Includes: nursing, core values, roles of professional nurse, the nursing process, code of ethics, legal issues, Nurse Practice Act, and interpersonal communication skills in preparation for clinical practice.

Prerequisite: Admission to nursing program. BIOL 65, BIOL 66, CHEM 30A, MICR 20, ENGL 1A, COMM 20, STAT 95, (all with grades of "C" or better).

Corequisites: NURS 023, NURS 043, NURS 053; completion of core GE.

Normal Grade Rules
2 units

NURS 034A. Professional Role Development II

Focus is on the role of the professional nurse in providing patient-centered care, applying principles of the nursing process, professional communication, evidence-based practice and quality improvement in acute care setting.

Prerequisite: Completion of NURS 23, NURS 33, NURS 43, NURS 53.

Corequisite: NURS 44

Normal Grade Rules
1 unit

NURS 043. Pharmacology

Focuses on drug prototypes from major drug categories. Emphasizes the pharmacodynamics, calculations, nursing assessments and interventions of drugs commonly prescribed.

Prerequisite: Admission to nursing program. BIOL 65, BIOL 66, CHEM 30A, MICR 20, ENGL 1A, COMM 20, STAT 95 , (all with grades of "C" or better).

Corequisites: NURS 023, NURS 033, NURS 053; completion of core GE.

Normal Grade Rules
3 units

NURS 044. Adult Care Clinical Practicum I

Focus is on applying the nursing process to provide safe, client-centered nursing care to acute and chronically ill adults and older adults in the acute care setting.

Prerequisite: NURS 023, NURS 033, NURS 043, NURS 053.

Credit / No Credit
3 units

NURS 053. Skills in Nursing I

A beginning simulation course for the learning and practice of psychomotor and cognitive skills used to provide direct care in the acute care setting. Includes: hygiene, safety, mobility, asepsis, medication administration, health assessment, interpersonal relationship skills.

Prerequisite: Admission to nursing program. BIOL 65, BIOL 66, CHEM 30A, MICR 20, ENGL 1A, COMM 20, STAT 95 , (all with grades of "C" or better).

Corequisites: NURS 023, NURS 033, NURS 043; completion of core GE.

Misc/Lab: Lecture 3 hours/Lab 3 hours

Normal Grade Rules
3 units

NURS 054. Skills in Nursing II

A simulation course for the learning and practice of advanced psychomotor and cognitive skills used to provide direct care in the acute care setting. Skills include: IV therapy, venipuncture, trach care, wound care, NG tubes, blood transfusions, and postmortem care.

Prerequisite: Completion of NURS 023, NURS 033, NURS 043, NURS 053.

Corequisite: NURS 024 and NURS 034.

Misc/Lab: Lecture 3 hours/Lab 2 hours

Normal Grade Rules
2 units

UPPER DIVISION

NURS 100W. Writing Workshop

See HS 100W.

Normal Grade Rules
GE: Z
3 units

NURS 108. Special Topics in Nursing

Significant nursing topics, issues, or themes. Consult Schedule of Classes and/or School of Nursing for focus which varies each semester.

Prerequisite: Upper division standing.

Repeatable for credit
Normal Grade Rules
3 units

NURS 110ITL. Global Influences on Health

Examination of major issues influencing health and human services and their delivery on a global scale. The health care needs of a diverse and multicultural population, health care disparities, and strategies to address global health needs are explored. Includes special populations service provision, advocacy, patient/client centered care, psycho-social aspects of disease and wellness, health promotion and education, quality, cost controls, and multidisciplinary team approaches to service delivery. SJSU Studies Area: V

Normal Grade Rules
GE: V
3 units

NURS 111. Medical Ethics

See PHIL 111.

Normal Grade Rules
3 units

NURS 112. Professional Practice Success II

Second course in a two course sequence focusing on the application of nursing concepts essential to successful professional nursing practice: improving clinical reasoning, developing a systems viewpoint, and implementing change in the current healthcare setting. Prerequisite: NURS 111, NURS 170 and NURS 171

Corequisite: NURS 172 and NURS 173

Repeatable for credit
Normal Grade Rules
2 units

NURS 124. Nursing Theory II

An RN Bridge course teaching the theoretical basis for health and illness management of culturally diverse individuals, families, and groups. Concepts include professionalism, health promotion, nursing theories, quality measurement, and clinical judgment. The delivery is in person and online.

Prerequisite: Acceptance into RN to BSN Bridge Program

Corequisite: NURS 144.

Normal Grade Rules
3 units

NURS 125. Adult Care Management II

Focus is on concepts and care related to adult medical-surgical clients in the acute care setting. Systems approach integrates human response to alterations in physiological functioning related to disorders of the musculoskeletal, neurological, gastrointestinal, integumentary, endocrine systems and oncologic disorders.

Prerequisite: NURS 100W, NURS 126A, NURS 126B, NURS 136, NURS 146A, NURS 146B

Normal Grade Rules
4 units

NURS 126A. Pediatric Health Theory

Focus is on direct heath care of children in various health care settings. Exploration of biopsychosocial processes involved in health, life transitions, and illness with identification of related preventative and therapeutic nursing behaviors

Prerequisite: NURS 24, NURS 34, NURS 44, NURS 54, NURS 128

Normal Grade Rules
2 units

NURS 126B. Maternal / Newborn Health Theory

Focus is on direct heath care of the childbearing family in various health care settings. Exploration of biopsychosocial processes involved in health, life transitions, and illness with identification of related preventative and therapeutic nursing behaviors.

Prerequisite: NURS 24, NURS 34, NURS 44, NURS 54, NURS 128.

Normal Grade Rules
2 units

NURS 127A. Psychiatric / Mental Health Theory

Concepts for nursing in psychiatric-mental health settings with clients from culturally diverse backgrounds. Systems approach integrates psychiatric/mental health nursing care for individuals, families and communities with complex health problems.

Prerequisite: NURS 125, NURS 133, NURS 145.

Normal Grade Rules
2 units

NURS 127B. Community Theory

Utilizes a systems approach to integrate the study of community and public health nursing care for culturally diverse individuals, families, and communities with complex health problems, and promotion of health and wellness across the lifespan.

Prerequisite: NURS 125, NURS 133, NURS 145 or NURS 124, NURS 144.

Normal Grade Rules
2 units

NURS 128. Evidence-Based Nursing Practice

Focus is on research methodology and terminology related to nursing process and evidence based nursing practice.

Prerequisites: NURS 023, NURS 033, NURS 043, NURS 053.

Normal Grade Rules
2 units

NURS 133. Professional Role Development IV

Focus is on the role of the professional nurse in providing patient-centered care, applying principles of the nursing process, professional communication, evidence-based practice and quality improvement in the acute care setting.

Prerequisite: NURS 126, NURS 136, NURS 146A, NURS 146B.

Normal Grade Rules
2 units

NURS 135. Health Issues in a Multicultural Society

See HS 135.

Normal Grade Rules
GE: S
3 units

NURS 136. Professional Role Development III

Expansion of the professional role in the childbearing-childrearing setting to include further application of: evidence-based practice, therapeutic communication, developmentally appropriate teaching/learning strategies, informatics, health literacy, developmental and cultural assessment, leadership and ethical principles, grief and loss.

Prerequisite: NURS 24, NURS 34, NURS 44, NURS 54, NURS 128.

Normal Grade Rules
2 units

NURS 137. Professional Role Development V

Using a collaborative learning environment, students acquire professional role competencies for community health and psychiatric/mental health nursing practice.

Prerequisite: NURS 125, NURS 133, NURS 145.

Normal Grade Rules
2 units

NURS 138. Professional Role Development VI

Focus is on demonstration of the professional nurse role. Includes integration of theoretical concepts and clinical practice skilled know-how into the practice setting. Encompasses models and theories of nursing management and leadership, communication, economics, quality improvement, ethics, and safety. GE Area: S

Prerequisite: NURS 127A, NURS 127B, NURS 137, NURS 147A, NURS 147B or NURS 139.

Normal Grade Rules
GE: S
3 units

NURS 138X. Professional Role Development VI

Focus is on demonstration of the professional nurse role. Includes integration of theoretical concepts and clinical practice skilled know-how into the practice setting. Encompasses models and theories of nursing management and leadership, communication, economics, quality improvement, ethics, and safety.

Prerequisite: Successful completion of NURS 127A, NURS 127B, NURS 137, NURS 147A, NURS 147B or NURS 139

Normal Grade Rules
2 units

NURS 139. Professional Role Development for Nurses

Students use a systems approach to acquire professional role competencies required in a variety of healthcare settings (community health, acutecare) in a collaborative learning environment. Focus is on nursing management and integration of nursing role concepts into professional practice.

Prerequisites: NURS 124, NURS 144.

Corequisites: NURS 127B, NURS 147B.

Normal Grade Rules
3 units

NURS 144. Clinical Nursing Applications

Implements concepts and activities using a variety of health care settings. Focus on health promotion, chronic illness and leadership/management.

Prerequisite: California RN License.

Pre/Corequisite: NURS 124 and NURS 134.

Normal Grade Rules
2 units

NURS 145. Adult Care Clinical Practicum II

Focus is on applying the knowledge, skills, and attitudes required to provide safe, client-centered care to acute and chronically ill adults and older adults in a variety of settings.

Prerequisite: NURS 126A, NURS 126B, NURS136, NURS 146A, NURS146B

Credit / No Credit
4 units

NURS 146A. Pediatric Clinical

Focuses on providing family centered care to culturally diverse childrearing families and children using concepts of systems theory in acute care, home, and community settings.

Prerequisite: NURS 24, NURS 34, NURS 44, NURS 54, NURS 128.

Credit / No Credit
2 units

NURS 146B. Maternal Health Clinical

Focuses on providing family centered care to culturally diverse childbearing families using concepts of systems theory in acute care, home, and community settings.

Prerequisite: NURS 24, NURS 34, NURS 44, NURS 54, NURS 128.

Credit / No Credit
2 units

NURS 147A. Psychiatric/Mental Health Clinical

Supervised participation in nursing and healthcare of clients with psychiatric-mental health problems in varied settings. Concepts include a systems approach to therapeutic communication and relationships, evidence-based care, symptom management, teaching/learning, leadership, and collaboration with other health care workers.

Prerequisite: NURS 125, NURS 133, NURS 145.

Credit / No Credit
2 units

NURS 147B. Community Health Clinical

Applies nursing process to care of clients from diverse populations in the community in a variety of settings. Utilizes a systems approach to promoting health and wellness for individuals and groups across the lifespan.

Prerequisite: NURS 125, NURS 133, NURS 145.

Credit / No Credit
3 units

NURS 147BI. Community Health Clinical -- International Experience

Applies nursing process to care of clients from diverse populations in a variety of international settings. A systems approach to caring for individuals and groups across the life span with community health care needs.

Prerequisite: Completion of NURS 125, NURS 133, NURS 145

Corequisite: Nurs 127B, Nurs 137

Credit / No Credit
3 units

NURS 148. Nursing Practicum V

Using a systems approach, applies professional practices in a variety of health care settings. This is a preceptored experience.

Prerequisite: Completion of Semester 7 and successful completion of NURS 101B or Licensure as a Registered Nurse.

Corequisite: NURS 128 and NURS 138.

Credit / No Credit
3 units

NURS 148A. Senior Preceptorship

Independent, precepted experience in a clinical setting. Uses a systems approach integrating knowledge of research, leadership, pathophysiology, and nursing into practice.

Prerequisite: NURS 127A, NURS 127B, NURS 137 or NURS 139, NURS 147A, NURS 147B.

Corequisite: NURS 138

Credit / No Credit
4 units

NURS 148AI. Senior Practicum-- International Experience

Use a systems approach to research, leadership management, theory and beginning clinical proficiency, in collaboration with other health care members in an international setting.

Prerequisite: Completion of Nursing Semester 5

Co-requisite: Nurs 138

Credit / No Credit
4 units

NURS 155. Skills in Nursing III

Simulation course for the practice of advanced, specialized psychomotor and cognitive skills used to provide direct care.

Prerequisite: Completion of Semester 4.

Corequisite: NURS 125, NURS 133 and NURS 145.

Misc/Lab: Lecture 3 hours/Lab 2 hours

Normal Grade Rules
2 units

NURS 161. Leadership II

Focuses on safe practice of professional nursing. Includes interdisciplinary communication, bioethical and legal concerns, cost of care, end-of-life care, and health literacy and disparities for culturally diverse clients. Prerequisite: NURS 10.

Repeatable for credit
Normal Grade Rules
2 units

NURS 166. Simulation I

Provides objective-driven learning activities using a variety of simulation modalities. Faculty-guided simulations provide opportunities for developing problem identification and clinical reasoning skills across the lifespan. Reflective thinking is incorporated into all simulated experiences.

Repeatable for credit
Normal Grade Rules
1 unit

NURS 180. Individual Studies

Individual study or project work on a selected problem or professional issue in nursing.

Prerequisite: Arrangement must be made with a nursing faculty member and approved by the school director during the semester prior to taking course.

Repeatable for credit
Credit / No Credit
1-4 units

GRADUATE

NURS 200. Population Based Health Care Systems

Planning, policy, organization, and financing of health care systems. Prepares nurses to participate in design, implementation, and evaluation of ethical, cost-effective, quality health care in health care systems to improve health care delivery and client outcomes.

prerequisite: Admission to nursing masters program

Normal Grade Rules
3 units

NURS 201. Clinical Leadership Role Development

The purpose of this course is to prepare students for leadership roles in healthcare through the study, analysis, and application of nursing leadership and management theories and principles.

Prerequisite: Acceptance into nursing masters program

Normal Grade Rules
2 units

NURS 202. Theoretical Foundations

Addresses the theoretical underpinnings of nursing practice and research, including a wide range of theories from nursing and other disciplines. Students develop and apply relevant criteria in evaluating theories for practice and research with individuals, families and communities.

Normal Grade Rules
2 units

NURS 204. Diverse Populations and Health Care

Planning for health promotion and disease prevention among diverse populations, providing available, accessible, and culturally competent care for individuals, families, and communities.

Prerequisite: Concurrent courses: NURS 200, NURS 202.

Repeatable for credit
Normal Grade Rules
3 units

NURS 212. Curriculum Development in Nursing

Curriculum development with application to programs in nursing and health education. Focuses on formulation of conceptual framework for curriculum development and utilization in making decisions regarding the objectives, learning experiences, and evaluation strategies.

Normal Grade Rules
3 units

NURS 214. Nurse Educator Theory & Practicum I

Covers theories, models, and concepts relevant to teaching and learning in nursing education and health care systems. Experience in implementing the educator role using teaching processes and strategies for diverse students and settings. Includes 2 units theory, 2 units practicum

Prerequisite: NURS 200 or NURS 202

Corequisite: NURS 212

Misc/Lab: Lecture 5 hours/Supervision 1.5 hours

Normal Grade Rules
4 units

NURS 216. Nurse Educator Theory and Practicum II

Continuing experience with educational theories, models, concepts, and strategies, focusing on educational research, and contemporary educational issues. Advanced experience in implementing the teaching role with increasing independence. Course includes 1 unit theory and 3 units (120 hours) of practicum.

Prerequisite: NURS 212 and NURS 214.

Misc/Lab: Lecture 5 hours/Supervision 1.5 hours

Repeatable for credit
Normal Grade Rules
4 units

NURS 236A. Nursing Administration Theories, Concepts and Practicum I

Emphasis on administrative concepts necessary for management of a health care system in a diverse environment. Opportunity for experience in the nurse administrator role in a practicum.

Pre/Corequisite: NURS 200, NURS 202, NURS 204.

Misc/Lab: Lecture 3 hours/Supervision 1.5 hours

Repeatable for credit
Normal Grade Rules
3 units

NURS 236B. Nursing Administration Theories, Concepts and Practicum II

Opportunity for advanced experience in the nurse administrator role. Applying conceptual models and theories for operations and personnel management, the student assumes the administrator role in a practicum with minimal supervision within a diverse health care setting.

Prerequisite: NURS 236A.

Misc/Lab: Lecture 4 hours/Supervision 1.5 hours

Repeatable for credit
Normal Grade Rules
4 units

NURS 248. Advanced Health Assessment

This advanced assessment course focuses on differentiation between normal and pathologic changes experienced in a primary care practice. Using systems theory framework, students formulate appropriate diagnoses using pertinent symptomatologies and etiologies. May be repeated, but not in same semester.

Prerequisite: NURS 200, NURS 202, NURS 104 (or equivalent).

Repeatable for credit
Normal Grade Rules
3 units

NURS 250. Family Nurse Practitioner Concepts and Theory I

Theory and evidence base for primary prevention, health maintenance, health promotion, health screening, health teaching and anticipatory guidance for nurse practitioners with an emphasis on case management techniques and interdisciplinary care. Emphasis on using algorithms and standardized procedures to effect primary prevention

Prerequisite: NURS 248, NURS 259, NURS 260

Corequisite: NURS 253.

Normal Grade Rules
2 units

NURS 251. Family Nurse Practitioner (FNP) Concepts and Theory II

Theoretical basis of secondary prevention in primary care settings. Theory and evidence to assess and manage acute, self-limiting conditions. Use and development of algorithms and protocols for secondary prevention. Emphasis on use of pharmacologic therapeutic regimens with emphasis on secondary prevention.

Prerequisite: NURS 248, 259, 250, 260

Corequisite: NURS 254

Normal Grade Rules
2 units

NURS 252. Family Nurse Practitioner Concepts and Theory II

Diagnosis and management of common illnesses in primary care practice. Research and theory used to identify strategies to promote health and prevent illness. Introduction to pharmacologic therapeutic regimens with emphasis on interdisciplinary care, secondary and tertiary prevention.

Pre/Corequisite: NURS 250 and NURS 253.

Repeatable for credit
Normal Grade Rules
2 units

NURS 252A. Family Nurse Practitioner (FNP) Concepts and Theory III

Theoretical and evidence base for tertiary prevention for families in primary care settings. Assessment and management of chronic conditions. Development of protocols for tertiary prevention. Integration of knowledge related to primary, secondary, and tertiary prevention.

Prerequisite: NURS 248, 259, 250, 251, 260

Corequisite: NURS 256

Normal Grade Rules
2 units

NURS 253. Family Nurse Practitioner Practicum I

First clinical practicum increases nurse practitioner competence in the domain of management of patient health/illness status in the areas of health promotion, health protection, disease prevention and management of patient illness; using evidence based clinical practice guidelines.

Prerequisite: NURS 259, 260, 248

Corequisite: NURS 250

Misc/Lab: Laboratory 5 hours

Repeatable for credit
Credit / No Credit
2 units

NURS 254. Family Nurse Practitioner Practicum II

Second clinical practicum increases nurse practitioner competence in the domain of management of patient health/illness status in the areas of health promotion, health protection, disease prevention and management of patient illness; using evidence based clinical practice guidelines

Prerequisite: NURS 259, 260, 248, 250

Corequisite: NURS 251

Misc/Lab: Lecture 5 hours/Supervision 1.5 hours

Credit / No Credit
5 units

NURS 256. Family Nurse Practitioner Practicum III

Final clinical practicum increases nurse practitioner competence in the domain of management of patient health/illness status in the areas of health promotion, health protection, disease prevention and management of complex or chronic patient illness; using evidence based clinical practice guidelines.

Prerequisite: NURS 259, 260, 248, 250, 251, 253, 254

Corequisite: NURS 252

Misc/Lab: Lecture 5 hours/Supervision 1.5 hours

Credit / No Credit
5 units

NURS 258. Professional Issues for Nurse Practitioners

Exploration of current health care environment as it pertains to policy development, health planning, and economic management at the national, state, and local levels. Exploration of equitable distribution of existing resources, policy development, program evaluation, and client/population outcomes.

Pre/Corequisite: NURS 250, NURS 252 and NURS 253.

Repeatable for credit
Normal Grade Rules
2 units

NURS 259. Advanced Clinical Pharmacology

This course is designed to prepare family nurse practitioners and nurse educators to accurately describe, administer, and counsel patients regarding appropriate and safe medication regimens. Basic pharmacologic principles and the pharmacologic actions of the major drug classes will be discussed in relation to physiologic systems, with emphasis on the application of these agents.

Normal Grade Rules
3 units

NURS 260. Advanced Physiology and Pathophysiology for Advanced Practice Nursing

Advanced physiology and compensatory mechanisms are examined with emphasis on system interaction, homeostasis, and pathophysiology. Focus for this course is on physiologic processes with clinical application to individuals across the lifespan. Course has both online and in-class components.

Prerequisites: Graduate status or instructor consent.

Repeatable for credit
Normal Grade Rules
3 units

NURS 295A. Research Methods

This course provides basic principles of research. Novice researchers are familiarized with research methodology. Candidates engage in evaluating public research, and develop and write a feasible proposal for implementation as a research project.

Prerequisite: NURS 200

Note: This course satisfies graduate-level GWAR in this master's program.

Normal Grade Rules
GE: GWAR
3 units

NURS 297. Master's Project

Project option is an alternative to thesis option. Students integrate learning from graduate courses and clinical practice by developing a project proposal, implementing and reporting the project in the form of a publishable paper. May not be repeated in same semester.

Prerequisite: NURS 295A and advancement to candidacy.

Repeatable for credit
Mandatory CR/NC/RP
1-4 units

NURS 298. Special Studies

For students pursuing advanced study related to populations-at-risk. Independent study project developed by the student may be an individualized small research activity or special study topic.

Repeatable for credit
Mandatory CR/NC/RP
1-6 units

NURS 299. Master's Thesis

Research proposal developed, research completed and study reported in approved thesis format during three semesters.

Prerequisite: Instructor consent.

Mandatory CR/NC/RP
1-4 units

NURS 574. The Role of Diversity and Social Issues in Healthcare

Analysis of social and cultural factors affecting health among populations defined by age, education, gender, ethnicity, culture, religion, occupation, income, mental or physical disability and language.

Prerequisite: Admission to the DNP program.

Normal Grade Rules
2 units

NURS 575. Application of Theories in Advanced Nursing Practice

Application of theories of nursing, ethics, and teaching-learning to advanced nursing practice and healthcare leadership.

Prerequisite: Admission to the DNP program.

Normal Grade Rules
2 units

NURS 576. Application of Biostatistics to Population

Examination of methods to generate and analyze biostatistical data to design, implement, and evaluate programs and policies for the healthcare of populations.

Prerequisite: Admission to the DNP program.

Normal Grade Rules
3 units

NURS 580. DNP Practicum

Integration of clinical practice, theory, and research. Development of clinical expertise in management of health problems in selected populations.

Credit / No Credit
1-6 units

NURS 583. Leadership and Professional Responsibilty in Complex Healthcare Systems

Analysis of nursing leadership and evidence-based management theories necessary for the leadership of complex healthcare systems. Application of concepts of leadership, management, planning, and evaluation of population based efforts to provide quality affordable care. Analysis of professional role and responsibilities.

Prerequisites: NURS 574, NURS 575 and NURS 576.

Normal Grade Rules
2 units

NURS 584. Technology, Informatics, and Data Management in the Transformation of Healthcare

Overview of patient-centered technology and clinical information systems. Application of nursing informatics in healthcare systems. Use of technology in evaluation of clinical outcomes to improve the healthcare system and to evaluate the effectiveness, quality, and efficiency of healthcare programs.

Prerequisites: NURS 574, NURS 575 and NURS 576.

Normal Grade Rules
2 units

NURS 585. Foundations of Evidence-Based Practice

Exploration of issues related to evidence-based practice. Development of skills needed to identify, critically appraise, and utilize best evidence.

Prerequisites: NURS 574, NURS 575 and NURS 576.

Normal Grade Rules
3 units

NURS 586. Transformation of Health Care Systems: Health Policy and Economics

Healthcare policies and economics and the political forces that shape them. Role of the DNP in the analysis, formulation, and implementation of healthcare policies.

Prerequisites: NURS 583, NURS 584 and NURS 585.

Normal Grade Rules
2 units

NURS 587. Principles of Epidemiology

Principles and concepts of epidemiology. Distribution and determinants of disease risk in populations across the lifespan. Approach to disease and intervention, identification of cause of disease, response to disease outbreak, disease surveillance, evaluation of screening and prevention, and ethical issues.

Prerequisites: NURS 583, NURS 584 and NURS 585.

Normal Grade Rules
3 units

NURS 591. Curriculum Development

Exploration of philosophical foundations of curriculum, curriculum design, and the development of curriculum frameworks, outcomes, and competencies. Analysis of determinants of learning and the developmental stages of the learning process. Theoretical foundations of teaching-learning emphasizing critical thinking and active learning.

Prerequisites: NURS 586, NURS 587.

Normal Grade Rules
3 units

NURS 592. Evaluation in Nursing Education

Focuses on assessment, measurement, and evaluation of learning and program outcomes in nursing. Explores theories of educational measurement and evaluation and of measures to evaluate teaching effectiveness, student learning, student outcomes, and student clinical performance.

Prerequisites: NURS 591, NURS 593 and NURS 595.

Normal Grade Rules
3 units

NURS 593. Financial Aspects of Projects and Practice

Principles of health care economics, third-party reimbursement, costing, budgets and budgeting, variance, economic evaluation methods, and writing a business plan to defend or market a health care program. Management of a successful project or practice emphasizing fiscal planning and control.

Prerequisites: NURS 586, NURS 587.

Normal Grade Rules
2 units

NURS 594. Application of Evidence-Based Teaching in Nursing

Guided experience with a master teacher in nursing. Experiential classroom, clinical, and simulation teaching. Implementation of a teaching unit using principles of evidence-based teaching.

Prerequisites: NURS 591, NURS 593 and NURS 595.

Misc/Lab: Lecture 2 hours/Lab 6 hours.

Normal Grade Rules
2 units

NURS 595. Translating Evidence into Reflective Practice I

Integration of clinical practice, theory, and research. Development of clinical expertise in management of health problems in selected populations. Identification and development of a project proposal for implementation. Formal defense of proposal and IRB approval. One hour clinical conference per week. (204-306 total practicum hours).

Prerequisites: NURS 586, 587.

Normal Grade Rules
4-6 units

NURS 596. Translating Evidence into Reflective Practice II

Integration of clinical practice, theory, and research. Development of clinical expertise in management of health problems in selected populations. Implementation of project proposal. One hour clinical conference per week. (204-306 total practicum hours).

Prerequisites: NURS 591, NURS 593 and NURS 595.

Normal Grade Rules
4-6 units

NURS 597. Doctoral Project

Evaluation of data and completion of doctoral project. Dissemination of results through an oral defense and manuscript submission to a peer-reviewed journal.

Prerequisites: NURS 592, NURS 594 and NURS 596.

Mandatory CR/NC/RP
2 units

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DESCRIPTION CONTENTS

Nutrition, Food Science and Packaging Department Courses

NUTRITION AND FOOD SCIENCE

LOWER DIVISION

NUFS 001A. Physical Science of Food
Introductory course to the physical, chemical and sensory properties of food for students not majoring in the sciences. Basic structure, function and organization of foods, laws of thermodynamics, systems of classification, as well as the interactions of energy and matter. GE Area: B1

Normal Grade Rules
GE: B1
3 units

NUFS 008. Nutrition for the Health Professions
Nutrients and their functions; recommended nutrient intakes and evaluation of dietary adequacy; relationship of nutrition to optimum health and dietary changes in disease. For nutritional science, nursing and other health profession majors.

Prerequisites: CHEM 001A or CHEM 030A (with a grade of 'C' or better), or instructor consent.

Normal Grade Rules
3 units

NUFS 009. Introduction to Human Nutrition
Principles and methodology of nutritional science; standards of nutrient intake; physiological functions and chemical classification of nutrients; nutrient needs throughout the lifespan; relationship between diet and disease; scientific, social, and psychological issues. GE Area: E

Notes: Not open to majors.

Normal Grade Rules
GE: EE
3 units

NUFS 012. Cost Control in Hospitality
See HSPM 012.

Normal Grade Rules
3 units

NUFS 016. Science, Physiology, and Nutrition
Introduction to life sciences, from chemistry to cellular and physiologic functions, with nutrition as an underlying theme. Interactions with environment, including effect of culture, genetics, and nutrition on susceptibility to disease. Applications of biotechnology in the life sciences. GE Area: B2

Normal Grade Rules
GE: B2
3 units

NUFS 020. Sanitation and Environmental Issues in the Hospitality Industry
Sanitation in food service, hotel and travel/tourism industries; study of pathogenic organisms and food handling procedures. Occupational health, safety and environmental control in the hospitality industry.

Normal Grade Rules
2 units

NUFS 021. Culinary Principles and Practice
Introduction to principles of food and beverage production and techniques. Emphasis on quality and culinary standards.

Misc/Lab: Lecture 2 hour/Lab 3 hours.

Normal Grade Rules
3 units

NUFS 022. Catering and Beverage Management
Planning and executing catering and buffet functions. Evaluation of alcoholic and non-alcoholic beverages regarding purchasing, storage, preparation, merchandising and regulations.

Prerequisite: NUFS 020 or instructor consent

Misc/Lab: Lecture/lab 4 hours.

Normal Grade Rules
2 units

NUFS 023. Culinary Concepts
See HSPM 023.

Normal Grade Rules
3 units

NUFS 025. Internship in Foodservice Management
Approved professional broad-based work experience in foodservice management industry for total of 200 hours. Written report due at completion. A maximum of 2 units may be repeated.

Prerequisite: NUFS 020 and instructor consent.

Repeatable for credit
Credit / No Credit
1-2 units

NUFS 031. Professionalism in Nutrition, Food Science and Packaging
Professional roles, skills and opportunities in the fields of dietetics, foodservice, food science, and packaging.

Normal Grade Rules
1 unit

UPPER DIVISION

NUFS 100W. Writing Workshop
See HS 100W.

Normal Grade Rules
GE: Z
3 units

NUFS 101A. Food Science
Experimental study of food and introduction to scientific methods used in food evaluation; functions of ingredients in prepared foods.

Prerequisite: CHEM 030B or CHEM 008. College basic food preparation course or instructor consent.

Misc/Lab: Lecture 3 hours/Lab 3 hours

Normal Grade Rules
4 units

NUFS 101B. Computer Applications for Professionals
Computer applications for storage, editing, communication, managing, composition and processing of information. Focus on providing information and experience in using standard software packages for word processing, data management, graphics and statistics in educational and professional applications.

Prerequisite: Upper division standing.

Misc/Lab: Lecture 2 hours/lab 2 hours

Normal Grade Rules
3 units

NUFS 103. Food Processing and Packaging I
Principles and methods of food preservation/processing and packaging operations. Raw materials handling, effect of processing on nutritional value of foods, packaging and food additives. Recommended: College basic food preparation course.

Prerequisite: CHEM 030B or CHEM 008 or instructor consent.

Misc/Lab: Lecture/lab 5 hours.

Normal Grade Rules
2 units

NUFS 103L. Food Processing Laboratory
Laboratory activities associated with the principles and methods of food preservation/processing and packaging operations; raw materials handling, effect of processing on nutritional value of foods, packaging and food additives.

Pre-requisites: CHEM 030B or CHEM 008; instructor consent

Normal Grade Rules
1 unit

NUFS 104A. Cultural Aspects of Food
Regional, ethnic and religious influences on food culture. Activity with foods of several cultures.

Prerequisite: Upper division standing.

Misc/Lab: Lecture/activity 4 hours.

Normal Grade Rules
3 units

NUFS 105. Current Issues in Nutrition

Controversial topics, including the relation of nutrition to cancer, coronary heart disease, hypertension, diabetes, eating disorders, osteoporosis and athletic performance; recommended nutrient intakes; and other current issues.

Prerequisite: NUFS 008, NUFS 009, NUFS 163 or equivalent introductory course in human nutrition.

Normal Grade Rules
3 units

NUFS 106A. Human Nutrition in the Life Span

Integrates chemical, biological and social sciences into a comprehensive concept of human nutrition. Emphasis on assessing nutrient status; planning and intervention throughout the life cycle.

Prerequisite: NuFS 008 (with a grade of 'C' or better) or passing grade on a challenge exam.

Corequisite: HPRF 100W, NuFS 31.

Normal Grade Rules
3 units

NUFS 106B. Research Methodology in Nutrition and Food Science

Introduction to research methodology, interpretation and data analysis with a focus on developing strong information literacy skills, as well as critical thinking, reading, and writing skills in refining scholarly writing in the style of the discipline.

Prerequisite: STAT 095 or HS 67.

Corequisite: NUFS 106A and HPRF 100W.

Normal Grade Rules
3 units

NUFS 107. Principles of Packaging

See PKG 107.

Normal Grade Rules
3 units

NUFS 108A. Nutrition and Metabolism

Chemical and physiological studies of carbohydrate, protein, lipid, vitamin and mineral metabolism. Application to the normal nutrition of human beings.

Prerequisite: NUFS 106A, BIOL 066, CHEM 132 (both with a grade of 'C' or better); and HPRF 100W.

Normal Grade Rules
3 units

NUFS 108L. Nutrition Laboratory

Chemical and biochemical analysis of nutrients and metabolites in body fluids for the assessment of nutritional status of humans.

Prerequisite: CHEM 132L; STAT 095 or BUS 090 or HS 167.

Corequisite: NUFS 108A.

Misc/Lab: Lab 3 hours.

Normal Grade Rules
1 unit

NUFS 109. Advanced Nutrition

Advanced studies of vitamins and minerals. Evaluation and interpretation of nutritional research methodology and findings.

Prerequisite: NUFS 106A ; CHEM 132 (with grades of 'C' or better in each); HPRF 100W; and BIOL 066; BUS 090, STAT 095 or HS 167.

Normal Grade Rules
3 units

NUFS 110A. Medical Nutrition Therapy

Application of nutritional principles and dietary intake to meet the needs of various pathological conditions.

Prerequisite: NUFS 108A (with grade of 'C' or better).

Corequisite: NUFS 109.

Misc/Lab: Lecture/activity 4 hours.

Normal Grade Rules
3 units

NUFS 110B. Medical Nutrition Therapy

Application of nutritional principles and dietary intake to meet the needs of various pathological conditions.

Prerequisite: NUFS 110A and NUFS 109 (with a grade of C or better in each).

Misc/Lab: Lecture/activity 4 hours.

Normal Grade Rules
3 units

NUFS 111. Foodservice Production Management

Principles and procedures for menu planning, production scheduling, volume food production, operation of foodservice equipment, sanitation control and formula costing.

Prerequisite: NUFS 101A or HSPM 011; NUFS 008 or NUFS 009; or instructor consent.

Misc/Lab: Lecture 2 hours/Lab 3 hours

Normal Grade Rules
3 units

NUFS 113. Foodservice Systems: Mgmt & Proc

Selection and purchasing in foodservice operations: food and equipment and writing food/equipment specifications. Allocation and management of resources in foodservice systems: materials (food and supplies), facilities (equipment and space), human (management and employee labor), operational (time and money).

Prerequisite: NUFS 111 or instructor consent.

Misc/Lab: Lecture/lab 5 hours.

Normal Grade Rules
3 units

NUFS 114A. Community Nutrition for Majors

Nutrition problems; public policy, advocacy and legislation; government programs; needs assessments; management of community services.

Prerequisite: NUFS 106A, senior standing and instructor consent.

Normal Grade Rules
3 units

NUFS 114B. Community Nutrition (non-majors)

Key nutrition concepts and terms; age appropriate nutritional interventions focusing on school-age children; nutrition and public policy, advocacy and legislation; government programs and provision of community nutrition services focusing on mother and children.

Repeatable for credit
Normal Grade Rules
3 units

NUFS 115. Issues in Food Toxicology

Introduction to toxicology of foods, and food-borne chemicals and organisms. Scientific basis for determining biological and environmental safety of the food supply from food development, growth and production through harvesting, processing, storage and eventual consumption. GE Area: R

Prerequisite: Passage of the Writing Skills Test (WST) or ENGL/LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

Note: All SJSU Studies courses require completion of the WST and upper division standing.

Normal Grade Rules
GE: R
3 units

NUFS 115ITL. Issues in Food Toxicology-International Experience

Seminars on food toxicology issues. Scientific basis for determining biological and environmental safety of the food supply from farm to table. Includes a field trip to learn agricultural systems outside the U.S. and gain a global view of food safety.

Prerequisite: Completion of core GE and Writing Skill Test

Normal Grade Rules
3 units

NUFS 116. Aging and Nutrition

The aging process, physiological changes, dietary requirements, diseases, environmental factors, housing, economic status, handicaps, personal relations and current programs for the aged.

Prerequisite: One college nutrition course or instructor consent.

Normal Grade Rules
3 units

NUFS 117. Food Evaluation Techniques

Studies in food experimentation, sensory evaluation and objective methods.

Prerequisite: NUFS 008 and NUFS 101A; CHEM 030A, CHEM 030B, CHEM 001A or instructor consent.

Misc/Lab: Lecture/lab 5 hours.

Normal Grade Rules
2 units

NUFS 118. Food Chemistry

Important classes of food constituents, their nature, occurrence, chemical and biochemical significance, and the changes they undergo during food preservation and processing.

Prerequisite: NuFS 101A and/or NuFS 103; Chem 30B or Chem 8; or Instructor Consent

Misc/Lab: Lecture/lab 5 hours.

Normal Grade Rules
3 units

NUFS 122. Chemical Analysis of Food

Techniques in chemical analysis of nutrients and other components of food. Planning, conducting and evaluating a scientific experiment and presenting the data in technical written form.

Prerequisite: NUFS 103, HPRF 100W, STAT 95 or HS 67

Misc/Lab: Lecture/lab 7 hours.

Normal Grade Rules
3 units

NUFS 123. Nutrition for Sport

Planning optimum diets for performance and health; metabolism and energy systems; roles of nutrients in physical performance; efficacy of ergogenic nutrition aids.

Prerequisite: NUFS 008 or NUFS 009.

Normal Grade Rules
3 units

NUFS 124. Disordered Eating and Nutrition Therapy

Metabolic, physiological, and psychological determinants and effects of disordered dietary behaviors. Disorders in regulation of food intake, case studies, and different intervention approaches explored. Screening and treatment of disordered eating in athletes emphasized. Opportunities provided to develop counseling strategies.

Prerequisite: NUFS 008.

Normal Grade Rules
3 units

NUFS 125. Child Nutrition Program Administration

Study of the components of model child nutrition programs through application of current child health and nutrition principles, education practices, marketing procedures, communication strategies, computer-based nutrient and business analysis and operations management skills.

Prerequisite: Upper division standing.

Notes: Offered Summer only.

Normal Grade Rules
2 units

NUFS 134. Complementary and Alternative Health Practices

See HPRF 134.

Normal Grade Rules
3 units

NUFS 135. Health Issues in a Multicultural Society

See HS 135.

Normal Grade Rules
GE: S
3 units

NUFS 139. Hunger and Environmental Nutrition

Physiology of hunger/malnutrition on human development and health; political, social, cultural and gender factors that contribute to world hunger; scientific/technological foundation to population research and food production and their effect on the environment. GE Area: R

Prerequisite: Passage of the Writing Skills Test (WST) or ENGL/LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

Normal Grade Rules
GE: R
3 units

NUFS 139ITL. Hunger and Environmental Nutrition

The physiology of hunger/malnutrition on human development and health; political, social, cultural, and gender factors that contribute to world hunger; scientific/technological foundations of population research and food production and their effect on the environment.

Preequisite: WST, Completion of Core GE (3 units), Upper Division Standing

Pre/CoRequisite: 100W

Normal Grade Rules
3 units

NUFS 141A. Packaging Materials I, Paper, Metal, and Wood Based

See PKG 141A.

Normal Grade Rules
3 units

NUFS 141B. Packaging Materials II, Plastics, Composites, and Glass

See PKG 141B.

Normal Grade Rules
3 units

NUFS 144. Food Culture: Consuming Passions

Cultural aspects of food as related to regional, ethnic and religious influences. Issue based examination of effects of food behavior on culture, society, health, and economics. GE Area: V

Prerequisite: Passage of the Writing Skills Test (WST) or ENGL/LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

Note: All SJSU Studies courses require completion of the WST and upper division standing.

Normal Grade Rules
GE: V
3 units

NUFS 144ITL. Food Culture: Consuming Passions: International Experience

Cultural aspects of food as related to regional, ethnic, and religious influences abroad. Issue-based examination of the effects of food behavior on culture, society, health, and economics abroad. Involves an international, study abroad experience.

Prerequisite: WST or ENGL/LLD 100A with C or better; core GE, upper division standing

Corequisite: 100W is strongly recommended

Normal Grade Rules
3 units

NUFS 146. Packaging for Medical Devices and Pharmaceuticals

See PKG 146.

Normal Grade Rules
3 units

NUFS 150. Food and Nutritional Toxicology

Major classes of food toxicants, their importance, properties, detection, metabolism, control and regulation; and basic issues in food/diet safety and toxicology.

Prerequisite: NUFS 103, CHEM 030B or CHEM 008; introductory courses in nutrition and biology and instructor consent.

Normal Grade Rules
2 units

NUFS 156. Packaging Machinery Systems

See PKG 156.

Normal Grade Rules
3 units

NUFS 158. Protective Package Design and Testing

See PKG 158.

Normal Grade Rules
3 units

NUFS 159. Packaging Material Handling and Distribution

See PKG 159.

Normal Grade Rules
3 units

NUFS 163. Physical Fitness and Nutrition

Use of scientific principles, scientific investigation, and current technological advances to assess the relationship between diet, physical fitness, and disease. Examine scientific literature to evaluate the effects of nutritional intervention on exercise performance. GE Area: R

Prerequisite: Passage of the Writing Skills Test (WST) or ENGL/LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

Notes: Not for Nutrition majors or minors. All SJSU Studies courses require completion of the WST and upper division standing.

Normal Grade Rules
GE: R
3 units

NUFS 169. Food Packaging and Preservation

See PKG 169.

Normal Grade Rules
3 units

NUFS 170. Packaging Development and Management

See PKG 170.

Normal Grade Rules
3 units

NUFS 180. Individual Studies

Individual work for majors or minors on special topics by arrangement.

Prerequisite: NUFS 008; instructor and department chair consent during semester prior to enrollment.

Repeatable for credit
Credit / No Credit
1-6 units

NUFS 190. Nutrition Education and Counseling

Education principles and behavior change theories; counseling and communication techniques for nutritionists and dietitians working with individuals and groups.

Prerequisite: NuFS 106A or Instructor Consent

Normal Grade Rules
3 units

NUFS 192. Field Experience in Nutrition and Food Science and Packaging Technology

Practical application of academic principles in nutrition, food science, packaging, dietetics food management, nutrition education, and/or sports nutrition. Repeatable for a maximum of 6 units.

Prerequisite: Senior standing in NUFS; instructor consent by end of prior semester.

Misc/Lab: Supervision 3 to 18 hours.

Repeatable for credit
Credit / No Credit
1-6 units

NUFS 194. Entrepreneurial Nutrition

Introduction to entrepreneurial nutrition including professional roles, skills and opportunities.

Prerequisite: ENGL 001A or instructor consent.

Normal Grade Rules
1 unit

GRADUATE

NUFS 201. Colloquium in Nutrition, Food Science and Packaging

Presentation and discussion of original research or specialized studies in Nutrition, Food Science and Packaging by graduate students, faculty & guest speakers.

Prerequisite: Instructor consent.

Normal Grade Rules
3 units

NUFS 216. Seminar in Food Chemistry and Packaging

Chemical and physical properties of food constituents as they relate to food quality, functionality and the use of proper packaging techniques to preserve nutritive value.

Prerequisite: NUFS 103.

Misc/Lab: Lecture 3 hours.

Repeatable for credit
Normal Grade Rules
3 units

NUFS 217. Issues in Nutrition, Food and Packaging

Discussion and critical evaluation of advanced topics in nutritional science, food science and technology, foodservice management, and packaging.

Prerequisite: Passing score on NUFS competency exam in emphasis area.

Corequisite: HS 167 or STAT 115.

Note: This course satisfies graduate-level GWAR in this master's program.

Repeatable for credit
Normal Grade Rules
GE: GWAR
3 units

NUFS 219A. Advanced Nutrition and Metabolism

Advanced seminar course in human nutrition and metabolism that covers sources and interactions among dietary constituents, digestion and absorption, transport, processing storage, and catabolism and excretion as well as the regulation of metabolic homeostasis in normal healthy individuals.

Prerequisite: NUFS 108A & NUFS 109 or equivalent advance courses in Human nutrition and Metabolism, Chem 132 or equivalent, Bio 66 or equivalent, advanced course in statistics or biostatistics, or Consent of Instructor.

Repeatable for credit
Normal Grade Rules
3 units

NUFS 219B. Seminar in Advanced Topics in Human Nutrition & Dietetics

Advanced seminar on selected topics in human nutrition and dietetics such as: sources and interactions among dietary constituents, nutrition and disease, community nutrition, nutrition education, hunger and environmental nutrition, sustainability, nutrition and culture, and issues of social justice.

Prerequisite: Instructor Consent

Repeatable for credit
Normal Grade Rules
3 units

NUFS 220A. Advanced Medical Nutrition Therapy

Assessment and evaluation of nutritional status; diet planning in health and disease; counseling techniques; and medical documentation.

Prerequisite: NUFS 110A and NUFS 110B (each with a grade of "C" or better).

Normal Grade Rules
3 units

NUFS 242. Advanced Foodservice/Restaurant Management

Quantitative and qualitative analyses of foodservice/restaurant operations as bases for managerial decision-making.

Prerequisite: NUFS 113.

Misc/Lab: Lecture 3 hours.

Normal Grade Rules
3 units

NUFS 260. Multidisciplinary Health Promotion in Later Life

Multidisciplinary assessment and planning. Principles of promoting health and preventing disability in later life. Physical, psychological, social, cultural, spiritual, and environmental factors that affect length and quality of life.

Prerequisite: BIOL 066 or GERO 108 or instructor consent.

Normal Grade Rules
3 units

NUFS 270. Package Design for End Use

See PKG 270.

Normal Grade Rules
3 units

NUFS 280A. Dietetic Internship

Supervised professional field experience to fulfill ADA eligibility requirements for registered dietitian examination.

Prerequisite: DPD or instructor consent.

Notes: Course can be taken for 1, 3, 6, 9 or 12 units.

Repeatable for credit
Credit / No Credit
1-12 units

NUFS 295A. Research Methodology

Introduction to scientific methodology, and research design; including refining scholarly search strategies to build a strong scientific base for research, development of research design, data collection, analysis, interpretation and application of research in nutrition, food science and packaging.

Prerequisite: NUFS 217; Completion of upper division statistics course with a grade of "C or better"

Corequisite: Current or previous enrollment or 1 unit NUFS 298 or NUFS 299

Normal Grade Rules
3 units

NUFS 298. Special Studies in Nutrition, Food Science and Packaging

Advanced individual research and projects.

Prerequisite: Consent of graduate advisor.

Repeatable for credit
Mandatory CR/NC/RP
1-6 units

NUFS 299. Master's Thesis

Prerequisite: Admission to candidacy for the master's degree.

Repeatable for credit
Mandatory CR/NC/RP
1-6 units

UPPER DIVISION

NUFS 1290R. Culminating Experience Supervision

This course satisfies the requirement that all graduate students must remain enrolled during semesters in which they are working solely on their theses or projects, for which they have previously received but not cleared an RP grade.

Prerequisite: Existing RP grade in a graduate-level thesis or project course

Note: No Degree Credit.

Repeatable for credit
No Degree Credit
1 unit

PACKAGING

UPPER DIVISION

PKG 107. Principles of Packaging

Basic knowledge of packaging functions, materials and industry. A variety of packaging topics including distribution systems, packaging development, package design, legislation, regulations, societal and environmental issues, ergonomics and packaging careers.

Prerequisite: ENGL 001A or equivalent.

Normal Grade Rules
3 units

PKG 120. Artios CAD For Packaging

Prepares students for ArtiosCAD (a packaging design tool common to the folding carton and corrugated industries). Introduces basic commands of ArtiosCAD to draw and design the representations for different products. Students use the structure database, change from 2D to 3D models, and make simple animations.

Misc/lab: 2 hours lecture/ 2 hours activity

Normal Grade Rules
3 units

PKG 121. Solidworks For Packaging

Prepare students for SolidWorks (a computer drawing tool) so they can generate 3-D drawings suitable for specifications and transference to computer-driven cutting tables and 3-D printers to make prototype packages.

Misc/Lab: 2 hours lecture/ 2 hours lab

Normal Grade Rules
3 units

PKG 141A. Packaging Materials I, Paper, Metal, and Wood Based

In-depth study of selected materials to provide a working knowledge of structures, physical and chemical properties, development, evaluation and design. Experiments in applications, design limitations and cost.

Prerequisite: PKG 107 or instructor consent.

Misc/Lab: Lecture 2 hours/lab 2 hours.

Normal Grade Rules
3 units

PKG 141B. Packaging Materials II, Plastics, Composites, and Glass

In-depth study of plastic and glass materials in packaging; chemical and physical properties, design, manufacturing, compatibility, and evaluation. Experiments in applications, design limitations and cost.

Prerequisites: NUFS 31, PKG 107, PKG 141A or instructor consent.

Misc/Lab: Lecture 2 hours/lab 2 hours.

Normal Grade Rules
3 units

PKG 146. Packaging for Medical Devices and Pharmaceuticals

Chemical and physical properties of medical device and pharmaceuticals packages, fabrications techniques, package testing and evaluation methods, regulatory requirements, ergonomics and child resistant packages, tamper evidence, shelf life and aging, coding.

Prerequisite: PKG 107, PKG 141A, PKG 141B or instructor consent.

Misc/Lab: Lecture 2 hours/activity 2 hours.

Normal Grade Rules
3 units

PKG 152. Globalization and the Environment

See ENVS 152.

Normal Grade Rules
GE: R
3 units

PKG 156. Packaging Machinery Systems

Evaluation of packaging machinery as a subset of a packaging production system. Component selection, design, and implementation of package filling lines in a production facility. Package design requirements for filling lines.

Prerequisite: PKG 107, PKG 141A, PKG 141B, MATH 070, MATH 071, STAT 095.

Misc/Lab: Lecture 2 hours/lab 2 hours.

Normal Grade Rules
3 units

PKG 158. Protective Package Design and Testing

In-depth study of protective packaging dynamics; theory and practice of shock, vibration, compression, humidity, temperature extremes. Measurement and analysis of the dist environment, product fragility, package design principles, package testing and evaluation.

Prerequisite: PKG 107, PKG 141A, PKG 141B, MATH 070, MATH 071, STAT 095.

Misc/Lab: Lecture 2 hours/lab 2 hours.

Normal Grade Rules
3 units

PKG 159. Packaging Material Handling and Distribution

Transportation, handling, and storage of packaged goods. Transportation modes, environment hazards, measurement techniques. Military and Hazmat packaging regulations and testing, classification of goods, legal requirements, export packaging.

Prerequisite: PKG 158 or instructor consent.

Normal Grade Rules
3 units

PKG 169. Food Packaging and Preservation

This course investigates the interaction of food processing and packaging technology. Content includes food chemistry, microbiology in foods, food processing, and finally how packaging augments these areas in food protection and preservation.

Prerequisite: PKG 107 or instructor consent.

Normal Grade Rules
3 units

PKG 170. Packaging Development and Management

Capstone course emphasizing development and evaluation of packaging systems. Specifications and design, marketing criteria, package production, distribution performance, legal and environmental evaluations.

Prerequisite: PKG 107, PKG 141A, PKG 141B, PKG 156, PKG 158 or instructor consent.

Misc/Lab: Lecture 2 hours/lab 2 hours.

Normal Grade Rules
3 units

PKG 180. Individual Studies
Individual work for majors or minors on special topics by arrangement.
Prerequisite: PKG 107; instructor and department chair consent during semester prior to enrollment.
Repeatable for credit
Credit / No Credit
1-6 units

GRADUATE

PKG 270. Package Design for End Use
Current Package Design and Influences on Designs
Normal Grade Rules
3 units

Occupational Therapy Department Courses

OCCUPATIONAL THERAPY

UPPER DIVISION

OCTH 156. Independent Living for the Aging and Disabled

Identification and application of basic management concepts used by the disabled and aging in daily living.

Prerequisite: Upper division standing.

Normal Grade Rules
3 units

OCTH 180. Individual Studies

Investigation of special problems not covered in regular courses, including research project and/or field experience. Course is repeatable for credit in the same term.

Prerequisite: Upper division majors with department chair approval.

Repeatable for credit
Credit / No Credit
1-4 units

OCTH 180H. Individual Studies

Individual project or special study in an area not covered in the regular curriculum. Results presented in departmental seminar and written report. An honors course.

Prerequisite: 3.0 overall GPA, 3.5 GPA in major.

Repeatable for credit
Credit / No Credit
1-3 units

OCTH 190. Foundations of Neuroscience for Occupational Therapy

Foundations of neuroscience related to occupational performance. Topics include an overview of anatomy and physiology of the human nervous system and the interaction among the central, peripheral and autonomic nervous systems related to function.

Prerequisite: BIOL 65 or BIOL 65O, BIOL 66

Normal Grade Rules
3 units

GRADUATE

OCTH 201A. Field Work Experience

Three months in full-time field work are required.

Prerequisite: OCTH 134.

Notes: This course fulfills departmental prerequisite requirements. It does not fulfill requirements for the graduate degree program. Travel to on-site facilities is the student's responsibility.

Repeatable for credit
Credit / No Credit
3-6 units

OCTH 201B. Advanced Field Work Experience

Three months in full-time field work are required.

Prerequisite: OCTH 201A.

Notes: This course fulfills departmental prerequisite requirements. It does not fulfill requirements for the graduate degree program. Travel to on-site facilities is the student's responsibility.

Credit / No Credit
3-6 units

OCTH 205. Mindfulness of Self in Occupational Therapy Practice & Daily Life

Mindfulness-based exploration of self in personal and professional life. The course will focus on personal mindfulness practice informed by study of the foundations of mindfulness and interpersonal mindfulness practice which will form the basis for bringing mindfulness into occupational therapy practice.

Prerequisite: MBSR program

Normal Grade Rules
2 units

OCTH 207. Mindfulness and Quality of Participation in Daily Occupations

Explore links among quality of participation in occupations, inter-occupational relationship patterns, level of attention, intention, and attitudes we bring to occupations. Examine relationships of automatic patterns of occupational engagement on health and well-being. Implement mindfulness-based approaches affecting occupational engagement.

Prerequisite: MBSR program and OCTH 205

Normal Grade Rules
2 units

OCTH 209. MBOT Intensive Training Retreat

The intensive 5-day residential training retreat in Mindfulness-Based Occupational Therapy (MBOT) includes periods of silent mindfulness practice and time for group discussion and learning focused on further developing participants' skills in bringing mindfulness into their occupational therapy practice.

Prerequisite: MBSR, OCTH 205

Mandatory CR/NC/RP
2 units

OCTH 210. Seminar in Occupational Therapy

Seminar on special topics in occupational therapy. Students will develop knowledge and skills in a selected practice area.

Repeatable for credit
Normal Grade Rules
2-3 units

OCTH 210ITL. Seminar in Occupational Therapy: International Experience

Gain cross-cultural and -national insight into political, social, cultural, economic factors that influence occupational therapy services outside of the U.S, define the role of occupational therapy and therapists as global citizens, engage local people in its services, explore social,occupational justice issues.

Normal Grade Rules
2-3 units

OCTH 211. Historical and Theoretical Foundations of Occupational Therapy

History of occupational therapy practice, evolution of the concepts and values underlying its theoretical constructs, and the leaders who shaped the profession. Development of ideas, values, and beliefs concerning occupation within the context of historical, social, and scientific advances.

Normal Grade Rules
3 units

OCTH 212. Occupations through the Lifespan

The development of occupations, their meaning and role in human development through the lifespan, and the conditions that create barriers to engagement in meaningful occupations. Students will analyze how interactions between self and environment influence occupational participation at all ages.

Normal Grade Rules
3 units

OCTH 213. Professional Development I

Introduces occupational therapy as a profession and addresses professional organizations, roles, attitudes, behaviors, and ethics. Explores the influence of culture on worldview, communication, and health behaviors. Students engage in personal and professional self-assessment and goal setting for professional development.

Normal Grade Rules
3 units

OCTH 216. Evaluation in Occupational Therapy

The purpose and process of evaluation in determining need for and outcomes of intervention. Application of measurement theory, theoretical perspectives and practice models for selection, administration, and interpretation of appropriate instruments, including occupational profiles, skilled observation, interviews and standardized tests.

Normal Grade Rules
3 units

OCTH 220. Education and Occupational Therapy

Study of learning theory and teaching strategies used in teaching occupational therapy and other health-related professions. Content includes learning styles, objective writing, utilization of media and evaluations.

Credit / No Credit
3 units

OCTH 221. Occupational Analysis

Course focuses on analyzing occupations and occupational performance. Meaning and significance of competence, challenge, and success in occupations are explored through engagement in selected projects. Students learn to structure, adapt, plan, teach, and assess activities for therapeutic use.

Normal Grade Rules
3 units

OCTH 222. Functional Kinesiology for Occupational Therapists

Study of body movements based on neurophysiological and biomechanical principles of joint and muscle action correlated with analysis of the body in motion, physiological effects of activity and adaptation to physical dysfunction.

Normal Grade Rules
3 units

OCTH 223. Compassionate Care for Self and Others in Occupational Therapy Practice

Students will examine the relationship of mindful self and other compassion and how both relate to health, "psychological flourishing" (Germer & Neff, 2013), reduction of symptoms, motivation, and skills that enhance occupational therapy practice and client outcomes.

Prerequisite: MBSR program, OCTH 205, OCTH 207, OCTH 209

Corequisite: personal mindfulness practice

Normal Grade Rules
2 units

OCTH 224. Occupational Therapy Practice in the Community I

Introduction to community focused interventions based on the social model of health and occupational justice concepts, designed to promote health, well-being, social inclusion, empowerment, and health disparity reduction for populations and communities. Focus is on emerging and non-traditional practice settings.

Normal Grade Rules
3 units

OCTH 225. Capstone Evidence-Based MBOT Practice Project

The emphasis of Evidence-based practice for Mindfulness-Based Intervention in OT is on strategies for selecting, evaluating and analyzing professional literature, and critical analysis on gather information in clinical decision making and crafting into a publishable quality intervention program.

Prerequisite: MBSR program, OCTH 205, OCTH 207, OCTH 209, OCTH 223

Normal Grade Rules
3 units

OCTH 226. Occupational Therapy with Children

Occupational therapy practice for children from birth to early adolescence, focusing on integrating knowledge of theoretical frameworks, practice settings, research evidence, clinical reasoning and regulatory and reimbursement policies in the provision of interventions for conditions and disorders experienced in this age group.

Normal Grade Rules
3 units

OCTH 230. Management and Occupational Therapy

Principles of ethical administrative, supervisory, and consultative practice in occupational therapy organizational settings. Students review the profession's ethics and learn ethical decision making. Basic grant writing skills and OT advocacy are also included.

Normal Grade Rules
3 units

OCTH 233. Professional Development II

Deeper exploration into occupational therapy leadership, supervision, ethical conduct, advocacy, program development, and management principles related to current service models. Recent legislation and its impact on occupational therapy practice will be reviewed.

Prerequisite: OCTH 213

Normal Grade Rules
3 units

OCTH 234. Occupational Therapy Practice in the Community II

Community focused seminar and practicum providing intervention in emerging and non-traditional practice settings and underserved communities. Seminars address the diverse dimensions of practice in the community related to needs assessment, the community site, program development and implementing occupational therapy services.

Normal Grade Rules
3 units

OCTH 235. Cultural Diversity in Occupational Therapy

Roles of occupational therapist treating diverse populations is examined through exploration of professional culture, the cultures of poverty and disability, and cultures identified by ethnicity or lifestyle. Cultural variables include time, space, relationships, value, beliefs, communication, socioeconomics, gender and tradition.

Repeatable for credit
Normal Grade Rules
3 units

OCTH 236. Occupational Therapy with Youth

Occupational therapy practice for adolescents and young adults, focusing on integrating knowledge of theoretical frameworks, practice settings, research evidence, clinical reasoning and regulatory and reimbursement policies in the provision of interventions for conditions and disorders experienced in this age group.

Normal Grade Rules
3 units

OCTH 245. Introduction to Research Methods

Introduction to research methodology and the process of critical inquiry. How one conducts research, including traditions and methods used in occupational therapy and how to understand research publications.

Prerequisite: Introductory Statistics

Note: This course satisfies graduate-level GWAR in this master's program.

Normal Grade Rules
GE: GWAR
3 units

OCTH 246. Occupational Therapy with Young Adults

Occupational therapy practice for young adults ages 25-40, focusing on integrating knowledge of theoretical frameworks, practice settings, research evidence, clinical reasoning and regulatory and reimbursement policies in the provision of interventions for conditions and disorders experienced in this age group.

Normal Grade Rules
3 units

OCTH 256. Occupational Therapy with Middle Aged Adults

Occupational therapy practice for adults age 41-65, focusing on integrating knowledge of theoretical frameworks, practice settings, research evidence, clinical reasoning and regulatory and reimbursement policies in the provision of interventions for conditions and disorders experienced in this age group.

Normal Grade Rules
3 units

OCTH 266. Occupational Therapy with Older Adults

Focuses on older adults whose occupational participation and wellness are affected by age associated change, illness, injury, or disability. The occupational therapy process is applied to facilitate independence, remediate dysfunction, adapt to disability, and enhance wellness and quality of life.

Normal Grade Rules
3 units

OCTH 275. Evidence Based Practice in Occupational Therapy

Evidence based practice is explored through lecture, in-class activities and data base research. Emphasis is on strategies for selecting, evaluating and analyzing professional literature in clinical decision making and exploration of quantitative and qualitative analysis to support evaluation of literature.

Prerequisite: OCTH 245

Normal Grade Rules
3 units

OCTH 276. Practicum and Seminar 1A

Introductory practicum and seminar in occupational therapy. Students will develop beginning observation, reasoning, and documentation skills through placement at practice sites, and explore the integration of evidence and theory in the practice of occupational therapy through online and on-campus seminars.

Misc/Lab: Lecture 3 hours/Lab 3 hours.

Credit / No Credit
3 units

OCTH 286. Practicum and Seminar 1B

Clinical practice in occupational therapy. Students engage in direct intervention in departmental clinics. Seminars, in-service education, direct supervision, and one to one mentoring are used to develop practice skills.

Prerequisite: OCTH 276

Misc/Lab: Lecture 4 hour/Supervision 3 hours.

Repeatable for credit
Credit / No Credit
4 units

OCTH 295. Advanced Research Methods in Occupational Therapy

Advanced topics in research methodology and critical inquiry. Instrument development, the human subjects review process, quantitative and qualitative data analysis, interpretation and reporting of results. Critical analysis and synthesis of the gathered information crafted into a publishable quality paper and oral presentation.

Prerequisite: OCTH 245 and OCTH 275

Credit / No Credit
3 units

OCTH 298. Supervised Study in Occupational Therapy

Special problems assigned for individual study in the occupational therapy Master's program.

Prerequisite: OCTH 286

Repeatable for credit
Mandatory CR/NC/RP
1-3 units

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Philosophy Department Courses

PHILOSOPHY

LOWER DIVISION

PHIL 009. Mathematics and Logic for General Education

A survey of basic concepts and methods, focusing on logic, computation, sets, numbers, geometry and probability. Emphasis will be placed on using these concepts in daily life and in coping with public issues. GE Area: B4

Corequisite: PHIL 096L required as a corequisite for Math Enrollment Categories M-III and M-IV; and recommended for Enrollment Category M-II.

Normal Grade Rules
GE: B4
3 units

PHIL 010. Introduction to Philosophy

Perennial problems in philosophy, such as Who am I? What can I know? How should I live? Classical philosophical statements bearing on these issues. GE Area: C2

Normal Grade Rules
GE: C2
3 units

PHIL 012. Philosophy of the Person

Philosophical issues concerning the origins, development and maturation of the self. GE Area: E

Normal Grade Rules
GE: EE
3 units

PHIL 057. Logic and Critical Reasoning

Basic concepts of logic; goals and standards of both deductive and inductive reasoning; techniques of argument analysis and assessment; evaluation of evidence; language and definition; fallacies. GE Area: A3

Normal Grade Rules
GE: A3
3 units

PHIL 061. Moral Issues

Moral philosophy covering major ethical theories and contemporary moral issues, such as abortion, euthanasia, animal rights, capital punishment, and sexuality. GE Area: C2

Normal Grade Rules
GE: C2
3 units

PHIL 066. Introduction to Aesthetics

Issues such as the nature of beauty and ugliness, definition of art, creativity, and interpretation and evaluation of art. Philosophical discussion of works of art and our responses to them. GE Area: C1

Normal Grade Rules
GE: C1
3 units

PHIL 070A. Ancient Philosophy

Includes pre-Socratics, Socrates, Plato and Aristotle; Hellenistic, Roman and Medieval philosophy. GE Area: C2

Normal Grade Rules
GE: C2
3 units

PHIL 070B. Modern Philosophy

Seventeenth and eighteenth century philosophers such as Bacon, Descartes, Hobbes, Spinoza, Locke, Leibniz, Berkeley, Hume and Kant. GE Area: C2

Normal Grade Rules
GE: C2
3 units

PHIL 096L. Math & Logic for GE Workshop

In-depth exploration of concepts, methods, and problem-solving strategies for PHIL 009. Opportunities for additional practice, applications, and feedback.

Co-requisite: PHIL 9

Normal Grade Rules
1 unit

UPPER DIVISION

PHIL 104. Asian Philosophy

Philosophical examination of Confucianism, Daoism, Buddhism and some other significant movements of thought originated in Asia. Comparison with Western philosophy. GE Area: V

Prerequisite: Passage of the Writing Skills Test (WST) or ENGL/LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

Note: All SJSU Studies courses require completion of the WST and upper division standing.

Normal Grade Rules
GE: V
3 units

PHIL 106. Philosophy of Art

Aesthetics covering the main schools of thought about art and selected topics related to specific arts, music, theatre, sculpture, painting, literature, etc.

Prerequisite: 3 units of philosophy or upper division standing.

Normal Grade Rules
3 units

PHIL 107. Philosophy and Literature

Philosophical theories presented through philosophical texts and philosophically focused literary works.

Prerequisite: 3 units of Philosophy or upper division standing.

Normal Grade Rules
3 units

PHIL 109. Philosophy of Religion

Philosophical issues regarding the existence of a supreme being, evil, mysticism, miracles, reincarnation, faith, the possibility of enlightenment, and the connection between religion and morality.

Prerequisite: 3 units of philosophy or upper division standing.

Normal Grade Rules
3 units

PHIL 110. Science, Technology and Human Values

The aims, methods and world views of science and technology; such value issues as technological determinism, design aesthetics and moral implications of computer and other technologies. GE Area: V

Prerequisite: Passage of the Writing Skills Test (WST) or ENGL/LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

Note: All SJSU Studies courses require completion of the WST and upper division standing.

Normal Grade Rules
GE: V
3 units

PHIL 111. Medical Ethics

Selected ethical problems in health care practices. For example, abortion, patient rights, national health care, euthanasia and genetic engineering, with emphasis on philosophical methods.

Prerequisite: 3 units of philosophy or upper division standing.

Normal Grade Rules
3 units

PHIL 112. American Philosophy

The eighteenth century beginnings of American philosophy, Transcendentalism, Pragmatism, classic American philosophy, including Emerson, Peirce, James, Santayana, Dewey, and recent developments.

Prerequisite: 3 units of philosophy or upper division standing.

Normal Grade Rules
3 units

PHIL 113. Existentialism and Phenomenology

Twentieth century philosophies of experience and human existence. Main topics include description of consciousness, personal authenticity, choice, anxiety, death of God. Philosophers range from Husserl and Heidegger to Sartre and de Beauvoir.

Prerequisite: 3 units of philosophy or upper division standing.

Normal Grade Rules
3 units

PHIL 118. Latin American Philosophy

Analysis of main themes of Latin-American, Mexican and Mexican-American thought.

Prerequisite: 3 units of philosophy or upper division standing.

Normal Grade Rules
3 units

PHIL 119. Africana Philosophy and Culture

Philosophical examination of the ideological roots of social movements in black diaspora cultures from Be-Bop to Hip-Hop.

Prerequisite: 3 units of philosophy or upper division standing.

Normal Grade Rules
3 units

PHIL 120. Comparative Philosophy Theory & Practice

Examination of how different philosophical traditions (distinguished by culture or by style) via their relevant resources can talk to and learn from each other and make substantial joint contributions to our understanding and treatment of a range of philosophical issues.

Prerequisite: 3 units of philosophy or upper division standing

Normal Grade Rules
3 units

PHIL 121. Philosophy and Feminism

A philosophical examination of writings that deal with issues of special concern to women, with emphasis on feminist writings.

Prerequisite: 3 units of philosophy or upper division standing.

Normal Grade Rules
3 units

PHIL 122. Social Justice

Critical examination of competing conceptions of justice and their application to social issues in a pluralistic society.

Prerequisite: 3 units of philosophy or upper division standing.

Normal Grade Rules
3 units

PHIL 126. Environmental Ethics and Philosophy

Extensions and applications of Kantian, Lockean, consequentialist and other philosophical theories of value to problems of the environment such as pollution, global warming, species depletion and overpopulation.

Prerequisite: 3 units of philosophy or upper division standing.

Normal Grade Rules
3 units

PHIL 132. Ethical Theory

Theoretical problems in the understanding of right conduct, value, obligation, justice, and virtue.

Prerequisite: 3 units of philosophy or upper division standing.

Normal Grade Rules
3 units

PHIL 133. Ethics in Science

An examination of values and practices in the culture of science. Issues: transmission of values in scientific communities, interactions between scientific and lay communities, historical development of norms of responsible research, cultural influence on scientific values. GE Area: V

Prerequisite: Passage of the Writing Skills Test (WST) or ENGL/LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

Note: All SJSU Studies courses require completion of the WST and upper division standing.

Normal Grade Rules
GE: V
3 units

PHIL 134. Computers, Ethics and Society

The nature of privacy in a technologically interconnected world; the role of computer technologies in the exercise of the human intellect and imagination with respect to freedom of expression and the social good; rights and responsibilities of intellectual property ownership. GE Area: V

Prerequisites: Completion of core GE, satisfaction of Writing Skills Test and upper division standing. For students who begin continuous enrollment at a CCC or a CSU in Fall 2005 or later, completion of, or corequisite in a 100W course is required.

Note: All SJSU Studies courses require completion of the WST and upper division standing.

Normal Grade Rules
GE: V
3 units

PHIL 149. Metaphysics & Epistemology

Such topics as nature of knowledge, skepticism, nature of reality, space, time, substance and causality. Course is repeatable once for credit in different area.

Prerequisite: 3 units of philosophy or upper division standing.

Repeatable for credit
Normal Grade Rules
3 units

PHIL 155. Philosophy of Law

Theories of the nature of law, legal reasoning, and morality. Philosophical issues in criminal, civil, and constitutional law.

Prerequisite: 3 units of philosophy or upper division standing.

Normal Grade Rules
3 units

PHIL 157. Intermediate Logic & Language Analysis

Predicate logic, methods of proof and some meta theory. Additional systems of logic may be considered.

Prerequisite: PHIL 009 or instructor consent.

Normal Grade Rules
3 units

PHIL 158. Philosophy of Language

Philosophical investigations into language in view of its relation to reality, thought, and logic.

Prerequisite: 3 units of philosophy or upper division standing.

Normal Grade Rules
3 units

PHIL 159. Philosophy of Mind

Problems in connection with emotion, intention, human action and personal identity.

Prerequisite: 3 units of philosophy or upper division standing.

Normal Grade Rules
3 units

PHIL 160. Philosophy of Science

Scientific methodology, explanation and verification; science and society. Varying topics from physical, biological and social sciences. GE Area: R

Prerequisite: Passage of the Writing Skills Test (WST) or ENGL/LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

Note: All SJSU Studies courses require completion of the WST and upper division standing.

Normal Grade Rules
GE: R
3 units

PHIL 180. Individual Studies

By arrangement. Course is repeatable for a total of 4 units.

Prerequisite: Department chair consent.

Repeatable for credit
Credit / No Credit
1-3 units

PHIL 184. Directed Reading

Course is repeatable for a total of 4 units.

Prerequisite: Qualified upper division student.

Repeatable for credit
Credit / No Credit
1-3 units

PHIL 186. Professional and Business Ethics

Interdisciplinary study of types of ethical problems which arise within the contexts of business occupations and professions. Major ethical theories, critique of economic and criminal justice. Focus is on issues of justice and equality in the U.S. Case studies. GE Area: S

Prerequisite: Passage of the Writing Skills Test (WST) or ENGL/LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

Note: All SJSU Studies courses require completion of the WST and upper division standing.

Normal Grade Rules
GE: S
3 units

PHIL 190. Seminar in Philosophical Classics

Works of a major philosopher or philosophical tradition. Course is repeatable for up to 12 units of credit when a seminar topic is different.

Prerequisite: PHIL 70A and PHIL 70B and 6 units of upper division philosophy or instructor consent.

Repeatable for credit
Normal Grade Rules
3 units

PHIL 195. Seminar in Philosophy of Law

Critical examination of topics in legal philosophy.

Prerequisite: 3 units of Philosophy and upper division standing.

Normal Grade Rules
3 units

GRADUATE

PHIL 264A. Professional/Business Ethics

See BUS 264A.

Normal Grade Rules
3 units

PHIL 281. Philosophy of Education

See EDTE 281.

Normal Grade Rules
3 units

PHIL 290. Advanced Seminar in a Selected Philosopher or Tradition

An exhaustive and detailed study of the entire, or most significant, writings of some outstanding philosopher or philosophical tradition. Course is repeatable for credit when seminar topic is different.

Prerequisite: Nine units of philosophy including PHIL 70A and PHIL 70B or instructor consent.

Note: This course satisfies graduate-level GWAR in this master's program.

Repeatable for credit
Normal Grade Rules
GE: GWAR
3 units

PHIL 291. Advanced Seminar in Epistemology and Metaphysics

Classical or contemporary problems in knowledge and reality. Course is repeatable for credit when seminar topic is different.

Prerequisite: At least one upper division course in epistemology or metaphysics, or instructor consent.

Note: This course satisfies graduate-level GWAR in this master's program.

Repeatable for credit
Normal Grade Rules
GE: GWAR
3 units

PHIL 292. Advanced Seminar in Ethics or Aesthetics

Classic or contemporary problems in some value area such as that of moral or aesthetic value. Course is repeatable for up to 12 units of credit when seminar topic is different.

Prerequisite: At least one upper division course in ethics or value theory, or instructor consent.

Repeatable for credit
Normal Grade Rules
3 units

PHIL 293. Advanced Seminar in Logical Theory

Concepts of logic, such as truth and inference, considered on an advanced level. Course is repeatable for credit when seminar topic is different.

Prerequisite: PHIL 9, PHIL 157 or instructor consent.

Repeatable for credit
Normal Grade Rules
3 units

PHIL 298. Special Studies

Prerequisite: Advisor consent.

Repeatable for credit
Mandatory CR/NC/RP
1-3 units

PHIL 299. Master's Thesis

Prerequisite: Advisor consent.

Repeatable for credit
Mandatory CR/NC/RP
3 units

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Physics and Astronomy Department Courses

ASTRONOMY

LOWER DIVISION

ASTR 010. Descriptive Astronomy
A generally non-mathematical examination of principles, facts and logic of astronomy, emphasizing arrangement, origin and evolution of the solar system. GE Area: B1

Normal Grade Rules
GE: B1
3 units

UPPER DIVISION

ASTR 101. Modern Astronomy
A principally non-mathematical discussion of current scientific observational and theoretical understanding of the origin and evolution of stars, galaxies and the cosmos. GE Area: R

Prerequisite: Passage of the Writing Skills Test (WST) or ENGL/LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

Normal Grade Rules
GE: R
3 units

ASTR 102. Astronomy Lab
Experimental examination of specific astronomical topics: coordinate systems, constellations, etc. Astronomical applications of general physical principles: gravitational motion, stellar spectra, etc. GE Area: B3

Prerequisite: Completion of or concurrent enrollment in a college-level astronomy course.

Misc/Lab: Lab 3 hours.

Normal Grade Rules
GE: B3
1 unit

ASTR 117A. Astrophysics I
Physical and observational foundations of astronomy and astrophysics. Celestial coordinates, telescopes, astronomical observations, orbital motion, physics and chemistry of planetary systems; introduction to stellar physics. Computer models and simulations may be used.

Pre-requisites: MATH 32 and PHYS 52 with a C- or better.

Normal Grade Rules
3 units

ASTR 117B. Astrophysics II
Physics of stellar structure and evolution; observed properties of stars; physics and chemistry of the interstellar medium; galaxies and cosmology.

Prerequisite: PHYS 52 and MATH 31 with a C- or better. College of Science or Engineering Majors only.

Normal Grade Rules
3 units

ASTR 155. Topics in Modern Astrophysics
Topics vary each semester and may include observational and/or computational techniques. Course is repeatable for a total of 9 units.

Prerequisite: ASTR 117A with a C- or better

Repeatable for credit
Normal Grade Rules
3 units

PHYSICS

LOWER DIVISION

PHYS 001. Elementary Physics
Mechanics, energy, electricity, magnetism, optics, atomic and nuclear physics, properties of matter; emphasizes practical applications of physics principles to contemporary problems. GE Area: B1

Prerequisite: The following Declared Majors are not allowed to enroll in this course:Engineering, Chemistry, Geology, Meteorology, Physics, Earth Science.

Normal Grade Rules
GE: B1
3 units

PHYS 001L. Elementary Physics Lab
Selected experiments on topics covered in Phys 1. GE Area: B3

Co-requisite: PHYS 001. The following Declared Majors are not allowed to enroll in this course: Engineering, Chemistry, Geology, Meteorology, Physics, Earth Science.

Misc/Lab: Lab 3 hours.

Normal Grade Rules
GE: B3
1 unit

PHYS 002A. Fundamentals of Physics
First semester of a two-semester sequence that is non-calculus based and covers the topics of mechanics, heat, and sound.

Prerequisite: Algebra.

Misc/Lab: Lecture 3 hours/lab 3 hours.

Note: Year course.

Normal Grade Rules
GE: B1B3
4 units

PHYS 002AW. Fundamentals of Physics
A discussion course for students concurrently registered in Physics 002A covering problem solving methods as related to topics normally covered in Physics 002A.

Corequisite: PHYS 002A

Repeatable for credit
Credit / No Credit
1 unit

PHYS 002B. Fundamentals of Physics
Electricity and magnetism, optics and atomic structure.

Prerequisite: PHYS 002A (with grade of "C-" or better).

Misc/Lab: Lecture 3 hours/lab 3 hours.

Normal Grade Rules
GE: B1B3
4 units

PHYS 020. Invitation to Physics and Astronomy
Introduction to the physics department, its faculty, and basic skills necessary for success as a physics major. Topics include relativity and quantum theory for beginners, careers in physics and astronomy, career pathways of BA/BS physics recipients, the role of research in undergraduate STEM education, a historical perspective on the field of physics, and physics/astronomy in the news.

Normal Grade Rules
1 unit

PHYS 023. Animation Physics
This course presents principles and concepts of physics relevant to animation and special effects. Students will demonstrate mastery of this scientific knowledge in the critical analysis of films, shows, video games, etc., and in creating their own animated shorts. GE Area: B1

Normal Grade Rules
GE: B1
3 units

PHYS 040. Introduction to Computational Physics
An introduction to programming for physics majors who have no previous programming experience. Problem solving, data visualization and analysis using computational methods.

Prerequisite: PHYS 50

Misc/Lab: Lecture 2 hours/Lab 3 hours.

Normal Grade Rules
3 units

PHYS 049. Introduction to Physics
A preparatory course in physics for science and engineering majors, emphasizing significant figures, unit conversions, vectors, quantitative reasoning. Introduction to Newton's Laws and conservation laws. The relevance of physics to science and engineering careers.

prerequisites: Math 19 or pre-calc placement test

Normal Grade Rules
3 units

PHYS 050. General Physics/Mechanics

A calculus-based treatment of particle kinematics and dynamics, work, energy, momentum, rotational motion, equilibrium, and simple harmonic motion. Intensive Science Package GE: B1 and B3.

Prerequisites: English Enrollment Group E-I or E-II, or ENGL 1AF with a grade of CR, or ENGL 1A with a grade of C- or better, 3 or better on AP Calc Test or 'C' or better in Math 30 or 30P or 30PL. College of Science or Engineering

Misc/Lab: Lecture 3 hours/lab 3 hours.

Normal Grade Rules
GE: B1B3
4 units

PHYS 050W. General Physics/Mechanics Workshop

A discussion course for students concurrently registered in PHYS 050 General Physics/Mechanics covering problem solving methods as related to topics normally covered in PHYS 050.

Corequisites: PHYS 050

Repeatable for credit
Credit / No Credit
1 unit

PHYS 051. General Physics/Electricity and Magnetism

A calculus-based introduction to electricity and magnetism, covering electric charges, electric and magnetic fields, dc and ac circuits, and electromagnetic waves. Intensive Science Package GE: B1 and B3.

Prerequisite: PHYS 050, MATH 031, both with grades of "C" or better. College of Science or Engineering Majors Only.

Misc/Lab: Lecture 3 hours/lab 3 hours.

Normal Grade Rules
GE: B1B3
4 units

PHYS 052. General Physics/Waves, Light, Heat

Mechanical Waves, Light, Spectra, Quantization of electromagnetic radiation; Geometric and Physical Optics; Temperature, Heat and Thermodynamics. Intensive Science Package GE Area: B1 and B3.

Prerequisite: PHYS 51 and Math 31 both with grade of "C" or better. College of Science or Engineering majors only.

Misc/Lab: Lecture 3 hours/lab 3 hours.

Normal Grade Rules
GE: B1B3
4 units

UPPER DIVISION

PHYS 100W. Methods of research and communication in physics

Develop communication skills for physics, including proposals, posters, research reports and oral presentations. Research strategies and methodologies for effective communication to general and specialized audiences. GE Area: Z

Prerequisites: C- or better in GE Area A3; Completion of core GE; satisfaction of Writing Skills Test, or completion of LLD 100A with C- or better; and upper division standing.

Note: Must be passed with C or better to satisfy the CSU Graduation Writing Assessment Requirement (GWAR).

Normal Grade Rules
GE: Z
3 units

PHYS 105A. Advanced Mechanics I

Dynamics of particles, Newtons laws, Lagranges and Hamiltons equations, conservation laws, symmetry and the laws of physics, oscillations, central-force motion, and non-inertial reference frames.

Prerequisite: PHYS 52, MATH 133A each with grade of "C-" or better.

Note: Year course.

Normal Grade Rules
4 units

PHYS 105B. Advanced Mechanics II

Dynamics of systems of particles: collisions, rigid body rotations, non-inertial frames, coupled oscillations, waves. This course is strongly recommended for students who are considering graduate study in physics.

Prerequisite: PHYS 105A with grade "C-" or better.

Normal Grade Rules
3 units

PHYS 107. Waves and Oscillations

Oscillatory phenomena and their connection to waves. Review of simple harmonic motion and extension to damped, driven, and coupled oscillators. Applications to waves on strings, and basic concepts of electromagnetic and sound waves. Connections to the beginnings of quantum theory are developed.

Prerequisite: PHYS 52 with C- or better

Normal Grade Rules
3 units

PHYS 110A. Electricity and Magnetism I

Theories of electrostatics, magnetostatics, electrodynamics and electromagnetic waves.

Prerequisite: PHYS 130, MATH 133A each with "C-" or better

Note: Year course.

Normal Grade Rules
3 units

PHYS 110B. Electricity and Magnetism II

Theories of electrostatics, magnetostatics, electrodynamics and electromagnetic waves.

Prerequisite: PHYS 110A

Normal Grade Rules
3 units

PHYS 120A. Electronics, Data Acquisition & Analysis

The characteristics of basic analog and digital electronic circuits used in a scientific laboratory. Topics include transistors, operational amplifiers, digital electronic circuits, and computer data acquisition.

Prerequisite: PHYS 51 with "C" or better. Physics Majors Only

Misc/Lab: Seminar 2 hours/lab 3 hours.

Normal Grade Rules
3 units

PHYS 120B. Modern and Solid State Physics Lab

Experimental methods of modern physics and solid state physics, including semiconductors, superconducting quantum interference, Faraday effect, magnetic resonance and electron spin resonance.

Prerequisite: PHYS 122 and PHYS 120A both with C- or better. Physics Majors only.

Misc/Lab: Seminar 1 hour/lab 6 hours.

Normal Grade Rules
3 units

PHYS 120C. Advanced Physics Lab: Optics and Lasers

Design of optical systems involving lasers and other common optical components. Use of optical systems to explore interference, holography, and other optical phenomena.

Pre-requisite: PHYS 120A and PHYS 158 all with grade of "C-" or better.

Misc/Lab: Lecture 1 hour/lab 6 hours.

Normal Grade Rules
3 units

PHYS 121S. Radiation Safety

See NUCS 121S.

Normal Grade Rules
1-2 units

PHYS 122. Modern Physics

Survey of modern physics for science majors, covering special relativity, pre-quantum theory, basic quantum mechanics, atomic and molecular physics, solid state physics, nuclear and particle physics, and cosmology. Historical foundations of these topics will also be are presented.

Prerequisite: CHEM 001A, MATH 032, and PHYS 052 all with a C- or better.

Normal Grade Rules
4 units

PHYS 126. Introduction to Nuclear Science

See CHEM 126.

Normal Grade Rules
3 units

PHYS 127. Nuclear Science Lab

See CHEM 127.

ABC/No Credit
3 units

PHYS 130. Mathematical Methods in Physics

Mathematical methodologies commonly used in physics, including linear algebra, vector calculus, partial differential equations and complex variables, and their applications to classical mechanics, electricity and magnetism, and quantum mechanics.

Prerequisite: MATH 32 and PHYS 52

Normal Grade Rules
4 units

PHYS 140. Computational Methods in Physics

An introduction to the programming of algorithms and numerical techniques pertinent to physical systems.

Prerequisite: PHYS 40 or previous programming experience; PHYS 52 with a C- or better. Physics Majors Only.

Misc/Lab: Seminar 2 hours/lab 3 hours.

Normal Grade Rules
3 units

PHYS 158. Modern Optics

Thin and thick lens systems. Double and multiple beam interference, holography, Fraunhofer and Fresnel diffraction, Fourier optics, spatial filtering, polarization and birefringence.

Prerequisite: PHYS 52 with a C- or better; MATH 32.

Normal Grade Rules
3 units

PHYS 160. Thermodynamics and Statistical Physics

The laws of thermodynamics and kinetic theory with introduction to statistical mechanics.

Prerequisite: CHEM 001A and PHYS 52 both with a C- or better; MATH 32.

Normal Grade Rules
3 units

PHYS 163. Quantum Mechanics

General principles of quantum theories. Wave functions, operator algebra and approximation methods. Applications to atomic structure and solid state physics.

Prerequisites: PHYS 122, MATH 133A, PHYS 130 with a C- or better.

Normal Grade Rules
3 units

PHYS 166. Physics of Music

Physical, mathematical and perceptual foundations of music. Includes musical instruments, hearing, harmony, room acoustics, sound analysis, synthesis and reproduction. GE Area: R

Prerequisite: Passage of the Writing Skills Test (WST) or ENGL/LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

Note: All SJSU Studies courses require completion of the WST and upper division standing.

Normal Grade Rules
GE: R
3 units

PHYS 168. Lasers

Properties of lasers and Gaussian light beams. Principles of laser operation and design. Application of lasers.

Prerequisite: PHYS 122 and PHYS 158 with a C- or better.

Corequisite: PHYS 110B.

Normal Grade Rules
3 units

PHYS 175A. Solid State Physics

A detailed treatment of the physics of solids using quantum mechanics, crystallography, electromagnetism, and metallurgy.

Pre-requisites: PHYS 122 with grade of "C-" or better.

Normal Grade Rules
3 units

PHYS 180. Individual Studies

Advanced work in special fields.

Prerequisite: Physics major or minor. Not available to Open University Students.

Notes: Maximum 4 units of 180/184 may be applied toward graduation.

Repeatable for credit
Credit / No Credit
1-4 units

PHYS 184. Directed Reading

Assigned readings of selected books, journals and special papers to fill gaps in training or for contact with new fields. Weekly reports and conferences.

Notes: Maximum 4 units of 180/184 may be applied toward graduation.

Prerequisites: Not available to Open University Students.

Repeatable for credit
Credit / No Credit
1-3 units

PHYS 196B. Physics Education: Theory and Practice

Instructional Student Assistants and Teaching Associates integrate educational theory, pedagogy, content, and practice by focusing on practical concerns and associated theoretical models. Weekly readings, in-class discussions, out-of-class data collection, reflections, projects, and presentations based on classroom teaching experience.

Prerequisite: PHYS 50, PHYS 2A, or equivalent

Normal Grade Rules
3 units

GRADUATE

PHYS 205. Advanced Dynamics

Generalized methods and selected topics in classical mechanics.

Prerequisite: PHYS 105B, MATH 112 and MATH 133B.

Normal Grade Rules
3 units

PHYS 208. Introduction to Electro-Optics

This course introduces the physical principles of electro-optics including modulators (electro- and acousto-optic), non-linear optics, semiconductor lasers, optical detection and integrated optics with applications.

Prerequisite: PHYS 158

Normal Grade Rules
3 units

PHYS 210. Electromagnetic Theory

Topics in electrostatics and magnetostatics; Maxwell equations; solutions of boundary-value problems using methods of images and Green's function; boundary-value problems in magnetostatics; electromagnetic plane waves and wave propagation in a dielectric media; Fresnal Equations.

Prerequisite: PHYS 230.

Normal Grade Rules
3 units

PHYS 220E. Modern Optics Lab

This course covers the application of Lasers and Optics with emphasis on topics such as Gaussian beams, Fabry-Perot cavities, Laser oscillators including CW and pulsed operation, non-linear optics, frequency stabilization and Fourier Optics.

Prerequisites: PHYS 120C, PHYS 258

Misc/Lab: Lecture 2 hour/Lab 3 hours

Normal Grade Rules
2 units

PHYS 230. Methods in Mathematical Physics

Partial differential equations and special functions: Bessel functions, Legendre polynomials, spherical harmonics; Green's functions; complex variables and contour integrations; matrices and eigenvalue problems; Fourier and Laplace transforms.

Prerequisite: PHYS 105B, PHYS 110B, PHYS 160, PHYS 163, MATH 133B.

Normal Grade Rules
3 units

PHYS 240. Computational Physics
Numerical techniques and computational methods applied to solving problems from various branches of physics.
Prerequisite: PHYS 105B, PHYS 110B, PHYS 163 and a programming language.
Normal Grade Rules
3 units

PHYS 255. Advanced Physics
Selected topics in physics. Topics vary each semester. Course is repeatable when content changes.
Prerequisite: Suitable upper division background in physics and mathematics.
Repeatable for credit
Normal Grade Rules
3 units

PHYS 255C. Celestial Mechanics
Basic concepts in celestial mechanics emphasizing orbital mechanics and the calculation of orbital perturbation. Topics covered include dynamical principles, potential theory, planetary equations, the disturbing function, Lagrange's perturbation equations and geopotential perturbations.
Prerequisite: Senior or graduate standing.
Normal Grade Rules
3 units

PHYS 258. Optics
Fourier optics, diffraction theory, imaging and image enhancement, holography and information processing.
Prerequisite: PHYS 158 and MATH 133A.
Normal Grade Rules
3 units

PHYS 260. Statistical Mechanics
Classical and quantum statistics with applications to properties of matter. Principles of thermodynamics.
Prerequisite: PHYS 160 and PHYS 163.
Normal Grade Rules
3 units

PHYS 263A. Quantum Theory
Postulates of quantum theory. The Schroedinger equation and its solution for simple physical systems. Heisenberg's matrix formulation of quantum mechanics. Approximation methods: Time dependent and time independent perturbation theory. Variational method.
Prerequisite: PHYS 163, PHYS 230.
Normal Grade Rules
3 units

PHYS 268. Laser Spectroscopy
Importance of spectroscopy. Interaction of radiation with matter. Instrumentation for laser spectroscopy. Examples of various techniques, cw and pulsed.
Prerequisite: PHYS 110B, PHYS 158 or instructor consent.
Normal Grade Rules
3 units

PHYS 275. Solid State Physics
Properties of crystals; electric, magnetic and thermal properties of solids.
Prerequisite: PHYS 175A and PHYS 263A or instructor consent.
Normal Grade Rules
3 units

PHYS 277. Superconductivity and Magnetism in Solids
Study of superconductivity and magnetism in solids. Fundamental and technological importance. Type I and Type II superconductivity. BCS theory. High-Tc superconductivity. Interplay of superconductivity and magnetism. Origins and characterization of magnetization types.
Prerequisite: PHYS 175A, PHYS 275 or instructor consent.
Repeatable for credit
Normal Grade Rules
3 units

PHYS 285. Seminar
Meetings for the presentation and discussion of advanced studies in special fields including work by the faculty, guest investigators and graduate students. Topics will vary each semester.
Credit / No Credit
1 unit

PHYS 298. Research
Advanced individual work in physics.
Prerequisite: Instructor consent. Not available to Open University Students.
Repeatable for credit
Mandatory CR/NC/RP
1-4 units

PHYS 299. Master's Thesis
Prerequisite: Admission to candidacy for the master's degree. Not available to Open University Students.
Repeatable for credit
Mandatory CR/NC/RP
1-4 units

UPPER DIVISION

PHYS 1290R. Culminating Experience Supervision
Continued work on thesis or project.
Prerequisite: Outstanding RP grade in a preceding semester in Chem 299, Master's Thesis
Note: No Degree Credit.
Repeatable for credit
No Degree Credit
1 unit

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Political Science Department Courses

POLITICAL SCIENCE

LOWER DIVISION

POLS 001. American Government
Institutions and processes of American government and democracy; the U.S. Constitution and California state and local government. American Institutions Requirement: US2 and US3

Notes: Satisfies American Institutions requirements in American and California government.

Normal Grade Rules
GE: US23
3 units

POLS 002. Introduction to Comparative Politics
Comparative analysis of different kinds of political systems; their political institutions, processes and policies; the environments in which they occur and their consequences. GE Area: D2

Normal Grade Rules
GE: D2
3 units

POLS 003. Introduction to Political Thought
Thinking critically about the classic problems of politics; learning how to interpret, discuss and write about historical and contemporary political thought. GE Area: C2

Normal Grade Rules
GE: C2
3 units

POLS 004. Introduction to International Relations
Introductory survey of major topics in international relations, including global, national and individual causes of war and peace, international cooperation, north-south relations and political economy. GE Area: D3

Normal Grade Rules
GE: D3
3 units

POLS 015. Essentials of U.S. & California Government
Treatment of essentials of U.S. and California government. Satisfies the American Institutions requirements in U.S. Constitution (US2) and California Government (US3), and the Core GE requirement in Social Sciences: Social Issues (D3). GE Area: D3, and American Institution Requirement: US2 and US3

Normal Grade Rules
GE: M11
3 units

POLS 020. Controversial Legal Issues
Basic concepts in critical thinking as demonstrated in legal reasoning and analysis of contemporary legal issues possibly including abortion, drug testing, offensive speech, affirmative action, gender and sexual preference discrimination, school prayer and pornography. GE Area: A3

Prerequisite: GE Areas A1 (Oral Communication) and A2 (Written Communication I) with grades of C- or better.

Normal Grade Rules
GE: A3
3 units

UPPER DIVISION

POLS 100M. Political Inquiry
Introduction to the scope and methods of political science. Beginning with research design, measurement, and ethical considerations, and including a variety of research methods including surveys, experiments, interviews, fieldwork, content analysis, and an introduction to quantitative and qualitative analysis. Notes: Should be taken junior year.

Normal Grade Rules
4 units

POLS 100W. Writing Workshop
Writing skills for majors in political science. Basic materials; research; memos and research reports, press releases, analyses of political/electoral behavior, political speeches. GE Area: Z

Prerequisite: A3 or equivalent second semester composition course (with a grade of C- or better); Completion of core GE, satisfaction of Writing Skills Test and upper division standing.

Note: All SJSU Studies courses require completion of the WST and upper division standing. Must be passed with C or better to satisfy the CSU Graduation Writing Assessment requirement (GWAR). Should be taken junior year.

Normal Grade Rules
GE: Z
3 units

POLS 101. American Government for Teachers
Introduction to the institutions and processes of American and California governments with emphasis on meeting CCTC Teacher Preparation Standards. Topics include U.S. Constitution, federalism, political participation, civil rights and liberties, Congress, the presidency.

Normal Grade Rules
3 units

POLS 102. State Government and Politics
This course examines the politics and institutions of U.S. state governments. The structure and powers of state legislatures, governors, and court systems are analyzed. The effect of states' racial, ideological, and economic characteristics on public policy is also explored. American Institutions Requirement: US3

Notes: Satisfies American Institutions requirement in California government.

Normal Grade Rules
GE: US3
4 units

POLS 103. Local Government and Politics
Offers a theoretical and practical study of local politics and government. The structure, role, and functions of city and county governments are examined. Students gain knowledge of the resources and skills required for effective citizenship in their communities.

Normal Grade Rules
4 units

POLS 105. Congress
Examines politics and policymaking in the U.S. Congress. Topics include party leadership, interest groups in Congress, congressional committees, political representation, redistricting and congressional elections, party polarization, and the process of how a bill becomes law.

Normal Grade Rules
4 units

POLS 106. The United States Presidency
Examination of the American presidency. Topics include the historical emergence of the presidency as an institution, the formal and informal powers of the modern presidency, and the tension between the presidency and other federal institutions, most notably Congress.

Normal Grade Rules
4 units

POLS 107. Politics and Public Opinion
Examines the measurement and impact of public opinion on the democratic political process. The effects of socialization, media, and ideology on public opinion are explored, as well as the state of American public opinion on current political issues.

Normal Grade Rules
4 units

POLS 108. Political Participation
Explores various forms of political participation including voting, community engagement, and social change. Includes consideration of the roles that socialization, media, campaign and elections, and other social and technological factors play in shaping citizen participation.

Normal Grade Rules
4 units

POLS 109. Women and Politics
Examines social movement strategies and theories of gender and power employed by differently situated women. Includes critical examination of the relationship between sex and gender, and intersections of race, class, gender, law and nation.
Normal Grade Rules
4 units

POLS 110. Race and Politics
Examines race and politics in America by focusing on political participation and social movement strategies among minoritized groups. Explores theories of equality, diversity, and justice, and the changing legal relationship between states and citizens.
Normal Grade Rules
4 units

POLS 114. Introduction to Public Administration
A broad overview of the theory and practice of public policy analysis and management in the modern context. Topics include aspects of organizational theory, leadership, budgeting, finance, personnel management, problem formulation, analysis and decision making in a political environment.
Normal Grade Rules
3 units

POLS 120. Law and Society
Social and philosophical foundations of law and legal systems and development of legal institutions in various cultures. Anglo-American law and administration of justice in the U.S. emphasized. GE Area: S
Prerequisite: Passage of the Writing Skills Test (WST) or ENGL/LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.
Note: All SJSU Studies courses require completion of the WST and upper division standing.
Normal Grade Rules
GE: S
3 units

POLS 121A. Constitutional Law: Institutional Powers
Examines the U.S. Supreme Court, its processes, and the role it plays in the American governing system. Examination of judicial policy making through cases on judicial review, separations of powers, federalism, commerce, and tax and treaty powers.
Normal Grade Rules
4 units

POLS 121B. Constitutional Law: Civil Liberties
Explores the constitutional basis for civil liberties in America. Application of methods of constitutional analysis to cases involving freedom of speech, religion, and the press. Examination of personal privacy rights including abortion, gun rights, and criminal procedures.
Normal Grade Rules
4 units

POLS 121C. Constitutional Law: Civil Rights
Explores the constitutional basis for civil rights in America. Application of methods of constitutional analysis to cases involving discrimination, equal protection, and due process. Examination of leading cases related to voting rights, affirmative action, criminal justice, and other issues
Normal Grade Rules
4 units

POLS 122. Judicial Politics
Examines the effects of political forces on judicial behavior. Includes consideration of the roles of interest groups, public opinion, methods of selecting judges, and the importance of judges' personal political beliefs, on judicial decisions.
Normal Grade Rules
4 units

POLS 124. Introduction to Environmental Law
See ENVS 124.
Normal Grade Rules
3 units

POLS 130. American Public Policy
Introduces students to the public policy making process in the American governing system. The politics of agenda setting, policy formulation, and policy implementation are examined. Students learn to analyze and evaluate public policy outcomes.
Normal Grade Rules
4 units

POLS 135. U.S. Environmental Policy
Inquiry focuses on state of the environment, public attitudes toward the problem, interest groups involved in formulation of policy, the response of government leaders to the problem and what the future outlook is for addressing the agenda.
Normal Grade Rules
3 units

POLS 141. Politics of Post-Communist Countries
Political development and change in countries that have transitioned from communist or socialist systems such as Russia, Eastern Europe, Central Asia, and the Caucasus; internal politics of these countries and relations with other countries.
Normal Grade Rules
4 units

POLS 142. African Politics
Basic concepts, theoretical perspectives, and information to understand the evolution of contemporary African states. Begins with a study of colonialism, and proceeds to nationalism, personalistic and military rule, development, democratization, and inter-state and civil war.
Normal Grade Rules
4 units

POLS 144. Middle Eastern Politics
Study of unfolding events in the Middle East. Themes include: the failure of democratic movements, nuclear proliferation and terrorism, US foreign policy towards the region, the Israel-Palestine conflict, urbanization, gender and human rights.
Normal Grade Rules
4 units

POLS 145. Asian Politics
Study of unfolding events in Asia. Themes include: the Asian economic 'miracle,' the implications of China's rise for international security, nuclear proliferation and terrorism, and sustainability; specifically, energy, environment and human rights.
Normal Grade Rules
4 units

POLS 146. Latin American Politics
Survey of the political systems of Latin American countries. Places Latin American countries in a global perspective. Major themes include: civil-military relations, democratization, economic development, social movements, and foreign relations both within and outside Latin America.
Normal Grade Rules
4 units

POLS 147. Globalization
Considers the impact of economic and political globalization, focusing primarily on nations in Latin America, Asia and Africa. Issues include the effects of multinational production, migration, aid, international institutions and humanitarian intervention.
Normal Grade Rules
4 units

POLS 148. Nationalism and Comparative Political Cultures
Comparative analysis of the origin, nature, and impact of nationalism on the politics of Western and non-Western states. Students examine cases where nationalism resulted in conflict, and those in which it supports a stable nation-state. Completion of POLS 2, POLS 3 and POLS 4 highly recommended before enrolling.
Normal Grade Rules
4 units

POLS 149. Comparative Public Policy and Administration
Ideologies, institutions and public policy making in a comparative context. Policy making process in various countries, from emerging issues to choices to implementation and subsequent impact on political systems.
Normal Grade Rules
4 units

POLS 150. War and Peace

Fundamental human questions about causes of war, definitions of peace and approaches toward achieving peace from perspectives of historical and contemporary thinkers, including philosophers, political leaders, military strategists and diplomats. GE Area: V

Prerequisite: Passage of the Writing Skills Test (WST) or ENGL/LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended. Not counted as a core course in the international relations subfield.

Normal Grade Rules
GE: V
3 units

POLS 152A. International Organizations and NGOs

Examines the structures and functions of different types of international organizations (such as the UN, NATO, regional organizations, and non-governmental organizations), and their role in maintaining international peace and security, promoting human rights and economic development, and protecting the environment.

Normal Grade Rules
4 units

POLS 152B. Model United Nations

Structure and operations of the United Nations explored and analyzed through participation in annual U.N. simulation. Prerequisite: POLS 152A

Repeatable for credit
Credit / No Credit
4 units

POLS 153. European Union

Surveys and analyzes the historical evolution, the institutions, as well as the process of policy making in the European Union. Examines key policy areas: agricultural, social, economic, environmental, and foreign policy.

Normal Grade Rules
4 units

POLS 154. U.S. Foreign Policy: Formulation and Administration

Consideration of the factors that shape American foreign policy making, including ideology, organization, as well as partisanship, interest groups, and public opinion. Issues considered include relations with the Middle East and Russia, and economic diplomacy.

Normal Grade Rules
4 units

POLS 155. The Wealth of Nations

This course examines how states, international and multinational bodies, and global social movements shape trade, financial, and labor relations. Topics include: international trade and protectionism, the International Monetary Fund and the World Bank, regional integration, and transnational corporations.

Normal Grade Rules
4 units

POLS 156. Islam, Politics and the West

See RELS 156.

Normal Grade Rules
3 units

POLS 157. International Security

Examines theories of international security, debates over sources, conduct and termination of conflict, including but not limited to inter-state war; security decision-making; military and economic strategy; crisis management; regional security; intelligence; new and complex security issues along the war-peace continuum.

Normal Grade Rules
4 units

POLS 160A. Classical Political Thought

Critical examination of the foundations of Western political thought and the continuing influence of these foundations; sources chosen from among a variety of pre-Renaissance traditions and include writers such as Plato, Aristotle, Augustine and Aquinas.

Normal Grade Rules
3 units

POLS 160B. Modern Political Thought

The basis of the modern state and society as interpreted by political thought between (and including) the Renaissance and the French Revolution; this key period includes writers such as Machiavelli, Hobbes, Locke and Rousseau.

Normal Grade Rules
3 units

POLS 160C. Recent Political Thought

The roots of today's politics in the ideas and writers of the nineteenth and twentieth centuries; sources drawn from a variety of recent traditions such as democratic theory, Marxism, political psychology and political sociology.

Normal Grade Rules
3 units

POLS 163. American Political Thought

Critical examination of the origins and development of American politics as seen through theorists, concepts and forces which have shaped American political consciousness.

Normal Grade Rules
3 units

POLS 170V. American Politics in Global Perspective

A survey of U.S. and California political institutions and culture in comparison with political institutions and cultures outside the U.S. GE Area: V, as well as American Institutions Requirement: US2 and US3

Prerequisites: Completion of Core GE, satisfaction of writing skills test and upper division standing.

Note: All SJSU Studies courses require completion of the WST and upper division standing.

Normal Grade Rules
GE: USV
3 units

POLS 177. Political Psychology

Introduction to the interdisciplinary field of political psychology, with a focus on topics including personality and leadership, political cognition, social identity, emotions and attitudes, voting and political behavior, racism and ethnocentrism, ethnic conflict and genocide, nationalism, terrorism, and conflict resolution.

Prerequisite: POLS 001 (or other US2-3), PSYC 001, or instructor consent

Normal Grade Rules
4 units

POLS 180. Individual Studies

Individual study for advanced work in areas where no courses are offered.

Prerequisite: Appropriate courses, instructor consent and department chair consent.

Repeatable for credit
Credit / No Credit
1-4 units

POLS 181. Internships

Offers students the opportunity to connect knowledge of politics, government, and policy making learned in the classroom to real life application through internships with elected officials, non-profit organizations, government agencies, or political campaigns.

Prerequisite: POLS 100W and instructor consent.

Credit / No Credit
4 units

POLS 184. Directed Reading

Program of reading and writing created through student/faculty consultation in areas not covered by other courses. Course is not repeatable for credit.

Prerequisite: Appropriate courses, instructor consent and department chair consent.

Normal Grade Rules
1-4 units

POLS 190. Senior Seminar

Capstone course that serves as culminating experience for the political science major. Seminar class with significant participation required. Specific course topics vary each semester.

Prerequisite: POLS 100W or instructor consent.

Repeatable for credit
Normal Grade Rules
4 units

POLS 190H. Honors Thesis

Preparation and writing of an original project.

Prerequisite: Senior standing. 3.2 GPA and instructor consent.

Normal Grade Rules
1 unit

POLS 195. Applied Research Methods
Applied research methods in the social sciences, with a focus on quantitative analysis. Students will develop an understanding of survey methods, descriptive statistics and statistical inference, and learn to investigate relationships between two or more variables. Prerequisite: POLS 100M or instructor permission

Normal Grade Rules
4 units

POLS 199. Current Political Issues
Major political issues of the day. Topics vary each semester. Course is repeatable for credit with instructor consent.

Repeatable for credit
Normal Grade Rules
1-3 units

PUBLIC ADMINISTRATION

GRADUATE

PADM 202. Regional Governance
An exploration of current theories, practices, issues and problems in the governance of urban regions in the United States.

Prerequisite: POLS 001, PADM 210.

Normal Grade Rules
3 units

PADM 210. Introduction to Public Administration
A broad overview of public administration, including policy analysis, budgeting, personnel, organization, leadership, decision-making and ethics in a political environment. Examination of the theory and application of public management practices at all levels of government.

Note: This course satisfies graduate-level GWAR in this master's program.

Normal Grade Rules
GE: GWAR
3 units

PADM 212. Administrative Research Methods
The study and application of principles and methods of social science research and evaluation in a public administration context. Emphasis on learning research designs and using statistics and computers.

Prerequisite: Statistics.

Normal Grade Rules
3 units

PADM 213. Policy Analysis and Evaluation
An examination of the application of analytical and administrative tools to solving public problems. Study of the processes of policy formulation and the research and political tools necessary to assess program effectiveness.

Prerequisite: Statistics.

Normal Grade Rules
3 units

PADM 214. Introduction to Public Management
A study of current principles and practices of effectively managing public service organizations. Emphasis on critical thinking, project management, and implementation processes.

Prerequisite: Statistics.

Normal Grade Rules
3 units

PADM 215. Public Personnel Administration
An overview of personnel management in a political environment and its role in maintaining a democratic society. Methods and problems of job analysis, compensation, staffing, EEO, evaluation, training and union relations.

Prerequisite: PADM 210.

Normal Grade Rules
3 units

PADM 217. Organizational Theory
Analysis and application of theories about organizations, including organizational goals, structures, authority, leadership, decision patterns and communications. Emphasis on methods of change and differences between the public and private sectors.

Prerequisite: PADM 210.

Normal Grade Rules
3 units

PADM 218. Public Budgeting
A study of current theory, techniques and practice of public budgeting for political decision-making, planning and management. Focus on executive and legislative budget processes, reform efforts, public choice analysis, financial processes and the role of accounting.

Prerequisite: PADM 210; ECON 1A (or equivalent).

Normal Grade Rules
3 units

PADM 219. Public Financial Administration
An overview of public financial administration, including microeconomic concepts and techniques, tax theory and policy, user charges, inter-governmental transfers, debt administration and risk management in a political environment.

Prerequisite: PADM 218.

Normal Grade Rules
3 units

PADM 220. Non-Profit Management
Focuses primarily on internal nonprofit management issues in the U.S. context; course exposes students to core and emerging theories for a range of topics related to nonprofit management, including leadership, governance, accountability, performance management, resource development and financial management.

Prerequisite: PADM 210, PADM 218

Normal Grade Rules
3 units

PADM 223. Law and Public Administration
An overview of legal and political processes affecting relationships among the public, government institutions, administrative agencies and the courts. Focus on major cases related to administrative agency use of rules and orders to implement public policy.

Prerequisite: POLS 001 and PADM 210

Normal Grade Rules
3 units

PADM 228. Urban Community Development
See URBP 228.

Normal Grade Rules
4 units

PADM 240. Environmental Planning
See URBP 240.

Normal Grade Rules
4 units

PADM 281. Public Administration Internship
Supervised practical experience in public administration. Focus on integrating student work experiences with the academic program by means of seminars and consultation.

Prerequisite: Instructor consent.

Credit / No Credit
3 units

PADM 284. Directed Reading
Program of reading and writing created through student/faculty consultation in areas not covered by other courses. Repeatable for credit for a maximum of 6 units.

Prerequisite: Appropriate courses, instructor consent and department chair consent.

Repeatable for credit
Normal Grade Rules
1-3 units

PADM 295. Topics in Public Administration
An exploration of current theories, problems and techniques in a selected major topic of current importance in public administration.

Repeatable for credit
Normal Grade Rules
3 units

PADM 297. Advanced Seminar in Public Management
This course serves as the "capstone" of the MPA program. It uses an analysis of real world cases to relate principles and theories of public administration to concrete, real world problems. The individual subject papers dealing with the main class topic that earn a grade of A- or better will be published as a electronic journal. The culminating project for this class is the approved prospectus for the PADM 298 project.

Prerequisite: Classified standing.

Normal Grade Rules
3 units

PADM 298. Special Problems

Advanced individual research and projects.

Prerequisite: PADM 210, 212, 213, 214 and 218; instructor consent; consent of the chair.

Mandatory CR/NC/RP
3 units

PADM 299. Master's Thesis

Independent research conducted under the supervision of a permanent faculty member and two other qualified persons. Emphasis on applying administrative concepts and analytical skills to actual problems of policy and administration in the public sector.

Note: Repeatable once for credit.

Repeatable for credit
Mandatory CR/NC/RP
3 units

UPPER DIVISION

PADM 1290R. Culminating Experience Supervision

Continued work on thesis or project.

Prerequisite: Outstanding RP grade in a preceding semester in a project class

Note: No Degree Credit.

Repeatable for credit
No Degree Credit
1 unit

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Psychology Department Courses

PSYCHOLOGY

LOWER DIVISION

PSYC 001. Introduction to Psychology
Psychology is the scientific study of behavior and mental processes. The content focuses on the exploration of major psychological theories and concepts, methods, and research findings in psychology. Topics include the biological bases of behavior, perception, cognition and consciousness, learning, memory, emotion, motivation, development, personality, social psychology, psychological disorders and therapeutic approaches to treatment, and applied psychology. GE Area: D1

Normal Grade Rules
GE: D1
3 units

PSYC 002Q. Identity Development and Prejudice
This seminar is designed to facilitate the transition to the university smoothly with a view to an increased understanding of one's cultural identity; and exploring mechanisms and consequences of prejudice and discrimination in American cultural groups. GE Area: E

Prerequisite: First term freshmen only.

Note: All courses with a 'Q' suffix are designated as First Year Experience courses.

Normal Grade Rules
GE: EE
3 units

PSYC 018. Introduction to Research Methods
Psychological research methods and design (experimental, quasi-experimental [correlational], and descriptive investigations) covering observation, instrumentation, and the collection, analysis, interpretation, and reporting of research data as illustrated through a review of original research in a variety of the subdisciplines of psychology.

Prerequisite: PSYC 001, and STAT 95.

Normal Grade Rules
3 units

PSYC 030. Introductory Psychobiology
Biological approaches to understanding behavior: evolutionary, genetic, neural and hormonal influences on normal and abnormal behavior.

Prerequisite: BIOL 021 or BIOL 065.

Normal Grade Rules
3 units

PSYC 082. Foundations of Developmental Psychology
Psychological development of children from conception to adolescence.

Normal Grade Rules
3 units

PSYC 096C. Introduction to Cognitive Science
Focuses on the study of the mind and the nature of intelligence from interdisciplinary perspectives including computer science, philosophy, mathematics, psychology, neuroscience, and other disciplines. Specific topical coverage includes language acquisition, history of computer-based approaches to artificial intelligence and expertise, human learning, neuroscience, and mathematical, logical, and computational approaches to modeling cognitive process.

Normal Grade Rules
3 units

UPPER DIVISION

PSYC 100W. Writing Workshop
Practice in improvement of writing skills appropriate to the broad field of psychology, including essays, reports and scholarly communication. GE Area: Z

Prerequisite: A3 or equivalent second semester composition course (with a grade of C- or better); Completion of core GE, satisfaction of Writing Skills Test and upper division standing. PSYC 1; STAT 95 or senior standing. Psychology Majors/Minors and Behavioral Science Majors only.

Note: All SJSU Studies courses require completion of the WST and upper division standing. Must be passed with C or better to satisfy the CSU Graduation Writing Assessment requirement (GWAR).

Normal Grade Rules
GE: Z
3 units

PSYC 102. Psychology of Childhood
Psychological development of children from conception to middle childhood emphasizing normative (typical) development in the context of cognitive, socioemotional, biological, and cultural processes.

Prerequisite: PSYC 001.

Normal Grade Rules
3 units

PSYC 105. Special Topics in Developmental Psychology
Intensive examination of current research and theory in a specialized area of developmental psychology. Course is repeatable for credit when course content changes.

Prerequisite: PSYC 102 or PSYC 112 or PSYC 114 or equivalent

Repeatable for credit
Normal Grade Rules
3 units

PSYC 107. Psychology of Women
Sex-role development of women in terms of bio-social factors involved in intellectual and personal-emotional functions. Psychological theory and research.

Prerequisite: PSYC 001.

Normal Grade Rules
3 units

PSYC 110. Adult Psychopathology
Nature, causes, assessment, and treatment of behavioral, emotional, and personality problems of adults. Emphasis on psychological, social, and biological determinants of human behavioral and psychological disturbance.

Prerequisite: PSYC 001.

Normal Grade Rules
3 units

PSYC 112. Psychology of Adolescence
Psychological development of adolescents and young (emerging) adults emphasizing normative (typical) development in the context of cognitive, socioemotional, biological, and cultural processes.

Prerequisite: PSYC 001.

Normal Grade Rules
3 units

PSYC 114. Psychology of Aging
Psychological development of middle-aged and older adults emphasizing normative (typical) development in the context of cognitive, socioemotional, biological, and cultural processes. Course content also includes age-related health problems and their prevention.

Prerequisite: PSYC 001.

Normal Grade Rules
3 units

PSYC 117. Psychological Tests and Measures
Test and questionnaire construction, evaluation and interpretation applied to intelligence and ability tests, personality and adjustment questionnaires, ratings and behavioral observation techniques.

Prerequisite: STAT 095.

Normal Grade Rules
3 units

PSYC 118. Advanced Research Methods in Psychology
Descriptive, correlational, quasi-experimental, and experimental approaches: design, methodology, and analysis. Experience designing, conducting, analyzing, and presenting (verbal and written) research findings. Topics include: hypothesis testing, validity, reliability, scales of measurement, questionnaire development, power, statistical significance, and effect size.

Prerequisite: Lower division GE complete; STAT 95, PSYC 18, PSYC 100W with a "C" or better (or departmental approval), Upper division standing, Psychology or Behavioral Science majors only.

Normal Grade Rules
3 units

PSYC 120. Advanced Research Methods and Design

Descriptive, correlational, quasi-experimental, and experimental approaches: design, methodology, and analysis. Experience designing, conducting, analyzing, and presenting (verbal and written) research findings. Topics will include: hypothesis testing, validity, reliability, scales of measurement, questionnaire development, power, statistical significance, and effect size.

Prerequisite: lower division GE complete; STAT 95; PSYC 100W with 'C' or better (or department approval); Upper Division; Psychology or Behavioral Science Major

Misc/Lab: Lecture 3 hours/activity 2 hours.

Normal Grade Rules
4 units

PSYC 121A. Advanced Research Methods Social/Personality Laboratory

Advanced treatment of research approaches used in social and personality psychology. The course focus is shared between traditional laboratory and fieldwork experimental designs and methods. Data collection and statistical data analysis facilitate experiential learning.

Prerequisite: PSYC 100W, and PSYC 118 or PSYC 120, and PSYC 139 or PSYC 154. Upper division standing. Psychology majors only.

Misc/Lab: 6 hours of Lab

ABC/No Credit
2 units

PSYC 121B. Advanced Research Methods: Cognition/Perception

Advanced treatment of research approaches used in Cognition and/or Perception. The primary focus is on traditional laboratory experimental designs and methods. Laboratory-based data collection and analysis facilitate experiential learning.

Prerequisite: PSYC 100W, and PSYC 118 or PSYC 120, and PSYC 135, PSYC 155, or PSYC 158

Normal Grade Rules
2 units

PSYC 121C. Advanced Research Methods: Clinical Laboratory

Advanced research methods used in clinical research. The primary focus is on traditional field and laboratory research methodologies. Data collection and statistical data analysis facilitate experiential learning.

Prerequisite: PSYC 100W and PSYC 118 or 120, and PSYC 110 or PSYC 142

Normal Grade Rules
2 units

PSYC 121E. Advanced Research Methods: Psychophysiology Lab

Intensive experiential introduction to applied laboratory work in human psychophysiology and hormonal influences on human behavior. Focus on experimental methodology.

Prerequisite: PSYC 100W and PSYC 118 or PSYC 120 and PSYC 129

Normal Grade Rules
2 units

PSYC 126. Drugs, Brain and Behavior

Survey of psychoactive drugs, including prescription and street drugs; social, behavioral and physiological effects of drugs; neural mechanisms of drug action; history of drug use.

Prerequisite: PSYC 030 or 3 units of biology.

Normal Grade Rules
3 units

PSYC 129. Neuroscience

Principles of brain organization and function underlying behavior. Topics include neuroanatomy and physiology of language, vision, sexual behavior, memory and abnormal behavior.

Prerequisite: Either PSYC 030 and 3 units of biology, or 9 units of biology.

Notes: Not acceptable as an elective in the Biology major.

Normal Grade Rules
3 units

PSYC 135. Cognition

The activity of knowing: acquisition, organization and use of knowledge. Processes involved in that activity, including perception, memory, thinking and language.

Prerequisite: PSYC 001.

Normal Grade Rules
3 units

PSYC 139. Psychology of Personality

Current approaches to the study of personality and personality processes.

Prerequisite: PSYC 001.

Normal Grade Rules
3 units

PSYC 142. Child Psychopathology

Nature, causes, assessment, and treatment of behavioral, cognitive, and emotional problems of children and adolescents. Emphasis on psychological, social, and biological determinants of human behavioral and psychological disturbance.

Prerequisite: PSYC 001.

Normal Grade Rules
3 units

PSYC 145. Community Mental Health

See HS 145.

Normal Grade Rules
3 units

PSYC 150. Educational Psychology

Development of individuals and how they learn. Intelligence, emotions, interests, social relations as related to development and learning.

Prerequisite: PSYC 001.

Notes: No credit for those who have taken EDSC 173.

Normal Grade Rules
3 units

PSYC 153. Psychology in the Courtroom

Role of psychology in the legal system: legal procedure and adversary system, jury selection, jury decision-making, eyewitness testimony, mental health law, criminal responsibility and legal insanity, expert psychological testimony, role of forensic psychologists.

Prerequisite: PSYC 001.

Normal Grade Rules
3 units

PSYC 154. Social Psychology

Theories, problems and issues in the study of human social behavior.

Prerequisite: PSYC 001.

Normal Grade Rules
3 units

PSYC 155. Human Learning

Memory, forgetting, concept formation, language learning, reinforcement and related topics. Traditional learning concepts, theories and findings with reference to contemporary classroom management, behavior modification and other applications.

Prerequisite: PSYC 001.

Normal Grade Rules
3 units

PSYC 157. Psychology of Motivation

Empirical findings and theoretical developments in motivation in relationship to concepts of need, arousal, drive and emotion.

Prerequisite: PSYC 001.

Normal Grade Rules
3 units

PSYC 158. Perception

Empirical and theoretical approaches to the psychology of perception with an emphasis on vision. Topics include the perception of form, color, depth and motion as well as the effects of attention and experience.

Prerequisite: PSYC 001.

Normal Grade Rules
3 units

PSYC 160. Clinical Psychology

Survey of clinical psychology as a profession. Emphasis placed on training models, specializations within the field, the scientific study of psychological interventions, and the graduate school admissions process for masters and doctoral level psychotherapists.

Prerequisite: PSYC 001.

Normal Grade Rules
3 units

PSYC 165. Theory and Methods of Counseling

A survey of theories focused on helping and behavior change. Course covers both historical and contemporary psychotherapeutic interventions found in clinical and counseling psychology and evidence based practice approaches in psychotherapy.

Prerequisite: PSYC 001.

Normal Grade Rules
3 units

PSYC 167. Sports Psychology

See KIN 167.

Normal Grade Rules
3 units

PSYC 170. Industrial and Organizational Psychology

Application of psychological theory, research and methodology to the work environment. Topics covered include leadership, power, group processes, motivation, satisfaction and issues in personnel psychology.

Prerequisite: PSYC 001.

Normal Grade Rules
3 units

PSYC 173. Human Factors

Human psychology and physiological characteristics and methods for taking these into account in designs and development of human-machine systems. Current human factor engineering efforts in lab, design process and operational environment.

Prerequisite: PSYC 001.

Normal Grade Rules
3 units

PSYC 175. Management Psychology

Theory and practice of psychology in organizations and management. Topics include learning, motivation, perception, attitudes, personality, stress, groups, culture, careers, communication, leadership, politics, conflict, cooperation, decision-making and organizational change.

Prerequisite: PSYC 001.

Normal Grade Rules
3 units

PSYC 177. Political Psychology

See POLS 177.

Normal Grade Rules
4 units

PSYC 180. Individual Studies

Research project in psychology.

Prerequisite: 12 units of psychology and instructor and department chair consent.

Repeatable for credit
Credit / No Credit
1-4 units

PSYC 184. Directed Reading

Directed reading on a specific psychological topic.

Prerequisite: 12 units of psychology and instructor and department chair consent.

Repeatable for credit
Credit / No Credit
1-4 units

PSYC 186. Psychology Field Work

Supervised field work in a selected area of psychology. Course is repeatable for 4 unit maximum.

Prerequisite: Instructor and department chair consent.

Repeatable for credit
Credit / No Credit
1-4 units

PSYC 190. Current Issues Capstone

Integrative survey of current issues in psychology, how they developed and likely future directions. Completion of the research methods requirement prior to enrollment in this course is recommended.

Prerequisite: PSYC 100W and senior standing.

Co/Prerequisite: PSYC 118 or PSYC 120

Normal Grade Rules
3 units

PSYC 191. The Psychology of Prejudice

Provides an examination of psychological theory and research related to prejudice and discrimination from the perspectives of both the holders and targets of prejudice. Includes individual and small group exercises to provide experiential learning. GE Area: S

Prerequisite: Passage of the Writing Skills Test (WST) or ENGL/LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

Note: All SJSU Studies courses require completion of the WST and upper division standing.

Normal Grade Rules
GE: S
3 units

PSYC 193. Behavioral Science in Practice

See ANTH 193.

Normal Grade Rules
3 units

PSYC 195. Honors Seminar in Psychology

Intensive examination of background and current status of student-selected problems.

Prerequisite: at least 18 units of PSYC/STAT, PSYC 100W, PSYC 118 or PSYC 120, overall PSYC/STAT GPA of 3.5, Senior Standing

Normal Grade Rules
3 units

PSYC 199. Senior Honors Thesis

Supervised thesis open only to exceptional senior psychology majors.

Prerequisite: Senior or graduate standing and instructor consent.

Mandatory CR/NC/RP
3 units

GRADUATE

PSYC 200. Seminar in Personality Theory

A survey of contemporary approaches to personality study.

Prerequisite: PSYC 139 (or equivalent) plus a total of nine semester hours of upper division psychology courses.

Normal Grade Rules
3 units

PSYC 203A. Clinical Assessment I

An in-depth introduction to objective, projective and behavioral assessment techniques used in the clinical evaluation of the behavior and functioning of adults, children and families.

Prerequisite: PSYC 117 (or equivalent).

Notes: MS program priority. This course satisfies graduate-level GWAR in this master's program.

Normal Grade Rules
GE: GWAR
3 units

PSYC 204. Seminar in Developmental Psychology

An examination of significant theories, perspectives, and research in developmental psychology.

Prerequisite: PSYC 102 (or equivalent).

Normal Grade Rules
3 units

PSYC 208. Family Assessment and Intervention

An interdisciplinary exploration of how therapists can analyze and change interpersonal dynamics in couples and families.

Normal Grade Rules
3 units

PSYC 209. Psychology of Contemporary Families

An overview of current family issues faced by psychotherapists in clinical settings. Emphasis will be placed on identification and conceptualization of these issues from a psychological perspective, stressing integration of issues into clinical practice. MS Clinical program priority.

Prerequisite: PSYC 208.

Normal Grade Rules
3 units

PSYC 210. Advanced Psychopathology

Advanced course to provide knowledge and experience in the classification and treatment of disorders of childhood, adolescence and adulthood as they are identified in schools, family interactions and worksite settings. Critical review of research related to the evaluation of treatment strategies.

Prerequisite: PSYC 110.

Notes: MS program priority.

Normal Grade Rules
3 units

PSYC 211. Child Psychopathology

An overview on the nature, assessment and treatment of Child Psychopathology. Emphasis will be placed on understanding DSM-IV diagnoses from a developmental prospective. Objective methods of assessment and empirically supported treatments will be covered.

Normal Grade Rules
3 units

PSYC 212. Life Span Development
Psychological, biological and social development throughout the life cycle. Interdisciplinary lecture course includes infancy, childhood, adolescence, young adulthood, middle age and old age. Topics include theories, research, influences, changes, problems and patterns of human development.
Notes: MS program priority.
Normal Grade Rules
3 units

PSYC 219. HCI for Cyber Security
See ISE 219.
Normal Grade Rules
3 units

PSYC 220. Seminar in Experimental Psychology
Applications of experimental method to current problems in psychology. Individual design and experimental work required.
Prerequisite: PSYC 120A.
Normal Grade Rules
3 units

PSYC 222. Gender and Ethnic Issues in Counseling and Therapy
Theoretical and practical understanding of gender and ethnic issues in clinical practice, including issues arising from differing socialization, psychological structures, values and cultural assumptions that may affect therapeutic intervention within individuals, couples and families.
Notes: MS program priority.
Normal Grade Rules
3 units

PSYC 223B. Clinical Psychology Theory I
Application of clinical theory to the treatment of behavioral problems of individuals and families.
Prerequisite: PSYC 223A.
Corequisite: PSYC 224B.
Notes: MS program priority.
Normal Grade Rules
3 units

PSYC 224A. Clinical Psychology Practicum I
Supervised experience in the treatment of behavioral and emotional problems of individuals and families.
Prerequisite: Same as PSYC 223A.
Corequisite: PSYC 223A.
Notes: MS program priority.
Normal Grade Rules
3 units

PSYC 224B. Clinical Psychology Practicum II
Advanced supervision in the treatment of behavioral and emotional problems of individuals and families.
Prerequisite: Same as PSYC 224A.
Corequisite: PSYC 223B.
Notes: MS program priority.
Normal Grade Rules
3 units

PSYC 225. Advanced Group Dynamics
Advanced study of the dynamics of small group interaction. Limited supervised training in group facilitation techniques.
Prerequisite: PSYC 125 (or equivalent).
Notes: MS program priority.
Normal Grade Rules
3 units

PSYC 226. Addictions and Treatment
Advanced course in assessment, diagnosis, and treatment, and prevention of substance abuse and dependence and co-occurring disorders in multiple settings. Critical review of research related to the evaluation of treatment strategies are provided from recovery models, family, and individual perspectives.
Prerequisite: PSYC 203A & graduate standing in MS psychology program
Normal Grade Rules
3 units

PSYC 228. Professional Ethics for Psychologists
Consideration of ethical and legal issues related to the professional application of psychology. Designed particularly for students involved in field work.
Notes: MS program priority.
Normal Grade Rules
3 units

PSYC 230. Seminar in Physiological Psychology
An advanced consideration of the neurophysiological correlates of behavior.
Prerequisite: PSYC 129 (or equivalent).
Normal Grade Rules
3 units

PSYC 232. Clinical Psychopharmacology
Prepares counseling professionals to understand aspects of drug use, mechanisms of change and clinical outcomes.
Prerequisite: PSYC 126 or equivalent.
Normal Grade Rules
3 units

PSYC 235. Seminar in Cognitive Psychology
Theories and current research in cognitive psychology with emphasis on components of cognitive processing from pattern recognition to problem solving. Substantial emphasis on cognitive development and mechanisms of cognitive change.
Prerequisite: Graduate standing.
Normal Grade Rules
3 units

PSYC 240. Research Design and Applied Psychometrics
Advanced introduction to issues in psychological research (experimental, quasi-experimental and survey research), measurement and test construction (item analysis, test reliability and validity and development of norms).
Prerequisite: PSYC 117, STAT 115 or instructor consent.
Normal Grade Rules
3 units

PSYC 243. Field Work in Psychology
Supervised field work experience in outside agency settings. Open through consultation only to students in MS programs.
Repeatable for credit
Credit / No Credit
1-6 units

PSYC 249. Field Work in Industrial/ Organizational Psychology
Supervised experience applying psychological and organizational theory and practice in business, industrial and other organizational settings.
Prerequisite: Instructor consent.
Repeatable for credit
Credit / No Credit
1-6 units

PSYC 254. Social Psychology Seminar
Theoretical and practical approaches to the understanding of human behavior within a social context.
Prerequisite: PSYC 154 (or equivalent).
Note: This course satisfies graduate-level GWAR in this master's program.
Normal Grade Rules
GE: GWAR
3 units

PSYC 255. Seminar in Learning
Current problems in learning with primary emphasis on learning theory.
Prerequisite: PSYC 155 (or equivalent).
Normal Grade Rules
3 units

PSYC 256. Seminar in Perception
Selected issues in visual sensation and perception. Topics include the perception of color, form, depth and motion. Emphasis on the relationship of perception to sensory physiology.
Prerequisite: PSYC 158 (or equivalent).
Normal Grade Rules
3 units

PSYC 258. Methods of Psychotherapy
Survey of the theoretical background and practical application of various approaches to psychotherapy.
Prerequisite: PSYC 139.
Notes: MS program priority.
Normal Grade Rules
3 units

PSYC 260. Crisis and Trauma Counseling
Advanced course on trauma including strategies for assessing, managing, short and long term- treatment for acute and chronic stress reactions. Empirically supported risk and protective factors, and evidence-based treatments are covered. Resilience, personal, multidisciplinary, and community perspectives are emphasized.

Prerequisite: PSYC 203A and Graduate Standing in MS Psychology program

Normal Grade Rules
3 units

PSYC 270. Seminar in Industrial and Organizational Psychology
Psychological theory, research and practice in organizations. Topics emphasized include motivation, job satisfaction, communication, leadership, group processes, decision-making, conflict, cooperation, power and organization development and change.

Prerequisite: Instructor consent.

Notes: MS I/O program priority. This course satisfies graduate-level GWAR in this master's program.

Normal Grade Rules
GE: GWAR
3 units

PSYC 271. Seminar in Personnel Psychology
In-depth introduction to relevant methodology, research, applications and issues. Topics include legal issues in personnel, test validation, selection, job analysis, performance appraisal and training and development.

Prerequisite: Instructor consent.

Notes: MS I/O program priority.

Normal Grade Rules
3 units

PSYC 272. Training and Development in Organizations
Course will address 'classic', current, and future issues in training and development. Topics covered include theories of learning, needs assessment, training methodology, program evaluation, management development, and trends that may influence future training and development programs.

Prerequisite: Instructor consent.

Normal Grade Rules
3 units

PSYC 273. Seminar in Human Factors
Data and theory of sensory and cognitive psychology and their application to the design of systems used by humans.

Prerequisite: PSYC 135 and PSYC 158 (or equivalent).

Normal Grade Rules
3 units

PSYC 275. Professional Issues in I/O Psychology
Address topics and issues faced by I/O psychologists working within organizational settings. Review and analysis of research regarding the application of psychological theory, concepts, and research methodologies. Evaluation and discussion of early career-related ethical issues and professional challenges and strategies.

Prerequisite: Psyc 270 and graduate standing in MS I/O Psychology program

Repeatable for credit
Normal Grade Rules
3 units

PSYC 276. Groups at Work
Group process and performance, types of work groups and tasks, group development (norms, roles and strategies), group leadership approaches and skills, decision-making, team building, high performing and self managing teams.

Prerequisite: Instructor consent.

Normal Grade Rules
3 units

PSYC 280. General Seminar
Current psychological literature in selected fields and the development of a specific topic by the student.

Prerequisite: Undergraduate major in psychology (or equivalent).

Note: This course satisfies graduate-level GWAR in this master's program.

Normal Grade Rules
GE: GWAR
3 units

PSYC 291. Method and Design for Applied Research
Development and management of applied research programs based on contributions of psychological research and methodology. Criticizing existing and proposed research. Reporting and communicating research results.

Prerequisite: PSYC 18 or PSYC 120A; STAT 95 and STAT 115.

Notes: MS program priority.

Normal Grade Rules
3 units

PSYC 293. Organizational Development
Theory and practice of organization development, including systems thinking; action research; organization assessment and diagnosis; survey development and feedback; individual, group, inter-group and organization-wide interventions; consultant roles; and ethics of practice in organizations.

Prerequisite: Instructor consent.

Normal Grade Rules
3 units

PSYC 295. Substance Abuse, Human Sexuality, and Life-Span Issues for Therapists
An examination of current issues in marriage and family therapy related to substance use, sexual issues, and development across the lifespan. Course will cover theories and contemporary issues in these areas with an emphasis on application in treatment.

Normal Grade Rules
3 units

PSYC 298. Special Problems
Advanced work in areas not covered in any regular course offering. Course is repeatable for a maximum of four units.

Prerequisite: Instructor consent.

Repeatable for credit
Mandatory CR/NC/RP
1-6 units

PSYC 299. Master's Thesis or Project
Five units required for the M.A.; six units for the M.S.

Prerequisite: Admission to candidacy for the MA or MS degree and thesis chair permission.

Repeatable for credit
Mandatory CR/NC/RP
1-6 units

UPPER DIVISION

PSYC 1290R. Culminating Experience Supervision
Continued work on thesis or project unless concurrently enrolled in another SJSU course

Prerequisite: Outstanding RP grade in a preceding semester in a project or thesis class

Note: No Degree Credit.

Repeatable for credit
No Degree Credit
1 unit

STATISTICS

LOWER DIVISION

STAT 095. Elementary Statistics

Hypothesis testing and predictive techniques to facilitate decision-making; organization and classification of data, descriptive and inferential statistics, central tendency, variability, probability and sampling distributions, graphic representation, correlation and regression, chi-square, t-tests, and analysis of variance. Computer use in analysis and interpretation. GE Area: B4

Prerequisite: Math Enrollment Category M-I or M-II, or completion of a GE Area B4 course with a grade of C- or better.

Notes: Intended for Psychology majors and minors as well as for programs in Behavioral Science, Child Development, Education, Health Science, Nursing, Nutritional Science, Social Science, and Social Work.

Normal Grade Rules
GE: B4
3 units

UPPER DIVISION

STAT 115. Intermediate Statistics

Statistical analysis at the intermediate level; chi-square, analysis of variance, correlation and regression, and topics in experimental design; use of microcomputers for statistical calculations.

Prerequisite: STAT 95 (or equivalent).

Notes: Intended for majors in education, nursing, personnel administration, psychology, social service and sociology, and psychology minors.

Normal Grade Rules
3 units

GRADUATE

STAT 235. Multivariate Analysis

Multivariate techniques for analyzing social science data with emphasis on multiple regression, multivariate analysis of variance, factor analysis, discriminant analysis and canonical correlation.

Prerequisite: STAT 115 or instructor consent.

Normal Grade Rules
3 units

STAT 245. Advanced Statistics

Advanced problems in statistical analysis. Advanced consideration of hypothesis testing, estimation and analysis of variance.

Prerequisite: STAT 115 or instructor consent.

Normal Grade Rules
3 units

Recreation Program Courses

RECREATION

LOWER DIVISION

RECL 010. Creating a Meaningful Life

Study how a meaningful life relates to the freedom to pursue happiness. Examines personal, social, and cultural bases for a creative and successful lifestyle. Learn to recognize and foster creative potential for lifelong personal growth, meaningful rewards, and leisure enjoyment. GE Area: E

Normal Grade Rules
GE: EE
3 units

RECL 015. Human Life Span

See HS 015.

Normal Grade Rules
GE: D1
3 units

RECL 090. Foundations of Recreation Parks & Tourism

Field of parks and recreation; history of development of the recreation profession; survey of recreation and leisure services.

Normal Grade Rules
3 units

RECL 094. The Outdoor Recreation Experience

Students will explore, understand, and experience firsthand the value,meaning, and benefits of a variety of outdoor recreation activities. Socio-cultural and ecological systems will be examined as they relate to the delivery of outdoor recreation experiences in both the public and private sector.

Normal Grade Rules
3 units

RECL 097. Event Planning

Principles of event planning with emphasis on development and integration of operational strategies in recreation and hospitality management. Application of programming techniques and exploration of career opportunities in event management.

Misc/Lab: Lecture 2 hours/activity 3 hours.

Normal Grade Rules
3 units

UPPER DIVISION

RECL 100W. Writing Workshop

Developing and enhancing written communication skills in the recreation and leisure profession in the following areas: scientific/technical writing, administrative writing, public-relations-related writing and funding proposals. GE Area: Z

Prerequisite: A3 or equivalent second semester composition course (with a grade of C- or better); Completion of core GE, satisfaction of Writing Skills Test and upper division standing.

Note: All SJSU Studies courses require completion of the WST and upper division standing. Must be passed with C or better to satisfy the CSU Graduation Writing Assessment Requirement (GWAR).

Normal Grade Rules
GE: Z
3 units

RECL 110. Leisure, Life and Contemporary Society

Explore conceptual foundations of play, recreation and leisure and their importance in physical, social, psychological and spiritual development across the lifespan. Assess the roles of existing services in enhancing quality of life across social, cultural, economic and environmental realms.

Prerequisite: Upper division standing.

Normal Grade Rules
3 units

RECL 111. Leisure, Culture, and Identity

Perspectives of leisure as a source of self-expression and social control related to cultural beliefs, values, and practices and institutionalized social systems. Observation, analysis and critique of history and social structures, leisure and culture, and personal opportunities for change. GE Area: S

Prerequisite: Completion of core GE, successful completion of Writing Skills Test, upper division standing.

Note: All SJSU Studies courses require completion of the WST and upper division standing.

Normal Grade Rules
GE: S
3 units

RECL 112. Foundations of Recreation Therapy

Fundamentals of the profession; history, delivery models, theory and practice of Recreation Therapy as a treatment modality for persons whose functional abilities are impaired. Exposure to ADA facility assessment, inclusion, and impact of social attitudes through didactic and experiential learning.

Prerequisite: Upper division standing.

Normal Grade Rules
3 units

RECL 113. Leisure: Philosophy and Education

Examination of philosophical, historical, psychological, and wellness foundations for education for leisure. Learning systems to facilitate the process of change through leisure opportunities for wellness.

Prerequisite: Upper division standing.

Normal Grade Rules
3 units

RECL 130. Event Marketing in Recreation Enterprises

Develop competence in event promotion and marketing. Explore marketing fundamentals, such as targeting an audience, creating promotional materials and pricing to cover event costs as well as event sponsorship. The role of social media in special themed events will be surveyed.

Prerequisite: RECL 097

Normal Grade Rules
3 units

RECL 132. Recreation Program Planning

Learn to plan and implement programs and events for diverse individual, group and community recreation experiences using contemporary needs assessment, outcomes oriented goal setting, program/event selection, leadership techniques and evaluation tools.

Normal Grade Rules
3 units

RECL 133. Principles of Recreation Leadership

In-service training workshops to develop skills in planning, implementation and evaluation processes. Self-awareness, communication and group process.

Prerequisite: Upper division standing.

Misc/Lab: Lecture 4 hours/Activity 2 hours

Normal Grade Rules
4 units

RECL 135. Planning and Managing Rec Areas & Facil

Content includes legal principles and risk management, as well as fundamentals of facility design and preventive maintenance in recreation, park, and tourism settings. This is a problem-based learning course, including case study, problem solving, project applications, and working with stakeholders.

Normal Grade Rules
3 units

RECL 136. Principles of Recreation and Park Admin

In the context of leadership roles and responsibilities in the field of recreation and park administration, course examines issues related to the organization and administration of human resources, finances, areas and facilities, programs, risk management, and liability.

Prerequisites: Upper Division Standing

Normal Grade Rules
3 units

RECL 140A. Spec Interventions in RT:Aquatic Therapy

Develop in-depth knowledge and skills related to the facilitation and supervision of a complex Recreation Therapy intervention. Includes equipment use, clinical application of each aspect of the activity or equipment, contraindications, safety, facilitation techniques, costs, industry standards, and evidence-based practices.

Repeatable for credit
Normal Grade Rules
1 unit

RECL 140B. Spec Inter in RT: Behavior Interventions

Theory and practice of interventions that positively affect healthy behaviors. Implementing prevention strategies including activity modification, assessment of harmful or disruptive behaviors, and identifying cause and effect relationships. Learn and practice teaching appropriate behaviors, increasing appropriate behaviors, decreasing inappropriate behaviors.

Repeatable for credit
Normal Grade Rules
1 unit

RECL 140C. Spec Inter in RT: Adventure Tx

Theoretical, hard, and soft skills related to adventure therapy interventions. Demonstrate skill development through facilitation. Learn diverse interventions and clinical application, modification, contraindications, and safety precautions for each based on psychiatric diagnosis served.

Repeatable for credit
Normal Grade Rules
1 unit

RECL 143. Festivals and Community Special Events

Principles and applications for effective management of festivals, fairs and community special events; including planning, marketing, financing, evaluating, logistics, consumer behavior, corporate sponsorship, licensing agreements, risk management, and sustainable practices.

Normal Grade Rules
3 units

RECL 144. Natural and Cultural Resource Interpretation in Recreation and Parks

Explore the interpretive approach to communicating value and vision of nature, outdoor recreation and tourism sites. Gain skills to develop and conduct activities such as guided walks, interpretive programs and fireside chats. Learn fundamentals of creating interpretive media such as brochures, displays, and exhibits as well as e-media.

Normal Grade Rules
3 units

RECL 148. Biofeedback Principles and Practices

Conceptual and historical review of Biofeedback theory and practice. Experiential engagement with software, instrumentation, data interpretation and personal reflection. Assessment, treatment, evaluation, and case studies applied to medical and non-medical practices.

Normal Grade Rules
3 units

RECL 150. For-Profit Enterprises in Recreation

Development of knowledge and skills relating to the variety and types of for-profit recreation enterprises, including planning for and management of commercial ventures, development of corporate identity and market niche, and forecasting of trends and shifts in consumer culture.

Prerequisite: Upper division standing.

Normal Grade Rules
3 units

RECL 151. Planning and Development of Tourism and Event Enterprises

Practices utilized in private profit, nonprofit and commercial sectors for planning, developing and operating leisure, tourism, and event enterprises. Management functions and consumer behavior related to products and services.

Prerequisite: Upper division standing.

Normal Grade Rules
3 units

RECL 152. Non-Profit Leadership & Management

Introduction to the historical and philosophical foundations of the Non-Profit sector. Provides a basic understanding of key issues in managing contemporary nonprofit organizations including: organizational behavior; board development; fund-raising; boundary-spanning skills; and developing leadership skills for social innovation and entrepreneurship.

Prerequisite: Upper Division Standing.

Normal Grade Rules
3 units

RECL 153. Youth Development and Services

Surveys the field of youth development, its historical roots, sociocultural and psychological development, and contemporary innovations. Develop knowledge of the institutional and programmatic factors that lead to positive developmental outcomes for youth in leisure and human service organizations.

Prerequisite: Upper Division Standing

Normal Grade Rules
3 units

RECL 155. Outdoor Recreation Systems

Overview of outdoor recreation in the United States. Study of the historic, social, economic and political factors influencing natural resource protection. Includes a survey of organizations that manage visitors and protected areas to provide quality outdoor recreation experiences.

Prerequisite: Upper Division Standing.

Normal Grade Rules
3 units

RECL 156. Principles of Sustainable Travel and Tourism

Examination of travel and tourism as it relates to tourist motivations, hospitality and destination management. The impact of tourism on the physical, cultural and economic environment.

Prerequisite: Upper division standing.

Normal Grade Rules
3 units

RECL 157. Sustainable Recreation & Ecotourism

Course examines cultural, ethical, environmental and social science issues, and uses applied research methods to achieve competence in making programmatic and resource management decisions for recreational and tourism purposes.

Prerequisite: Upper division standing

Normal Grade Rules
3 units

RECL 158. Cultural and Heritage Tourism

Heritage experiences leading to deeper cultural understanding are essential in the tourism segment of recreation. Exploration of culture and heritage using the lens of growth, popularity or compression will be examined. Discussion on practices and concerns associated with cultural heritage-based tourism.

Normal Grade Rules
3 units

RECL 160. Evaluation and Research in Recreation

Students will learn about the systematic process for evaluation or research. The course focuses on three main areas: Criteria and research questions, evidence and data (data collection and data analysis), and judgment and interpretation. The course is for students interested in basic information about systematic inquiry using evaluation and research design, data collection and analysis, and data reporting.

Prerequisite: RECL 090, RECL 100W, RECL 110

Corequisite: RECL 136.

Normal Grade Rules
3 units

RECL 165. Senior Seminar in Recreation

A capstone experience designed to help students synthesize and further develop skills acquired in program planning and development, implementation, and evaluation. Emphasis placed on negotiation of all phases of designing and facilitating meaningful recreation experiences in a variety of agencies and communities.

Prerequisite: Completion of 36 units of RECL coursework including RECL 90, RECL 97, RECL 110 and RECL 113. Major form completed and signed by HSR advisor and chair. Senior standing.

Normal Grade Rules
3 units

RECL 169. Practicum in Recreation Therapy

Supervised 100 hour competency-based field learning in approved health agency (e.g., hospital, community health, municipal). Learning exposes the learner to different populations, interventions, terminology, resources. Learner will observe job task skills, apply knowledge, and gain abilities of Recreation Therapy practice.

Pre-requisites: RECL 90

Credit / No Credit
1 unit

RECL 170A. Pre-Intern Workshop

Introduces and prepares upper division majors for senior internship. Includes career goal clarification, resume development and interviewing through both workshops and online delivery.

Prerequisites: RECL 090, RECL 100W, RECL 110.

Corequisites: RECL 136, RECL 137.

Credit / No Credit
1 unit

RECL 170B. Internship in Recreation

Supervised 40-hour per week internship (minimum of 12 weeks) in one of a variety of approved agencies (leisure services, park and recreation, or tourism/commercial recreation).

Prerequisites: Upper division standing; RECL 136, RECL 160, RECL 170A.

Credit / No Credit
10 units

RECL 170C. Internship in Recreation Therapy

Supervised 40-hour per week internship (minimum 15 weeks, 600 hours) occurring in approved health agencies. Supervisor must have a valid CTRS credential. Student will develop competencies as identified in the NCTRC Job Task Analysis and ATRA Standards of Practice.

Credit / No Credit
10 units

RECL 180. Individual Studies

Individual work investigating special topics/problems through research, applied projects, and/or field experiences. Assessment by project(s) and/or paper(s).

Prerequisites: Upper division standing, supervising instructor approval, and department chair consent.

Repeatable for credit
Credit / No Credit
1-4 units

RECL 184. Directed Reading

Directed reading in journals and books by authorities in Hospitality, Recreation, Tourism and related fields. Assessment by project(s) and/or paper(s).

Prerequisite: Upper division standing, supervising instructor approval, and department chair consent.

Repeatable for credit
Credit / No Credit
1-4 units

RECL 185. Leisure, Recreation and Aging

Theory and practice related to the role of leisure services in maximizing the quality of life for older adults. Interrelationship of leisure and other supportive services for older adults in community and institutional settings.

Prerequisite: Upper division standing.

Normal Grade Rules
3 units

RECL 187. Leisure Education in Recreation Therapy

Overview of leisure education as it is used both in medical and non-medical settings to improve functioning and wellbeing among diverse clientele. Students will learn historical, philosophical, and contemporary conceptual foundations, evidence-based and practical applications to service delivery.

Normal Grade Rules
3 units

RECL 193. RT Interventions for People with Physical Conditions

Theoretical foundations, research, and evidenced based Recreation Therapy interventions for persons with physical, intellectual, and developmental disabilities and other chronic conditions. Focuses on rehabilitation, community reintegration, day programs, and inclusion.

Prerequisite: Upper division standing

Normal Grade Rules
3 units

RECL 197. Recreation Therapy in Mental Health

Application of theory, models, concepts and facilitation processes used in Recreation Therapy and related professions for people with mental health conditions. Experiential learning and facilitation of leisure education, clinical interventions, and behavioral change processes used in medical and non-medical settings.

Prerequisite: Upper division status, RECL 112 and RECL 113.

Misc/Lab: Lecture 2 hours/activity 2 hours.

Normal Grade Rules
3 units

RECL 198. Rec Therapy Assessment and Documentation

Clinical procedures utilized in Recreation Therapy whereby habilitation/rehabilitation is the primary goal; client assessment, development of behavioral objectives and treatment plans, evaluation, documentation, medical terminology, and charting procedures are covered. Extensive skill development regarding critique and development of assessment tools.

Normal Grade Rules
3 units

RECL 199. Advanced Practices in Recreation Therapy

The application and examination of concepts, techniques, research, and legal issues utilized by advanced practitioners and managers. Includes trends and issues related to clinical supervision, reimbursement, quality improvement, legislation, comprehensive program design, and applied research that produces evidenced based practice.

Prerequisite: RECL 112.

Normal Grade Rules
3 units

GRADUATE

RECL 200. Foundations of Recreation and Tourism

Basic philosophical, historical, and scientific foundations and developments in leisure, recreation and tourism; analyses of the significance of leisure in modern societies; critical review of major and classical writings in the field with special attention to academic writing.

Corequisite: RECL 110

Normal Grade Rules
3 units

RECL 202. Evaluation and Assessment in Recreation and Tourism

Acquires knowledge and principles of evaluating selected areas in recreation and tourism services. Through use of analytical tools and processes, students learn how to write evaluation report to meet stakeholders' information and decision-making needs.

Prerequisite: RECL 200.

Normal Grade Rules
3 units

RECL 203. Seminar in Recreation-Park Administration

A discussion of selected problems and their possible solutions dealing with personnel administration, planning of recreation and park areas and facilities, program organization, public relations, financial procedure, legal aspects of recreation, etc.

Normal Grade Rules
3 units

RECL 204. Research Methods in Recreation and Tourism

A critical examination of the various approaches and methods used in research; a survey of research design, data collection, data coding, and analysis in the recreation, tourism and related fields.

Prerequisite: RECL 202 or instructor consent.

Normal Grade Rules
3 units

RECL 205. Finance in Recreation

Examination of bases, sources and strategies for financing and marketing of recreation programs and services. Includes public, private-for-profit, nonprofit and commercial leisure service agencies.

Normal Grade Rules
3 units

RECL 210. Contemporary Theories in Recreation and Tourism

Reviews theoretical and empirical social science literature in recreation and tourism. Review, interpretation and evaluation of contemporary research in recreation, leisure, tourism, and related fields.

Prerequisite: RECL 200.

Normal Grade Rules
3 units

RECL 211. Therapeutic Recreation Practices

Development and analysis of individualized program plans based upon selected theoretical foundations; emphasis on assessment, program design, follow-up services. Major service delivery systems studied in depth with regard to implications for leisure service delivery affecting disabled or ill individuals.

Normal Grade Rules
3 units

RECL 212. Facilitation and Intervention in Therapeutic Recreation

Theories of intervention and facilitation integrated with methodology to recognize the interdependence of the individual and the environment. Direct and enabling technique application to the therapeutic recreation profession analyzed for situational effectiveness.

Normal Grade Rules
3 units

RECL 213. Advanced Professional Therapeutic Recreation Practices

Professional practices, including in-service and pre-service training, consultation and group facilitation; processes for addressing professional trends and issues, including credentialing, legislative processes, interdisciplinary service delivery and networking.

Prerequisite: RECL 211 and RECL 212.

Normal Grade Rules
3 units

RECL 215. International Tourism Trends and Issues

Analyze international tourism concepts, trends, and issues associated with development. Study goals and procedures for basic and applied tourism research and introduce varied information sources for independent research. Adopt a culturally sensitive perspective for interpreting information related to different cultures.

Normal Grade Rules
3 units

RECL 216. Marketing for Tourism and Recreation

Study of characteristics which define cultural groups around the world. Learn to adjust marketing approaches, materials, and technology to accommodate the different ways people communicate to attract specific markets. Includes field-based market research.

Normal Grade Rules
3 units

RECL 217. Information Technology and Tourism

Analysis of concepts, trends, and issues associated with technology and tourism development. History and applications of various information technologies in tourism businesses. Trends in technology and the impact on the travel industry.

Normal Grade Rules
3 units

RECL 218. Tourism Planning and Development

Review, analysis, and application of concepts, strategies, techniques, and approaches associated with destination tourism planning, development, and management. Emphasis is on integrated and sustainable tourism planning and development models at global, national, regional, and local/community levels.

Normal Grade Rules
3 units

RECL 219. Cultural and Heritage Tourism

Introduction to the concerns and issues involved in studies of heritage, tradition, historic preservation, public archaeology, and heritage tourism.

Normal Grade Rules
3 units

RECL 265. Graduate Research Seminar

Presentation, discussion, and evaluation of leisure research.

Prerequisite: RECL 200, RECL 202, or instructor consent.

Normal Grade Rules
3 units

RECL 270. Graduate Internship in Recreation and Tourism

A 12-week, 15 hours per week of applied management experience in a leisure service or tourism organization under the joint supervision of a faculty advisor and an organizational representative.

Prerequisite: RECL 200, RECL 202, RECL 204.

Normal Grade Rules
3 units

RECL 298. Special Studies

Individual work investigating special topics/problems through research and/or applied projects.

Prerequisite: RECL 202

Repeatable for credit
Mandatory CR/NC/RP
1-3 units

RECL 299. Master's Thesis

Supervised thesis in the field of recreation or tourism.

Prerequisite: Admission to candidacy for the master's degree; RECL 202

Repeatable for credit
Mandatory CR/NC/RP
1-6 units

SJSU SAN JOSÉ STATE UNIVERSITY

Academic Year 2019-2020

Course Descriptions

v1
July 1, 2019

ALL DATES, FEES & INFORMATION SUBJECT TO CHANGE WITHOUT NOTICE

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DESCRIPTION CONTENTS

School of Social Work Courses

GERONTOLOGY

LOWER DIVISION

GERO 099. Death, Dying and Religions
See RELS 099.
Normal Grade Rules
GE: EE
3 units

UPPER DIVISION

GERO 107. Aging and Society
Social, psychological and physiological aging processes. Implications of aging for individuals and societies, with emphasis on issues related to diversity, equality and gender in the U.S. GE Area: S

Prerequisite: Passage of the Writing Skills Test (WST) or ENGL/LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

Note: All SJSU Studies courses require completion of the WST and upper division standing.
Normal Grade Rules
GE: S
3 units

GERO 108. Health in Later Life
Normal age-related health changes and common illnesses in later life. Health status, behavior and attitudes of older adults. The continuum of health care services. Professional and ethical issues in service delivery.

Prerequisite: College biological sciences course.
Normal Grade Rules
3 units

GERO 111. Medical Ethics
See PHIL 111.
Normal Grade Rules
3 units

GERO 114. Psychology of Aging
See PSYC 114.
Normal Grade Rules
3 units

GERO 116. Aging and Nutrition
See NUFS 116.
Normal Grade Rules
3 units

GERO 117. Social Policy and Services in Aging
Social policy on aging from a historical perspective. Implications for service to the elderly. Indicators for future program projections.

Prerequisite: Upper division standing.
Normal Grade Rules
3 units

GERO 118. Long Term Care Services
History and organization of the continuum of long term care for U.S. families, financing and regulatory policies, and factors influencing the quality of care. Professional and ethical issues facing long term care providers.

Prerequisite: GERO 107 or HS 162.
Normal Grade Rules
3 units

GERO 122. Women in the Second Half of Life
The roles and problems of the older woman in a changing society. Societal attitudes, stereotypes, employment and interaction patterns. Opportunity for focus on specific areas of interest.

Prerequisite: Upper division standing.
Normal Grade Rules
3 units

GERO 127. Aging and Mental Health
Theories and concepts of psychological adaptation, common emotional problems, functional disorders and organic disorders in late life. Assessment, prevention and treatment of mental health problems of elderly individuals and their caregivers.

Prerequisite: PSYC 1 (or equivalent).
Normal Grade Rules
3 units

GERO 133. Gerontology Field Work
Supervised work experience in an organization providing services to older adults. Short-term projects, observation of organizational dynamics and individual skills development.

Prerequisite: Completion of 9 units in gerontology.
Repeatable for credit
Credit / No Credit
3 units

GERO 137. Families, Aging, and Diversity
Family relationships of older adults in diverse U.S. ethnic groups. Current patterns of family and formal assistance to elders with disabilities. Critical analysis of eldercare policies and services.

Prerequisite: Upper division standing.
Normal Grade Rules
3 units

GERO 156. Independent Living for the Aging and Disabled
See OCTH 156.
Normal Grade Rules
3 units

GERO 166. Medical Sociology
See SOCI 166.
Normal Grade Rules
3 units

GERO 180. Individual Studies
Individual work on special topics in gerontology by arrangement.

Prerequisite: Coordinator approval and upper division standing.
Repeatable for credit
Credit / No Credit
1-4 units

GERO 185. Leisure, Recreation and Aging
See RECL 185.
Normal Grade Rules
3 units

GRADUATE

GERO 251. Social Work with Aging Populations
See SCWK 251.
Normal Grade Rules
3 units

GERO 260. Multidisciplinary Health Promotion in Later Life
See NUFS 260.
Normal Grade Rules
3 units

GERO 265. Seminar in Cognitive Disorders
See EDSP 265.
Normal Grade Rules
3 units

GERO 268. Lifespan Development
See EDCO 268.
Normal Grade Rules
3 units

GERO 298. Special Project
Supervised research in the field of gerontology to be taken only with approval of the program coordinator.
Mandatory CR/NC/RP
3 units

GERO 299. Master's Thesis or Project
Supervised individual research in gerontology. Preparation for doctoral level study.

Prerequisite: Admission to candidacy for the master's degree and instructor consent.
Repeatable for credit
Mandatory CR/NC/RP
3-6 units

SOCIAL WORK

LOWER DIVISION

SCWK 010. Introduction to Social Welfare and Social Work

Social welfare institutions and the social work profession: its development, knowledge base, value system and specific areas of direct practice.

Normal Grade Rules
3 units

UPPER DIVISION

SCWK 100W. Writing Workshop

This course focuses on developing and enhancing writing and presentation skills vital to the social work profession in the following areas: research, grant writing, clinical documentation, and administration. GE Area: Z

Prerequisites: A3 or equivalent second semester composition course (with a grade of C- or better); Completion of core GE, satisfaction of Writing Skills Test and upper division standing.

Note: All SJSU Studies courses require completion of the WST and upper division standing. Must be passed with C or better to satisfy the CSU Graduation Writing Assessment requirement (GWAR).

Normal Grade Rules
GE: Z
3 units

SCWK 107. Aging and Society

See GERO 107.

Normal Grade Rules
GE: S
3 units

SCWK 110. Foundations of Social Work Practice

Introduction to the history, mission, values, skills and knowledge base of generalist social work practice within a transcultural perspective. Focus on social work practice with emphasis on those populations-at-risk who are disenfranchised and marginalized.

Prerequisite: Junior standing, Social Work majors only.

Normal Grade Rules
3 units

SCWK 111. Generalist Social Work Practice I

Knowledge, values and skills for generalist social work practice utilizing problem-solving methods with systems of all sizes. Focus on developing professional relationships, defining issues, communication skills, collecting data and assessing individuals from diverse backgrounds interacting with their environments.

Prerequisite: SCWK 110, SCWK 120, SCWK 130, SCWK 140.

Corequisite: SCWK 141.

Normal Grade Rules
3 units

SCWK 112. Generalist Practice II

Knowledge, values and skills for generalist social work practice with emphasis on families, groups, organizations and communities. Focus on transactions to optimize social well-being and empowerment of individuals, families and communities utilizing strengths and transcultural perspectives.

Prerequisite: SCWK 111 (with a grade of "C" or better).

Corequisite: SCWK 142.

ABC/No Credit
3 units

SCWK 120. Social Welfare Institutions and Policies I

Development of social work as a profession, including mission, values, ethics. Development and changes in the philosophy, legislative base and structures for social services as these affect social and economic justice and impact health and well-being.

Prerequisite: Junior standing, Social Work majors only.

Normal Grade Rules
3 units

SCWK 121. Social Welfare Institutions and Policies II

Methodology and framework for analyzing social policy and understanding institutional discrimination, particularly related to populations-at-risk and other disenfranchised groups. Political and organizational processes to influence policy development.

Prerequisite: SCWK 120, junior standing, Social Work majors only.

Normal Grade Rules
3 units

SCWK 130. Human Behavior in the Social Environment I

Theories and knowledge of bio-psycho-social development from birth to old age. The dynamics of interacting social systems and culture on human development. Theories and research on risk and resilience. Human diversity and populations-at-risk emphasized.

Prerequisite: Junior standing, Social Work majors only.

Normal Grade Rules
3 units

SCWK 131. Human Behavior in the Social Environment II

Theories and knowledge about families, groups, organizations, and communities from a systems perspective. The impact of discrimination, economic deprivation and oppression on populations-at-risk. Emphasis on the promotion of optimal health and well-being.

Prerequisite: junior standing., Social Work majors only.

Normal Grade Rules
3 units

SCWK 140. Introduction to Field Practicum

Direct involvement with community services to provide the student with exposure to clients/client systems prior to Field Practicum I. Six to eight hours weekly in community-based agencies and on-campus seminars.

Pre/Corequisite: SCWK 110 or consent of advisor. Social Work majors only.

Credit / No Credit
3 units

SCWK 141. Field Practicum I

Generalist social work practice with individuals, families and communities from a transcultural perspective in an agency under supervision. Sixteen hours per week required in placement.

Prerequisite: SCWK 110, SCWK 120, SCWK 130 and SCWK 140.

Corequisite: SCWK 111.

Credit / No Credit
2-5 units

SCWK 142. Field Practicum II

Generalist social work practice in an agency setting continued. Emphasis on individuals, small groups and communities from a transcultural perspective. Sixteen hours per week required in placement.

Prerequisite: SCWK 111, SCWK 141.

Corequisite: SCWK 112.

Credit / No Credit
2-5 units

SCWK 170. Introduction to Research Methods

Scientific and analytic approaches to building knowledge for social work practice, including ethical issues in social research. Evaluation of service delivery systems using qualitative and quantitative research methodologies.

Prerequisite: Junior standing , Social Work majors only.

Pre/Corequisite: STAT 95.

Normal Grade Rules
3 units

SCWK 175. Social Work Senior Seminar

An integrative capstone seminar reviewing current trends, problems and issues confronting the profession. Developments and challenges in California and the country for BA level generalist practitioners evaluated in light of the student's own personal and professional goals.

Pre/Corequisite: SCWK 175 is open to Social Work majors only; must be taken concurrently with SCWK 112 and SCWK 142; or taken in the semester immediately following completion of SCWK 142, and all other Social Work courses must have been completed.

ABC/No Credit
3 units

SCWK 180. Individual Studies

Individual work on special topics by arrangement.

Prerequisite: Department major.

Repeatable for credit
Credit / No Credit
1-4 units

SCWK 192. Social Work with Families

Exploration of various family forms, cultural factors and dynamics influencing family interaction with agencies and community. Practice strategies include assessment, defining strengths and focusing on interventions to promote health and well-being.

Prerequisite: SCWK 110, SCWK 120 or SCWK 130 (or equivalent).

Normal Grade Rules
3 units

SCWK 192I. Int'l Program Studies

Repeatable for credit
Mixed Grading
1-6 units

GRADUATE

SCWK 202. Social Policy and Services: History and Values

History of social welfare and work with emphasis on diverse populations, particularly Latinos/as, African Americans and Asian Americans. Social policy and social work values in relation to practice issues and social services.

Normal Grade Rules
3 units

SCWK 204. Social Policy Analysis

Frameworks for analyzing social policies using principles of social and economic justice. The role of policy in helping or deterring people in attaining well-being. Focus on diverse populations and populations-at-risk.

Prerequisite: SCWK 202.

Normal Grade Rules
3 units

SCWK 212. Human Behavior in Social Environment I

Systems and ecological models presented with the transcultural perspective provide the primary theoretical foundation. Life course perspective is applied from infancy to end of adult life cycle to understand behaviors of individuals and families with special emphasis on marginalized groups.

Note: This course satisfies graduate-level GWAR in this master's program.

Normal Grade Rules
GE: GWAR
3 units

SCWK 214. Human Behavior in Social Environment II

Systems and ecological models provide the primary theoretical foundation. Special focus is given to transcultural perspective within the contexts of mezzo (families and small groups) and macro social work (organizations and communities) with marginalized populations.

Prerequisite: SCWK 212.

Note: This course satisfies graduate-level GWAR in this master's program.

Normal Grade Rules
GE: GWAR
3 units

SCWK 215. Advanced Standing Bridge Integrated

Summer bridge course for the Advanced Standing Masters of Social Work Program. It is intended to supplement the foundational knowledge, skills, and values developed by qualified students in respective BSW program.

Normal Grade Rules
4 units

SCWK 220. Transcultural Generalist Practice I

Transcultural generalist practice with client systems, particularly individuals and families, at micro, mezzo and macro levels. Assessment, planning and implementing interventions within a professional relationship, utilizing a strengths perspective, focusing on Latinos/as, African Americans and Asian Americans.

Corequisite: SCWK 230.

Normal Grade Rules
3 units

SCWK 221. Transcultural Generalist Practice II

Transcultural generalist practice with client systems, particularly groups, organizations and communities to enhance well-being. Approaches and skills to ameliorate conditions affecting people adversely, particularly those of diverse backgrounds and populations-at-risk. Emphasis on promoting social and economic justice.

Prerequisite: SCWK 220 and SCWK 230.

Normal Grade Rules
3 units

SCWK 222. Transcultural Advanced Generalist Practice I: Family Systems Focus

Transcultural advanced generalist practice with an emphasis on family systems, diverse cultural patterns and varying family forms. Assessment of multi-system interactions with communities and organizations, focusing on enhancing the health and well-being of marginalized populations and populations-at-risk.

Prerequisite: SCWK 221.

Corequisite: SCWK 232.

Normal Grade Rules
3 units

SCWK 223. Transcultural Advanced Generalist Practice II: Community Systems Focus

Methods of community intervention at multiple levels focused on empowerment and developing the strengths of diverse groups, particularly Latino/a, African American, Asian American and other oppressed and marginalized populations. Includes community social work, assessment and interventions.

Prerequisite: SCWK 221.

Normal Grade Rules
3 units

SCWK 224. Advanced Generalist Practice With Spanish Speaking Populations

Analysis of culturally relevant services to linguistic minority Spanish-speaking population from a transcultural generalist perspective. Skills to include Spanish language interventions appropriate for cultural access, appropriate assessment, individual, family and group interventions and advocacy for client systems at all levels.

Prerequisite: SCWK 221.

Normal Grade Rules
3 units

SCWK 230. Social Work Practicum I

Development of transcultural practice skills with families, groups and individuals in their social contexts. Emphasis on developing professional roles and relationships, applying multi-system assessment and interventions, particularly with Latino/a, African American and Asian American clients/client systems.

Corequisite: SCWK 220.

Repeatable for credit
Credit / No Credit
1-6 units

SCWK 231. Social Work Practicum II

Development of skills to differentially assess the strengths and capacities of interacting individuals, families, groups, organizations and communities. Application, termination and evaluation of problem-solving interventions from a transcultural generalist practice perspective.

Prerequisite: SCWK 230.

Corequisite: SCWK 221.

Repeatable for credit
Credit / No Credit
1-6 units

SCWK 232. Social Work Practicum III

Development of advanced generalist practice skills with individuals, families, groups, organizations and communities from a transcultural perspective emphasizing family, community and policy practice. Development of skill to use self effectively with diverse clients, colleagues and community members from various backgrounds.

Prerequisite: SCWK 231.

Corequisite: Advanced Courses

Repeatable for credit
Credit / No Credit
1-6 units

SCWK 233. Social Work Practicum IV

Development of advanced generalist practice skills with the aged, children and youth, health/mental health or educational settings. Developing culturally competent skills to assess, plan, implement and evaluate interventions from transcultural and strengths perspectives to address family and community well-being.

Prerequisite: SCWK 232.

Corequisite: Advanced Courses

Repeatable for credit
Mandatory CR/NC/RP
1-6 units

SCWK 240. Research Methods and Design

Scientific method and problems of knowledge. Basic concepts and models of research methodology, qualitative research, program and practice evaluation in social work. Critical analysis of existing research on ethnic minorities and other populations-at-risk.

Normal Grade Rules
3 units

SCWK 242. Research Methods, Data Analysis and Evaluation

Basic concepts and models for research methodology applied to the analysis of data in social work. Emphasis on quantitative analysis using microcomputers.

Prerequisite: SCWK 240.

Normal Grade Rules
3 units

SCWK 243. Advanced Standing SW Bridge - Grad

Summer bridge course for the Advanced Standing Masters of Social Work Program. It is intended to supplement the foundational knowledge and skills needed for using research evidence to inform practice and policy.

Normal Grade Rules
2 units

SCWK 245. Management in Human Services

The organization and continuous operation of services delivery systems including the functions of management, decision-making, communication, authority, delegation, planning and staffing.

Notes: An elective.

Normal Grade Rules
3 units

SCWK 247. Collaborative Leadership in Social Service Contexts

Theory and practice of cross-systems collaboration in social services, grounded in an ecological and systems perspective. Emphasizes collaborative leadership and effective interdisciplinary collaboration in addressing complex social problems.

Pre-requisites: Undergraduates may enroll upon instructor approval.

Normal Grade Rules
1 unit

SCWK 250. Policy Practice in Aging

Critical analysis of the impact of policies on the elderly and their families, particularly those who are Latino/a, African American and Asian American. Assessment of organizations and policy implementation. Development of strategies to promote well-being and social change.

Prerequisite: SCWK 204.

Normal Grade Rules
3 units

SCWK 251. Social Work with Aging Populations

Knowledge and skill development for transcultural advanced generalist practice in aging settings. Emphasis on Latino/a, African American, Asian American aging clients/client systems. Conceptual frameworks for practice at micro, mezzo and macro levels.

Notes: An elective.

Normal Grade Rules
3 units

SCWK 260. Policy Practice in Child and Family Welfare

Critical analysis of the impact of social policies on children and families, particularly those who are Latino/a, African American and Asian American. Assessment of organizational structures and policy implementation. Development of strategies to promote well-being and social change.

Prerequisite: SCWK 204.

Normal Grade Rules
3 units

SCWK 261. Social Work Practice with Children

Skills and knowledge in working with high-risk children and families from an advanced generalist perspective. Focus on understanding of child and family development as well as assessment and intervention at various levels in a transcultural context.

Notes: An elective.

Normal Grade Rules
3 units

SCWK 262. Social Work Practice with Adolescents

Skills and knowledge in working with diverse populations of high-risk adolescents from an advanced generalist perspective. Focus on understanding adolescent and family development as well as assessments and interventions at various levels in a transcultural context.

Notes: An elective.

Normal Grade Rules
3 units

SCWK 263. Social Work and the Law

Analytical skills to understand the legal system, its functions, organization, jurisdiction and case processing methods. An examination of the legal environment of social work practice in selected settings: domestic violence, child abuse and neglect, sexual abuse and education.

Notes: An elective.

Normal Grade Rules
3 units

SCWK 265. Child Welfare Practice in Public and Government Systems

This course focuses on advanced child welfare practice relevant to public and government settings. It provides a transcultural, multi-systems approach to working with children, youth, families and communities within the child welfare system, and as they intersect with community-based organizations.

Prerequisite: SCWK 231

Corequisite: SCWK 232

Normal Grade Rules
3 units

SCWK 267. Advancing Child Welfare Practice Skills Through Simulation

Advanced practice seminar that utilizes a simulation model to provide depth and breadth in knowledge and skill acquisition regarding engagement, assessment, and intervention that promote child safety and the well-being of children and families in the child welfare system.

Prerequisite: SCWK 231

Corequisite: SCWK 232

Credit / No Credit
1 unit

SCWK 272. Social Work in Educational Settings

Examines the promotion of well-being and social change, with emphasis on attainment of educational goals. Individual and family needs are explored in the context of educational policies, organizational dynamics, pupil adjustment and assessment, life cycle development, and advocacy.

Prerequisite: SCWK 212, SCWK 214, SCWK 220, SCWK 221.

Normal Grade Rules
3 units

SCWK 280. Policy Practice in Health/Mental Health

Critical analysis of the impact of health/mental health policies on populations-at-risk, particularly those who are Latino/a, African American and Asian American. Assessment of organizations and policy implementation. Development of strategies to promote well-being and social change.

Prerequisite: SCWK 204.

Normal Grade Rules
3 units

SCWK 281. Social Work in Health/Mental Health

Knowledge and skill development for advanced generalist practice in health/mental health settings. Emphasis on Latino/a, African American and Asian American clients/ client systems interacting with service delivery systems. Conceptual frameworks for practice at micro, mezzo and macro levels. Social Work program elective.

Normal Grade Rules
3 units

SCWK 283. Psychopharmacology for Social Workers

Historical trends and specific cultural, ethnic, gender and age related issues of alcohol and drug use are presented. Psychotherapeutic drugs and the pharmacologic basis of medicines for psychiatric disorders and culturally competent treatment interventions for substance abuse will be discussed. Social Work program elective.

Normal Grade Rules
3 units

SCWK 285. Social Work and Social Problems

Examination of selected social problems related to the direct practice of social work that focus on in-depth knowledge of the problems and of the required direct practice skills and techniques.

Notes: An elective.

Repeatable for credit
Normal Grade Rules
3 units

SCWK 285ITL. Social Work and Social Problems: International Experience

Examination of selected social problems related to the direct practice of social work that focuses on in-depth knowledge of the problems and of the required direct practice skills and techniques across cultures.

Repeatable for credit
Normal Grade Rules
3 units

SCWK 287. Advanced Generalist Practice in Substance Abuse

An examination of clinical, policy, and practice issues regarding abuse and dependence of alcohol and other drugs. Analysis and utilization of micro, mezzo and macro considerations related to prevention, harm reduction, drug policies, and current intervention models and treatment approaches.

Notes: An elective.

Normal Grade Rules
1-3 units

SCWK 298A. Special Study A

Planning and implementation of research emphasizing culturally appropriate measures and design strategies. First part of a two-part special project course in which students produce a professionally written project demonstrating an understanding of the knowledge base underlying social work issues and appropriate interventions.

Prerequisite: SCWK 242

Repeatable for credit
Credit / No Credit
1-4 units

SCWK 298B. Special Study B

Planning and implementation of research emphasizing culturally appropriate measures and design strategies. Students continue their work from ScWk 298 A to produce a professionally written project demonstrating an understanding of the knowledge base underlying social work issues and appropriate interventions.

Prerequisite: SCWK 298A.

Repeatable for credit
Mandatory CR/NC/RP
1-4 units

SCWK 299. Master's Thesis or Project

Prerequisite: Admission to candidacy for the master's degree; approval of the college's research committee. Repeatable for a total of 4 units.

Repeatable for credit
Mandatory CR/NC/RP
1-4 units

Science Education Program Courses

SCIENCE

LOWER DIVISION

SCI 001. Academic Excellence Workshop
Cooperative learning activity to accompany selected College of Science courses and sections.

Corequisite: Enrollment in course and section accompanying workshop.

Notes: No credit toward requirements of the major or requirements of the minor for any science major or minor. May be used for university electives.

Misc/Lab: Activity 4 hours.

Repeatable for credit
Credit / No Credit
1-2 units

SCI 002. Success in Science
Emphasis on development of study skills, time management, and personal growth needed to transition from high school to university. Orientation to SJSU policies and procedures; and degree and career options in science. Guest lecturers, peer advisors, and community building. GE Area: E

Misc/Lab: Lecture 2 hour/activity 2 hours.

GE: E

Normal Grade Rules
GE: EE
3 units

SCI 075. Fundamentals of Leadership and Career Accelerator
This course is a foundational course designed to begin preparing students in their sophomore year or first year of transfer to SJSU to practice the leadership habits of mind and workplace skills needed to thrive in 21st century workplaces once they graduate from school. Given the increasingly competitive, and globalized job marketplace, this course enables participants to cycle through rounds of interactive experiences and practice to acquire "hard" and "soft" skills needed to succeed. Students will apply these skills in real-life leadership situations and build meaningful networks of peers and adults, all while activating their personal assets and deepening their sense of self and community.

Prerequisite: ENGL 1A

Misc/Lab: 2 hours lecture/ 2 hours lab

Normal Grade Rules
3 units

SCI 090. Success as Transfer Students
Emphasis on development of study skills, time management, and personal growth needed to transition from community college to university. Orientation to SJSU policies and procedures; and degree and career options. Guest lecturers, peer advisors, and community building.

Misc/Lab: Lecture 1 hour/activity 2 hours/recitation 1 hour.

Normal Grade Rules
2-3 units

UPPER DIVISION

SCI 101. Leadership and Career Accelerator
This is course is designed to prepare students for the increasingly competitive, globalized job marketplace. It is aimed at students in their junior year or first year of transfer, though all upper division students of all majors can participate. Through online, peer learning, interactive experiences, and reflection, students will build meaningful networks, discover their innate leadership, and cultivate the "hard" and "soft" skills and habits of mind needed to thrive in twenty-first century workplaces and make positive impact through their careers upon graduation. The course's primary text will serve as the foundation to the course, but will include additional articles and videos each week that are curated from a wide range of fields and that includes perspectives of both researchers and practitioners. Sci 75 and Sci 125 can not both be taken for credit.

Prerequisite: Upper division standing.

Misc/Lab: 2 hours lecture/ 2 hours lab

Normal Grade Rules
3 units

SCI 105. Integrated Science Teacher Enhancement
A thematic approach to the study of relevant topics and concepts in integrated science. Development of inquiry-based, hands-on classroom activities in integrated science.

Prerequisite: Teacher credential and/or instructor consent.

Repeatable for credit
Credit / No Credit
1-3 units

SCI 110. Global Themes of Science
The themes of energy, evolution, and systems & interactions are used to examine conceptual connections between biological, earth and physical sciences. Emphasis on strategies best suited to teach these unifying global themes of science. Prerequisite: BIOL 21; GEOL 103 or Instructor consent.

Normal Grade Rules
3 units

SCI 157SL. Community Action/Community Service
See COMM 157SL.

Normal Grade Rules
GE: S
3 units

SCI 180. Individual Studies
Work, under guidance, in special fields.

Prerequisite: Instructor consent.

Repeatable for credit
Credit / No Credit
1-4 units

SCI 184. Directed Reading
Assigned readings of selected books, journals and special papers chosen to fill gaps in training or to introduce new fields. Evaluation through weekly reports and conferences.

Prerequisite: Instructor consent.

Repeatable for credit
Credit / No Credit
1-4 units

GRADUATE

SCI 299. Master's Thesis
Thesis development for Plan A MA Natural Science students, to be carried out under direct supervision of a faculty member and committee. Seminar presentation required upon final completion of thesis.

Prerequisite: Admission to candidacy for the master's degree and selection of a thesis committee.

Repeatable for credit
Mandatory CR/NC/RP
1-6 units

UPPER DIVISION

SCI 1003. Workshop Facilitator Training
Practical collaborative education theory and techniques for academic excellence workshop facilitators.

Prerequisite: Current appointment as AEW Facilitator.

Notes: No Degree Credit.

Repeatable for credit
No Degree Credit
1 unit

SCIENCE EDUCATION

LOWER DIVISION

SCED 005. Human Development and the Natural World
See GEOL 005.

Normal Grade Rules
GE: EE
3 units

UPPER DIVISION

SCED 173. Secondary School Science

Theory and practice, instructional techniques, and materials for science in the secondary schools.

Pre/Corequisite: Passage of CSET 118 and 119 and secondary science education advisor approval.

Normal Grade Rules
3 units

SCED 174. Training to Teach

This is a service learning course in which students will investigate how people learn and how to teach as they are immersed in teaching roles in the San Jose community that involve them acting as: Instructors leading small groups in science after school activities, facilitators assisting teachers with student centered activities and tutors providing personalized assistance.

Pre-requisites: CHEM 001A or CHEM 030A, Math 19

Misc/Lab: Lecture 3 hours/Activity 3 hours.

Normal Grade Rules
3 units

SCED 175. Classroom Experiences in Science Teaching

The goal of this hybrid online/face-to-face course is to provide students with the opportunity to complete their 45 hours of science teaching observation in California public schools while also reflecting on teaching and learning practices. The course will emphasize the multi-faceted aspects of the teaching profession and most importantly will provide a forum for sharing experiences with other students who are similarly placed. The course will fulfill pre-professional teaching observation experience required of most Single Subject Teacher Credential Programs.

Prerequisites: Sophomore or upper division standing. Not available to Open University Students.

Repeatable for credit
Normal Grade Rules
1 unit

SCED 184Y. Student Teaching II - Classroom Teaching

Minimum 80-120 class hours of classroom, lab or field teaching in appropriate single subject, grades K-12 and related teaching activities/seminar.

Prerequisite: SCED 173 (Science Credential Candidates must complete SCED 173 with a grade of "B" or better, "B-" not accepted) and joint approval of the Science Education Program and the Secondary Education Department. Not available to Open University Students.

Repeatable for credit
Credit / No Credit
4 units

SCED 184Z. Student Teaching III - Classroom Teaching

Minimum 80-120 class hours of classroom, lab or field teaching in appropriate single subject, grades K-12 and related teaching activities/seminar.

Prerequisite: SCED 173 (Science Credential Candidates must complete SCED 173 with a grade of "B" or better, "B-" not accepted) and joint approval of the Science Education Program and the Secondary Education Department. Not available to Open University Students.

Notes: May be in different subject/school and will be at a different grade level.

Repeatable for credit
Credit / No Credit
4 units

GRADUATE

SCED 204. Earth Systems Science for Teachers

See GEOL 204.

Repeatable for credit
Normal Grade Rules
3 units

SCED 205. Methods of Research

Introduction to techniques and procedures of scientific research. Each student required to prepare and defend a working outline of a master's thesis or project in his or her area of concentration.

Misc/Lab: Lecture/seminar 3 hours.

Notes: Introductory course in statistics or equivalent recommended.

Normal Grade Rules
3 units

SCED 220. Theories and Practices in Science Education

Analysis of current trends in science curriculum and instruction. Orientation for the philosophy and scope of the program. Emphasis on development of a theory of instruction and curriculum in science with implications for practice.

Misc/Lab: Lecture/seminar 3 hours.

Notes: Teaching experience preferred. Must be taken during first year in program. This course satisfies graduate-level GWAR in this master's program.

Normal Grade Rules
GE: GWAR
3 units

SCED 255. Advanced Natural Science

Selected topics in natural science or science education.

Repeatable for credit
Normal Grade Rules
1-3 units

SCED 285. Seminar

Provides a format for the presentation and discussion of original work by faculty, guest investigators and graduate students.

Repeatable for credit
Normal Grade Rules
3 units

SCED 297. Science Education Research

Research in science education under the supervision of a faculty member associated with the science education program.

Repeatable for credit
Credit / No Credit
1-3 units

SCED 298. Research

Project development for Plan B MA Natural Science students, to be carried out under direct supervision of a faculty member and committee. Seminar presentation required upon final completion of project.

Repeatable for credit
Mandatory CR/NC/RP
1-6 units

SCED 375. Colloquium in Science Education

Resources and innovations for science curriculum development and instruction. An interface with people and facilities which can enhance Bay Area science instruction.

Corequisite: SCED 184Y or SCED 184Z.

Notes: Also open to experienced teachers.

Credit / No Credit
2 units

UPPER DIVISION

SCED 1290R. Culminating Experience Supervision

Continued Work on Thesis

Prerequisite: Outstanding RP grade in a preceding semester in a project or thesis class.

Note: No Degree Credit.

Repeatable for credit
No Degree Credit
1 unit

Sociology and Interdisciplinary Social Sciences Department Courses

ASIAN AMERICAN STUDIES

LOWER DIVISION

AAS 020. Women of Color in the US
See WOMS 020.
Normal Grade Rules
GE: D2
3 units

AAS 025. The Changing Majority: Power and Ethnicity in America
See CCS 025.
Normal Grade Rules
GE: D2
3 units

AAS 033A. Asian Americans in U.S. History I
Historical and political processes shaping U.S. culture, institutions and society from before European expansion to the Civil War. Focus on the roles of workers, immigrants, and people of color from a comparative perspective. GE Area: D2

Note: Must complete the entire sequence (AAS 33A and 33B) to satisfy U.S. History, U.S. Constitution and California Government (US1,2,3).
Normal Grade Rules
GE: D2
3 units

AAS 033B. Asian Americans in U.S. History II
Historical and political factors that shaped U.S. culture, institutions and society from the mid-nineteenth century to the current era. Focus on experiences of Asian Americans as well as other immigrants and people of color. GE Area: D3, and American Institution Requirement: US1,2,3

Prerequisite: AAS 33A

Note: Must complete the entire sequence (AAS 33A and 33B) to satisfy U.S. History, U.S. Constitution and California Government (US1,2,3).
Normal Grade Rules
GE: M7
3 units

UPPER DIVISION

AAS 125. Filipino Experience in the United States
Filipinos in the United States beginning with immigration and culminating with analysis of past and contemporary issues facing Filipino Americans.
Normal Grade Rules
3 units

AAS 133. Introduction to Social Issues in Planning
See URBP 133.
Normal Grade Rules
4 units

AAS 145. Urban Policy and Its Impact on Inner City Residents
See AFAM 145.
Normal Grade Rules
4 units

AAS 170. Special Topics in Asian American Studies
Focus varies each semester and is announced in the schedule of classes. Repeatable for credit with program coordinator approval.
Repeatable for credit
Normal Grade Rules
3 units

AAS 175. Asian American Communities
Asian American demography, institutions and contemporary issues. GE Area: S

Prerequisite: Passage of the Writing Skills Test (WST) or ENGL/LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

Note: All of SJSU Studies courses require completion of the WST and upper division standing.
Normal Grade Rules
GE: S
3 units

AAS 180. Individual Studies
Individual study and research.

Prerequisite: Not available to Open University Students.
Repeatable for credit
Credit / No Credit
1-4 units

AAS 185. Multicultural Perspectives within American Society
Examination of historical and sociocultural perspectives of American ethnic minorities. Theoretical and methodological approaches to the study of American ethnic minorities. GE Area: S

Prerequisite: Passage of the Writing Skills Test (WST) or ENGL/LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

Note: All SJSU Studies courses require completion of the WST and upper division standing.
Normal Grade Rules
3 units

AAS 186. The Vietnamese Experience in America
The experience of Vietnamese refugees from their exodus after the end of the Vietnam War in 1975 to their resettlement in America, emphasizing processes by which a new immigrant group is incorporated into the society.

Prerequisite: Upper division standing.
Normal Grade Rules
3 units

AAS 190. Internship
On-site experience with an Asian American community organization. Regular class meetings scheduled to discuss knowledge, skills and ideas related to the internship experience. Repeatable for credit with program coordinator approval.

Prerequisite: AAS 33B or instructor consent.
Repeatable for credit
Credit / No Credit
1-4 units

AAS 192. History of Japanese Americans
The Japanese in America from approximately 1800. Includes relocation, wartime conditions, post-war history and contemporary situations.
Normal Grade Rules
3 units

SOCIOLOGY

LOWER DIVISION

SOCI 001. Introduction to Sociology
How does society affect individual behavior and how does individual behavior affect society? Influence of social institutions and arrangements (family, school, workplace, politics, etc.) on roles, groups, values. Basic sociological theories and methods. Careers, specializations. Required for majors, minors. GE Area: D1
Normal Grade Rules
GE: D1
3 units

SOCI 015. Statistical Applications in the Social Sciences
Introduction to statistical applications, particularly statistical inference, including central tendency, variation, normal distributions, probability, estimation, hypothesis testing, measures of association, correlation, linear regression and the analysis of variance. GE Area: B4

Prerequisite: Math Enrollment Category M-I, M-II, or M-III, or completion of a GE Area B4 course with a grade of C- or better. Corequisite weekly supported instruction required for Enrollment Category M-III, and recommended for M-II.
Normal Grade Rules
GE: B4
3 units

SOCI 057. Community Involvement and Personal Growth

Human development in community context, with an emphasis on civic responsibility. The influence of community engagement on individual physiological, social/cultural, and psychological well-being. Participation in a service-learning project in a multicultural organization. GE Area: E

Normal Grade Rules
GE: EE
3 units

SOCI 080. Social Problems

Sociological analysis of selected contemporary social problems such as housing and homelessness, economy and employment, environment and consumerism, family and divorce, crime and drugs, politics and media, race and gender, wealth and poverty, war and peace. Required for majors. GE Area: D3

Normal Grade Rules
GE: D3
3 units

UPPER DIVISION

SOCI 100W. Writing Workshop

Practice in improvement of writing and research skills appropriate to the field of sociology, including formal reports, journals and articles. GE Area: Z

Prerequisite: Required for Sociology Majors, SOCI 1, A3 or equivalent second semester composition course (with a grade of C- or better); Completion of core GE, satisfaction of Writing Skills Test and upper division standing.

Note: All SJSU Studies courses require completion of the WST and upper division standing. Must be passed with C or better to satisfy the CSU Graduation Writing Assessment requirement (GWAR).

Normal Grade Rules
GE: Z
3 units

SOCI 101. Social Theory

Comparative analysis of micro and macro sociological theories and their origins, including, but not limited to, conflict theories, consensus theories, structural functionalism, symbolic interaction and recent theoretical developments. Required for majors.

Prerequisite: SOCI 1 (or equivalent) and upper division standing.

Pre/corequisite: SOCI 100W.

Normal Grade Rules
3 units

SOCI 102. Introduction to Statistics

Introduction to measures of central tendency, variation, correlation and regression, probability, estimation and hypothesis testing.

Prerequisite: SOCI 1 (or equivalent).

Normal Grade Rules
3 units

SOCI 103. SPSS Computer Analysis

Statistical analysis of social science date using SPSS. Online course with periodic required on-campus meetings.

Prerequisite: SOCI 1 (or equivalent) and must have completed or be concurrently enrolled in an introductory statistics course.

Misc/Lab: Activity 2 hours.

Normal Grade Rules
1 unit

SOCI 104. Quantitative Research Methods

Quantitative research methods including survey research design, hypothesis formulation, questionnaire and interview design, scaling, sampling and data preparation and SPSS analysis. Completion of a class research project plus individual research reports. Required for majors.

Prerequisite: SOCI 1 or equivalent, SOCI 15 or SOCI 102 or approved Statistics course from another school; SOCI 100W, SOCI 101 and upper division standing.

Normal Grade Rules
3 units

SOCI 104B. Advanced Quantitative Research Methods

Quantitative research project, typically applied, focused on a particular topic. Emphasis is given to research on local issues. Students will define research problems, design appropriate data gathering methods, collect data, conduct data analyses, and submit written research reports in professional formats.

Prerequisites: SOCI 001, SOCI 15 or SOCI 102, SOCI 100W, SOCI 101, SOCI 104.

Normal Grade Rules
3 units

SOCI 105. Qualitative Research Methods

Philosophy and logic of research design, interviewing techniques, field methods, issues of participant observation, theoretical perspectives, content analysis and qualitative microcomputer techniques. Required for Sociology majors.

Prerequisite: SOCI 1 or equivalent, SOCI 100W, SOCI 101 and upper division standing.

Normal Grade Rules
3 units

SOCI 105B. Advanced Qualitative Research Methods

Involves planning and conducting an in-depth research project utilizing interviews and/or participant observation. Students will design research project, collect data and take field-notes, code and analyze data, and write-up results. Project may involve exploration of a local issue.

Prerequisites: SOCI 001, SOCI 100W, SOCI 101 and SOCI 105.

Normal Grade Rules
3 units

SOCI 116. Global Society

Examination of global social issues, evaluation of the impact of change on world communities and analysis of the response of specific groups to emerging problems and opportunities. Required for majors.

Prerequisite: SOCI 1 or equivalent.

Normal Grade Rules
3 units

SOCI 118. Sociology of Human Rights and Social Justice

Analyze meanings and practices of human rights violation and promotion by exploring the social consequences of issues such as war crime, sexism, migrant rights, and social displacement and by reflecting on prevailing and alternative institutions for social justice.

Prerequisite: SOCI 001 or equivalent

Normal Grade Rules
3 units

SOCI 120. Contemporary Social Issues

A current issue in contemporary society. Content differs each semester. Repeatable for 6 unit maximum of SOCI 120, SOCI 123 or any combination.

Prerequisite: SOCI 001 or equivalent.

Repeatable for credit
Normal Grade Rules
3 units

SOCI 122. Women in the Second Half of Life

See GERO 122.

Normal Grade Rules
3 units

SOCI 127. Community-Based Participatory Research

See ENVS 127.

Normal Grade Rules
3 units

SOCI 140. Sociology of Media

Examines the historical development of popular mass media and its role in contemporary society. Explores the relationship between culture, social behavior, and various media forms. Analyzes how gender, race, class, and sexuality have been depicted and represented in media images.

Prerequisite: SOCI 001.

Normal Grade Rules
3 units

SOCI 141. Environmental Sociology

This course will will analyze how human beings interact with their environment from both macro and micro sociological perspectives. The course will address a number of other relevant topics, including environmental classism, environmental racism and policy responses to environmental problems.

Prerequisite: Upper Division Standing

Normal Grade Rules
3 units

SOCI 142. Critical Native American Studies

Investigation of current and historical issues Indigenous peoples in the United States face or have faced. Unpacks the complex relationship Native nations have developed with the United States, and the impact the government-to-government relationship has on Indigenous societies.

Normal Grade Rules
3 units

SOCI 145. Community Mental Health

See HS 145.

Normal Grade Rules
3 units

SOCI 146. Work, Power, and Leisure

Explores power in organizational settings where we work and play, and how those settings affect the family, the economy and communities. Settings examined may include corporations, cooperatives, social change organizations, community organizations, non-profit organizations such as hospitals and schools.

Prerequisite: SOCI 1 or equivalent.

Normal Grade Rules
3 units

SOCI 151. Violence in the Family

A sociological examination of violence in families focusing on the causes and consequences of violence and on the ways in which various social institutions and community agencies respond to violence among intimates.

Prerequisite: SOCI 1.

Normal Grade Rules
3 units

SOCI 154. Sociology and Non-Conforming Behavior

Sociological analysis of behavior outside of social conventions including crime, mental illness, suicide and chemical dependency.

Prerequisite: SOCI 1 or equivalent.

Normal Grade Rules
3 units

SOCI 160. Immigration and Identity

Examination of topics related to immigration and population movements. Includes the historical context of major migrations, legal, political and social issues and debates, opportunities, prejudices, immigrant communities, intergenerational tensions, and social and personal identity pressures.

Prerequisite: SOCI 1 or equivalent.

Normal Grade Rules
3 units

SOCI 161. City Life

The city as a setting for diverse lifestyles. Challenges facing urban dwellers and adaptive strategies they take. Comparison of city, suburb and rural countryside as social environments.

Prerequisite: Upper Division or instructor consent

Normal Grade Rules
3 units

SOCI 162. Race and Ethnic Relations

Analysis of racial and ethnic groups in American society; contacts and conflicts; prejudice and discrimination; dominant and subordinate group status; social structure of racial and ethnic inequality within society. Comparison of global race and ethnic relations. GE Area: S

Prerequisite: Passage of the Writing Skills Test (WST) or ENGL/LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

Note: All SJSU Studies courses require completion of the WST and upper division standing.

Normal Grade Rules
GE: S
3 units

SOCI 163. Social Change

Analysis of causes, consequences and the role of individuals, organizations and social structures in producing social change.

Prerequisite: SOCI 1 or equivalent.

Normal Grade Rules
3 units

SOCI 164. Social Action

The tactics and strategies of social action. Topics may include applying social action to the local community, studying current and past U.S. and international social action organizations, or examining theories of social movements. Repeatable once when content changes.

Prerequisite: SOCI 1 or equivalent.

Repeatable for credit
Normal Grade Rules
3 units

SOCI 165. Poverty, Wealth and Privilege

An examination of the causes and consequences of inequality along the dimensions of social class, race/ethnicity, gender, citizenship status, and/or sexualities. Approach may be local, national or global.

Prerequisite: SOCI 1 or equivalent.

Normal Grade Rules
3 units

SOCI 166. Medical Sociology

Sociological analysis of medical and mental health institutions, values and roles. Patient-doctor interaction, influence of hospital structure on health care, social class and illness, cultural determinants of illness and related areas of old age (gerontology) and death.

Prerequisite: SOCI 1 or equivalent.

Normal Grade Rules
3 units

SOCI 169. Political Sociology

Analysis of cultural, social and institutional foundations of political policies and actions. Emphasis on patterns affecting political behavior and processes in the industrialized and developing countries.

Prerequisite: SOCI 1 or equivalent.

Normal Grade Rules
3 units

SOCI 170. Sociology of Family

Examines the historical development of family in the context of social, cultural, political, and economical inequalities, and how intersections of gender, race, class, nationality, sexuality, and age impact understandings of family and intimacy. Explores relationships within families and new family forms.

Prerequisite: SOCI 001.

Normal Grade Rules
3 units

SOCI 171. Person and Society

Analyzes our "self" as socially created and maintained through everyday interactions. Explores how individuals manage and protect self identity in settings, e.g. school, family, work. Effects of race/ethnicity, gender, sexuality, and age on definitions of self and reality.

Prerequisite: SOCI 1 or instructor consent.

Normal Grade Rules
3 units

SOCI 172. Lesbian, Gay, Bi, Transgender Studies

Explores lesbian, gay, bisexual, transgender, and intersex communities. Analyzes sexual behavior, attitudes, and identities from historical, cross-cultural, and "insider" and "outsider" perspectives. Presents social reactions to LGBT movements and persons. Includes current stereotypes, misinformation, and movements to achieve equality.

Prerequisite: SOCI 001.

Normal Grade Rules
3 units

SOCI 173. Socialization and Identity

Personality formation in the context of family, social interaction and institutions of socialization such as workplace, family and community. Emphasis on childhood and the social processes that mold basic beliefs and values in the formation of adult identity.

Prerequisite: SOCI 001.

Normal Grade Rules
3 units

SOCI 174. Sexualities

Examines diverse social constructions of sexual intimacy, meanings, identities, practices, and power embedded in relationships, communities and organizations. Sociological themes of morality, control, sexual citizenship, science and the production of sexual subjects, and the political economy of sex may be examined.

Prerequisite: SOCI 001.

Normal Grade Rules
3 units

SOCI 175. Sociology of Masculinities and Femininities

Examination and analysis of social construction of gender through interaction and social institutions. Explores gender-based identities and how intersections of gender, race, class, and sexuality shape men's and women's experiences. Examines theories of gender and gender-based social movements.

Prerequisite: SOCI 001.

Normal Grade Rules
3 units

SOCI 176. Sociology of Everyday Life

Examination of micro-sociology, small group processes, and interactions. Using the framework of Everyday Life, this includes studies of power, status, communication, cooperation, conflict resolution, task performance. Provides understanding of small formal and informal groups, work groups and intimate relationships.

Prerequisite: SOCI 001 or instructor consent

Normal Grade Rules
3 units

SOCI 177. Sociology of Education

This course applies sociology of education theory to the analysis of the relationship between society and education. The course focuses on race/ethnicity, class and gender in the U.S. educational system.

Prerequisites: Upper division standing or instructor consent.

Normal Grade Rules
3 units

SOCI 178. Sociology of Childhood

Examination of sociological issues, theories, and research on childhood from infancy to adolescence, including the role of social institutions in shaping the childhood experience and the emergence of peer cultures that change societies.

Prerequisite: SOCI 001.

Normal Grade Rules
3 units

SOCI 179. Sociology of Higher Education

This course will examine the institution of higher education and its relationship to and with society. The course will address a number of other relevant topics, including educational inequalities, student debt and consequences of policy.

Prerequisite: Upper division Standing

Normal Grade Rules
3 units

SOCI 180. Individual Studies

Prerequisite: Instructor consent and department chair approval.

Repeatable for credit
Credit / No Credit
1-4 units

SOCI 181. Service Internship

Supervised placement in practical situations where sociologists are employed, including correctional services, community planning, industry, research, social action and social welfare agencies.

Prerequisite: SOCI 1 or equivalent, SOCI 100W, SOCI 101 and upper division standing, or graduate standing. Department Chair approval.

Repeatable for credit
Credit / No Credit
1-6 units

SOCI 181B. Sociology Career Capstone

Capstone course to expand undergraduate senior opportunities and options. Analyzes trends in sociology; explores employment and careers, reflection and assessment of learning in the major.

Prerequisites: SOCI 001, SOCI 100W, SOCI 101, and SOCI 104 or SOCI 105.

Note: Students must have taken at least one of the required research method courses before enrolling in the capstone course.

Normal Grade Rules
3 units

SOCI 193. Behavioral Science in Practice

See ANTH 193.

Normal Grade Rules
3 units

SOCI 199H. Senior Honors Thesis

Preparation and writing of an original project. Repeatable for a total of 4 units.

Prerequisite: Sociology Honors Program student.

Repeatable for credit
Mandatory CR/NC/RP
1-4 units

GRADUATE

SOCI 200. Sociological Practice

Introduces graduate students to the theoretically informed practice of sociology with a particular emphasis on the analysis of social problems. Covers topics such as program evaluation, community and institutional research, and policy advocacy.

Prerequisite: Graduate Standing

Normal Grade Rules
3 units

SOCI 201. Graduate Sociological Theory

Introduction to the theories and concepts sociologists use in the study of society. The course emphasizes contemporary social theories, grounded in the classical canon of Marx, Durkheim, and Weber. Application of theory to contemporary social problems. Content may vary with instructor.

Prerequisite: Graduate Standing.

Note: This course satisfies graduate-level GWAR in this master's program.

Normal Grade Rules
GE: GWAR
3 units

SOCI 204. Quantitative Data Analysis

Covers foundations of statistical analyses as well as the statistical techniques most commonly practiced by quantitative social science researchers such as univariate descriptive statistics, bivariate relationships, and multivariate modeling.

Prerequisite: Graduate Standing

Normal Grade Rules
3 units

SOCI 205. Seminar in Qualitative Research Methods

Involves planning and conducting an in-depth research project utilizing interviews and/or participant observation. Students will design research project, collect data and take field-notes, code and analyze data, and write-up results. Project may involve exploration of a local issue.

Prerequisite: Graduate Standing

Normal Grade Rules
3 units

SOCI 216. Seminar in Global Topics

Explores selected areas of interest in the sociological study of social processes, institutions, and organizations globally, transnationally, and internationally. Course content varies.

Prerequisite: Graduate Standing

Repeatable for credit
Normal Grade Rules
3 units

SOCI 223. Seminar in Sociological Issues

Analysis of a current issue in sociology which is not covered by other graduate seminars. Content differs each semester. Repeatable once with advisor consent when content changes.

Repeatable for credit
Normal Grade Rules
3 units

SOCI 254. Seminar in Deviance and Social Control

Historical and comparative theories of deviance, its function in society and its relation to formal and informal systems of regulation and control.

Normal Grade Rules
3 units

SOCI 262. Seminar in Race and Ethnic Relations

Analysis of sociological theories of race relations and racism, social structural conditions of race and racial identity formation, society's institutional policies and practices that affect racial inequality.

Prerequisite: Graduate Standing

Normal Grade Rules
3 units

SOCI 263. Seminar in Social Change
Theories of the origins and processes of social change. Analysis of efforts to control or to produce social change. Problems of research on the causes, effects and prediction of social change.

Normal Grade Rules
3 units

SOCI 270. Seminar in Sociology of Family
Comparative analysis of institutional forms and family small group systems including alternative life styles and minority families. Problems of the family. Changes in family roles and in family law.

Prerequisite: Graduate Standing

Normal Grade Rules
3 units

SOCI 275. Seminar in Gender Issues
Analysis of contemporary gender issues including an examination of existing gender theories and ways in which gender intersects with other forms of inequality. Focus on social institutions such as family, media, and workplace in order to examine the social, economic, and cultural factors that create gender and shape understandings of femininity and masculinity.

Prerequisite: Graduate Standing

Repeatable for credit
Normal Grade Rules
3 units

SOCI 281. Internship in Sociology
Supervised placement in practical situations where sociologists are employed: correctional services, community planning, industry, counseling agencies and others. Course is repeatable for a total of 6 units.

Notes: Open to graduate students by arrangement with the department.

Repeatable for credit
Credit / No Credit
1-6 units

SOCI 298. Special Study
Advanced individual research and projects. May not be related to thesis topic. Course is repeatable for a total of 4 units.

Prerequisite: Consent of instructor and approval by graduate advisor or department chair.

Repeatable for credit
Mandatory CR/NC/RP
1-4 units

SOCI 299. Master's Thesis or Project
Prerequisite: Consent of thesis committee chair and approval by graduate advisor or department chair.

Repeatable for credit
Mandatory CR/NC/RP
1-6 units

UPPER DIVISION

SOCI 1290R. Culminating Experience Supervision
Continuing analysis of data and writing of thesis.

Prerequisites: Outstanding RP in a preceding semester for a Thesis or Special Project course.

Note: No Degree Credit.

Repeatable for credit
No Degree Credit
1 unit

WOMEN'S STUDIES

LOWER DIVISION

WOMS 005Q. Gender, Race & Sexuality in Media
This course uses a cultural studies approach to explore the production and consumption of contemporary media in our everyday lives with a focus on race, class, gender, sexuality, and nation. GE Area: D1

Prerequisite: First term freshmen only.

Note: All courses with a 'Q' suffix are designated as First Year Experience courses.

Normal Grade Rules
GE: D1
3 units

WOMS 010. Women, Gender, and Sexuality Studies
Interdisciplinary introduction to core concepts and analytical tools addressing the diversity of human experience cross cut by gender, sexuality, embodiment, and class location. Students will become familiar with key contemporary and historical debates in both global and local contexts. GE Area: D1

Normal Grade Rules
GE: D1
3 units

WOMS 020. Women of Color in the US
Constructs knowledge of the historical and contemporary experience of women of color. Focuses on Native American, African American, Latina, and Asian American women and considers contributions they have made to the shaping of the nation. GE Area: D2

Normal Grade Rules
GE: D2
3 units

UPPER DIVISION

WOMS 101. Sex, Power, and Politics
Multidisciplinary introduction to traditional and new images, roles, experiences, ethnic similarities and differences, and contemporary problems of American women. GE Area: S Prerequisite: Passage of the Writing Skills Test (WST) or ENGL/LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended. Note: All SJSU Studies courses require completion of the WST and upper division standing.

Normal Grade Rules
GE: S
3 units

WOMS 102. The Global Study of Women
This course will be a survey of literature on the interaction of gender and forces of globalism. GE Area: V

Prerequisite: Passage of the Writing Skills Test (WST) or ENGL/LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

Note: All SJSU Studies courses require completion of the WST and upper division standing.

Normal Grade Rules
GE: V
3 units

WOMS 107. Psychology of Women
See PSYC 107.

Normal Grade Rules
3 units

WOMS 112. Women in the Global Economy
Women's participation in the economy, US and internationally: paid employment, consumption, subsistence labor, reproduction, volunteerism. It connects daily life activities with international economic trends, with particular attention to race, class, implications for families and strategies for equity.

Prerequisite: WOMS 10, WOMS 20, WOMS 101 or instructor consent.

Normal Grade Rules
3 units

WOMS 114. Politics of Mothering and Reproduction
Explore contemporary definitions and values inscribed in issues pertaining to mothers and reproduction. It will be built upon three literatures: discourses of law and legality, discourses of nature and science, and discourses based in feminist thinking.

Prerequisite: Upper Division standing or instructor consent.

Normal Grade Rules
3 units

WOMS 120. Special Topics in Women's Studies
Focus announced in the schedule of classes. Repeatable for credit with program coordinator approval.

Prerequisite: WOMS 10, WOMS 20, WOMS 101 or instructor consent.

Repeatable for credit
Normal Grade Rules
3 units

WOMS 121. Philosophy and Feminism
See PHIL 121.

Normal Grade Rules
3 units

WOMS 122. Women in the Second Half of Life
See GERO 122.

Normal Grade Rules
3 units

WOMS 131. Gender, Sexuality, and Religion
See RELS 131.

Normal Grade Rules
3 units

WOMS 156. Black Women Writers: Race, Culture and Resistance
See AFAM 156.

Normal Grade Rules
3 units

WOMS 160. Queering Gender, Race, and Class
Queer analysis of race and class diversity; social, political, and economic hierarchies of race, class, and gender in the U.S. Topics may include sexuality, racism, LGBT experience, the welfare system.

Normal Grade Rules
3 units

WOMS 169. Sexualities and the Body
This course explores the social construction of sexuality and the body from a feminist perspective. It investigates various aspects of sexuality and gendered bodies including identity, community, and social movements based on intersections of race, gender, sexuality, culture, and nation.

Prerequisite: Upper Division Standing or instructor consent.

Normal Grade Rules
3 units

WOMS 175. Sociology of Masculinities and Femininities
See SOCI 175.

Normal Grade Rules
3 units

WOMS 180. Individual Studies
Individual work on special topics by arrangement.

Prerequisite: Minor or emphasis in women's studies.

Repeatable for credit
Credit / No Credit
1-4 units

WOMS 182. Women in Literature
See ENGL 182.

Repeatable for credit
Normal Grade Rules
4 units

WOMS 187. Feminist Perspectives on Gender and Education in the U.S.
The role of gender in the educational system in the United States from both a historical and contemporary context. We will focus on the significance of schools as the primary socializing institution for boys and girls.

Prerequisite: Junior standing or instructor consent.

Repeatable for credit
Normal Grade Rules
3 units

WOMS 189. Islamic Perspectives on Gender
Contemporary feminist theories analyze premises of gender roles in Islamic cultures and variety of sexual expressions. This class will sensitize students to the diversity of Islamic cultures and communities, in addition to geographical, political, and social locations, like ethnicity and class affect the gender debate in Islamic perspectives.

Prerequisite: Upper division standing or Instructor Consent.

Notes: Required for topical major and minor in Women's Studies.

Normal Grade Rules
3 units

WOMS 190. Internship
On-site experience with community or campus organization or other agency involved with women's issues. Individual and group advising augments the experiential learning. Repeatable for credit with program coordinator approval.

Prerequisite: WOMS 101 or instructor consent.

Repeatable for credit
Credit / No Credit
1-4 units

Technology Courses

TECHNOLOGY

LOWER DIVISION

TECH 020A. Computer-Aided-Graphics

Introduction to Computer-Aided-Graphical communication tools. Orthographic projections, section and auxiliary views and dimensioning standards. Development of visualization and technical sketching skills in conjunction with orthographic and pictorial projections. Dimensioning and tolerancing utilizing 2D and 3D commercially available software.

Misc/Lab: 1 hour lecture and 3 hours lab

Normal Grade Rules
2 units

TECH 025. Introduction to Materials Technology

Designed to introduce students to materials used to make consumer and commercial products. Including metals, plastics, and composites. How materials impact our lives and standard of living. Materials selection and the role of experimentation, testing and evaluation procedures.

Prerequisites: Math 008 or equivalent

Corequisites: Chem 001A or 030A or equivalent

Misc/Lab: Lecture 2 hours/lab 3 hours.

Normal Grade Rules
3 units

TECH 030. Introduction to Python Programming

Introduction to Python programming, data types, arithmetic and strings, conditional execution, loops, functions, lists and files, exception handling, sets and dictionaries. Prerequisite: MATH 71 or MATH 30 or MATH 30P

Normal Grade Rules
3 units

TECH 031. Quality Assurance and Control

Introduction to concepts and statistical methods that companies use to manage and improve quality. Sampling inspection, statistical process control, quality function deployment, cost of quality, design of experiment and Taguchi's method for designing in quality.

Prerequisite: BUS 090 or equivalent.

Normal Grade Rules
3 units

TECH 041. Machine Shop Safety

Introduction to basic machine shop safety and skills. Fabricating of mechanical components and assemblies from engineering drawings, performing tolerance inspection, developing fabrication process plans.

Prerequisite: ME 020, TECH 020, CE 020 or equivalent.

Repeatable for credit
Normal Grade Rules
1 unit

TECH 042. Manufacturing and Machine Shop Projects and Practices

Individual manufacturing processes and machine shop practices. Fabrication of mechanical components and assemblies in fulfillment of senior, course, special, and approved student club assignments and projects.

Prerequisites: TECH/ME 041 (with grade "C-" or better).

Misc/Lab: 3 hours lab

Repeatable for credit
Credit / No Credit
1 unit

TECH 045. Sustainable Facilities Design & Planning

Construction, planning, and maintenance of physical facilities and equipment for sustainable manufacturing operations. Green and sustainable practices and standards, plant facilities layout/design, regulatory and environmental compliance, safety/security and energy conservation. Production line planning and OSHA and NIOSH standards.

Prerequisite: ME/TECH 020, CE 020 or equivalent

Normal Grade Rules
3 units

TECH 046. Machine Operation and Management

Current machining processes using computer numerically-controlled and manual machines, including turning, milling, drilling, grinding, and sawing machines. Manual and computer-aided part programming. Management of machining environment including processes, tooling, instruments, equipment, personnel safety.

Prerequisite: TECH 020.

Corequisite: TECH 041.

Misc/Lab: Lecture 2 hours/lab 3 hours.

Normal Grade Rules
3 units

TECH 060. Introduction to Electronics

Emphasizes practical electronics applications and products. DC and AC theory; Ohm's Law, Kirchhoff's Laws, Power Laws, network theorems, schematic diagrams, instrumentation and measurement, and functions of discrete components.

Corequisites: MATH 71 or MATH 30 or MATH 30P or equivalent

Misc/Lab: Lecture 2 hours/lab 3 hours.

Normal Grade Rules
3 units

TECH 062. Analog Circuits

Semiconductor theory; p-n junction, bipolar transistors, JFETs and MOSFETs, optoelectronic devices. Operational amplifiers and 555 timers. Device applications: comparators, signal generators, active filters, instrumentation amplifiers, voltage regulators and power supplies.

Prerequisite: TECH 060, MATH 071 or MATH 030.

Misc/Lab: Lecture 2 hours/lab 3 hours.

Normal Grade Rules
3 units

TECH 063. Analog and Digital Circuits

Logic gates emphasizing TTL and CMOS. Design techniques. Combinational circuits, counters, registers, multiplexers, Semiconductor theory. Operational amplifiers. Device applications, signal generators, voltage regulators and power supplies.

Prerequisite: TECH 060, MATH 71 or MATH 30 or MATH 30P

Misc/Lab: Lecture 2 hours/lab 3 hours.

Normal Grade Rules
3 units

TECH 065. Networking Theory and Application

Introduction to networks and networking concepts. Network architectures. Network media. Configuring network operating systems. Making networks work. Network topology, standards and protocols. Basic network design.

Co/Prerequisite: TECH 060

Normal Grade Rules
3 units

TECH 066. Network Administration

Internetworking devices and systems. Network Administration and Support. Enterprise and Distributed Networks. Wide-Area and Large Scale Networks. Solving Network problems. Using the Resources of the Internet. Future networking technologies. Telemeter networks. Manufacturing Automation. Systems Networks, Storage area network.

Prerequisite: TECH 065.

Misc/Lab: Lecture 2 hours/Lab 3 hours.

Normal Grade Rules
3 units

TECH 067. Introduction to Internet of Things

Introduction to Internet of Things (IoT) fundamentals, development of the knowledge and skills required for related technologies and hands-on, problem-solving experience. Designing and connecting IoT devices to capture data and control the physical world.

Prerequisite: TECH 060, TECH 065.

Misc/Lab: Lec 2 hours/Lab 3 hours.

Normal Grade Rules
3 units

TECH 068. Internet of Things Systems

Cyber-physical systems as control systems, including problem formulation, mathematical representation, and analysis. IoT system components of switching, routing, security, wireless, virtualization, and their integration into end-to-end IoT systems.

Prerequisite: TECH 067.

Co-Requisite: CMPE 30.

Misc/Lab: Lec 2 hours/Lab 3 hours

Normal Grade Rules
3 units

UPPER DIVISION

TECH 115. Automation and Control

Theory and application of automation elements including analog and digital sensors, controllers, indicators, actuators. Control modes for proportional, derivative, and integral control systems. Hands-on integration practices among PLC, robots, automatic identification devices, computers, and other industrial equipment.

Prerequisite: TECH 060, PHYS 002A, PHYS 002B, MATH 071.

Misc/Lab: Lecture 2 hours/lab 3 hours.

Normal Grade Rules
3 units

TECH 136. Software Quality Management

Software quality management standard processes and techniques, certification standards. Web programming application. Mobile network applications. Software testing methodology. Role of software quality managers in a computer network system organization.

Prerequisite: CMPE 030, BUS2 090, TECH 173

Misc/Lab: 2hrs lecture/3hrs lab

Normal Grade Rules
3 units

TECH 139. Quality Management

Planning, designing and managing the performance of quality in an organization. Synthesis, modeling and application of total quality management to case studies in manufacturing and service industries.

Prerequisite: TECH 031.

Misc/Lab: Lecture 2 hours/lab 3 hours.

Normal Grade Rules
3 units

TECH 140. Green & Sustainable Product Design

Advanced product and process design with a focus on green and sustainable design and on manufacturing green products. Analysis of process and material selection for environmental impact. Composite and advanced materials processing. Laboratory exercises and planning for green manufacturing.

Prerequisite: ME/TECH 020; CHEM 001A or CHEM 030B; MATH 071 or MATH 030 or MATH 030P

Misc/Lab: Lecture 3 hours/Lab 3 hours

Repeatable for credit
Normal Grade Rules
3 units

TECH 143. Polymers and Composites Fabrication Technology

Fundamental aspects of modern manufacturing technology using polymeric and composite materials. Hands-on lab exercises in casting, molding, coating, thermoforming and fiber reinforcement. Concepts of design, analysis and fabrication.

Prerequisite: TECH 020, CHEM 001A and PHYS 002A.

Misc/Lab: Activity 6 hours.

Normal Grade Rules
3 units

TECH 145. Lean Manufacturing

Exploration and practice of techniques for reducing waste to optimize the value stream in both manufacturing and non-manufacturing environments. Toyota Production System, Value Stream Mapping, 7 Wastes, 5S, Just-in-Time, TPM, Kaizen.

Prerequisite: BUS 140 or BUS 145 or ISE 140.

Normal Grade Rules
3 units

TECH 146. 3D Printing and Applications

Introduction to technologies in 3D printing, equipment, processes, and materials. Applications for a variety of markets and industry in accelerating time to market for products, improving manufacturing operations, and efficiency. Hands-on experience through CAD design to product realization.

Prerequisite: Tech 20A, Tech 25, Tech 140

Normal Grade Rules
3 units

TECH 147. Green Manufacturing Analysis & Management

Design, operation, and control of green production systems using techniques to promote sustainability and minimize environmental impact. Emphasis is on the physical design of high performance manufacturing and will include production flow, scheduling, work flow, layout of manufacturing plants, and material handling.

Prerequisite: TECH 045, TECH 046, TECH 115.

Pre/corequisite: TECH 140.

Misc/Lab: Lecture 2 hours/lab 3 hours.

Normal Grade Rules
3 units

TECH 149. Computer Integrated Manufacturing Systems

Integration of all aspects of a manufacturing enterprise using computer-integrated manufacturing (CIM) technologies. Design development and implementation of manufacturing systems using project management techniques and team work.

Pre/Co-requisite: TECH 145, TECH 147.

Misc/Lab: Lecture 2 hours/lab 3 hours.

Repeatable for credit
Normal Grade Rules
3 units

TECH 160. Microprocessors Theory and Applications

Microprocessor concepts and applications to testing and data management. Assembly language and high-level language programming and techniques, including assembling, compiling, debugging. Current trends and issues in microprocessors.

Prerequisite: TECH 063, TECH 115, and CMPE 030 or CS 049 or CS 049J.

Misc/Lab: Lecture 2 hours/lab 3 hours.

Normal Grade Rules
3 units

TECH 163. Telecommunications Systems

Communication systems. Types of Modulation. Transmitters and receivers. Digital communications. Data transmission. Digital modulation and modems. Multiplexing and multiple-assess techniques. Wireless communication systems. Microwave devices. Satellite communications. Fiber optics systems.

Prerequisite: TECH 062, TECH 063.

Normal Grade Rules
3 units

TECH 165. Wireless Communications Technologies

Digital wireless technologies. RF Communications. Wireless Personal Area Networks. Wireless Local Area Networks. Wireless Metropolitan Area Networks. Wireless Satellite Fixed Broadband. Wireless Wide Area Networks. Radio Frequency Identification. Wireless Communication in Business. Emerging wireless technologies

Prerequisites: TECH 063, TECH 065.

Misc/Lab: Lecture 3 hour/Lab 3 hours

Normal Grade Rules
3 units

TECH 167. Control Systems

Theory and applications of feedback systems, transfer functions and block diagrams. Transducers, analog and digital controllers, signal conditioners and transmission. Analysis, testing, and troubleshooting of electronic systems with feedback.

Prerequisite: TECH 063, TECH 115, and CMPE 030 or CS 049C or CS 049J.

Misc/Lab: Lecture 2 hours/lab 3 hours.

Normal Grade Rules
3 units

TECH 169. Applied Electronic Design

Design, test, simulation, development and implementation of electronic systems for control of industrial processes using project management techniques and team work. Hardware, software, and system interfacing.

Pre/corequisite: TECH 167.

Misc/Lab: Lecture 2 hours/lab 3 hours.

Normal Grade Rules
3 units

TECH 170. Connected Products Applications

Introduction to connected products and applications, defining user (UX) for web and software and UX for Connected Things. Presenting models of human-computer interaction, design processes and product/service definition and strategy. Cases studies of IoT systems and design.

Prerequisite: TECH 068.

Misc/Lab: Lec 2 hours/ Lab 3 hours.

Normal Grade Rules
3 units

TECH 171. Network Security & Prevention Management

Approaches to IT system security including physical, application, operating system, cyber-, and network security. Using switches, routers, adaptive security appliance, firewalls, and intrusion protection systems to implement comprehensive security policies. IPv4 and IPv6 security, VPN technology.

Prerequisite: TECH 065, TECH 066,TECH 170.

Misc/Lab: Lec 2 hours/Lab 3 hours.

Normal Grade Rules
3 units

TECH 172. Database Server System Management

Practical big data analytics and management systems. Issues and problems involved in massive on-line repository systems. Current practical techniques for satisfying the needs of such systems. Current approaches that are likely to provide a basis for tomorrows solutions.

Prerequisite: TECH 171, TECH 173, TECH 179.

Misc/Lab: Lec 2 hours/Lab 3 hours.

Normal Grade Rules
3 units

TECH 173. Cloud Computing System Management

Technologies, hardware and software applications in cloud computing. Implementation of cloud computing in the enterprise through exploration of public and private clouds, comparison. Performance monitoring of data traffic flow and process improvement for the required server systems.

Normal Grade Rules
3 units

TECH 179. Cyber Security System Management

Key issues associated with protecting information assets. Levels of protection and respons to security incidents. Planning for security and management of the system. Application of software, cryptography, encryption methods. Mobile and cloud systems security.

Normal Grade Rules
3 units

TECH 180A. Individual Studies in Electronics and Computer Technology

Prerequisite: Upper division standing and instructor consent. Not available to Open University Students.

Repeatable for credit
Credit / No Credit
1-4 units

TECH 180B. Individual Studies in Manufacturing Technology

Prerequisite: Upper division standing and instructor consent. Not available to Open University Students.

Repeatable for credit
Credit / No Credit
1-4 units

TECH 180H. Individual Studies in Materials Technology

Prerequisite: Upper division standing and instructor consent. Not available to Open University Students.

Repeatable for credit
Credit / No Credit
1-4 units

TECH 180J. Individual Studies in Technology Issues

Prerequisite: Upper division standing and instructor consent. Not available to Open University Students.

Repeatable for credit
Credit / No Credit
1-4 units

TECH 190. Senior Seminar in Technology

Current industry analysis and career development. Technology trends in manufacturing and electronics. Leadership skills for a technology professional. Ethics for technology managers.

Prerequisite: Graduating senior, major form completed.

Normal Grade Rules
3 units

TECH 190A. Senior Project I

Half of one-year senior team design projects. Professional Development and Proposal preparation with feasibility plans, specifications, oral/written reports, and career and professional seminar participation. Project proceeds over two semesters from problem definition and design to validation, prototype construction, and testing.

Prerequisite: Completion of major lower division requirements, senior standing, and consent of instructor.

Normal Grade Rules
3 units

TECH 190B. Senior Project II

Second half of a one-year team project carried out under faculty supervision. Review, construction, testing, and evaluation of the design from Tech 190A culminating in demonstrations and written and oral presentations to faculty and peers.

Prerequisite: TECH 190A with a C or better

Normal Grade Rules
3 units

TECH 195. Cooperative Internship

Provides an educational strategy that links classroom learning and student interest with the acquisition of knowledge in an applied work setting. Students undertake a significant experiential learning opportunity, typically with a company, non-profit, governmental, or community-based organization.

Prerequisite: Upper division standing, course contract, instructor consent

Credit / No Credit
1-3 units

TECH 197. Cooperative Education Project

See ENGR 197.

Normal Grade Rules
3 units

TECH 198. Technology and Civilization

History, development, and use of technology in different cultures. Technology's impact on society, global environment, the workplace, cultural values, gender roles, and newly industrialized countries of the world. GE Area: V

Prerequisite: Completion of core GE, satisfaction of Writing Skills Test and upper division standing. For students who begin continuous enrollment at a CCC or a CSU in Fall 2005 or later, completion of, or corequisite in a 100W course is required.

Note: All SJSU Studies courses require completion of the WST and upper division standing.

Normal Grade Rules
GE: V
3 units

TECH 199A. Special Topics in Electronics & Cmp Tech

Fundamentals of being a successful college student on the path to a profession in Industrial Technology. Hands-on project oriented course with applications in manufacturing systems, robotics, plant operation, materials and handling, computer network systems, IoT, and internet hardware. Guest speakers and tours of related industries.

Prerequisite: Instructor consent.

Repeatable for credit
Normal Grade Rules
3 units

TECH 199B. Special Topics in Manufacturing Systems

Special topics in Manufacturing Systems. Content varies from semester to semester. Repeatable for a total of 6 units.

Prerequisite: Instructor consent.

Repeatable for credit
Normal Grade Rules
3 units

GRADUATE

TECH 200. Research Methods for Engineering and Technology

Current applied research methods applied to problems in engineering, technology, and other technical fields. Exposure to current literature, scientific/technological research ethics, research and experimental design and methods, skills in research proposal development and locating funding.

Prerequisite: STAT 115 (or equivalent) and graduate standing.

Normal Grade Rules
3 units

TECH 230. Six-Sigma and Continuous Improvement Systems Management

Six-Sigma quality systems for design production and business processes. Statistical foundations, implementation strategies, and practical industrial applications. Methods and practices of achieving continuous quality improvement, defect reduction, project planning and management methods to achieve universal participation in process improvement.

Prerequisite: STAT 115 or equivalent.

Normal Grade Rules
3 units

TECH 231. Systems Reliability and Maintainability

Analysis of models for systems reliability including static, dynamic, and probabilistic engineering models; reliability estimation and optimization, life cycle prediction techniques; failure modes and effects analysis; maintainability prediction and analysis.

Prerequisite: TECH 230.

Normal Grade Rules
3 units

TECH 232. Advanced Statistical Process Control

Analysis of advanced statistical process control (SPC) systems for monitoring and controlling process performance. Statistical methods for sample selection, probability theory, partition of variation, blanket studies, out-of-control action plans, process capability measurement, and SPC implementation strategies and analysis.

Prerequisite: STAT 115.

Normal Grade Rules
3 units

TECH 233. Design and Analysis of Experiments

Analysis of experimental design strategies for process and design improvement. Industrial application of single factor, multi-factor, and optimization designs. Experimental analysis using t-tests, ANOVA, Chi-square, linear and multiple regression techniques. Model building and model validation.

Pre/Corequisite: TECH 232.

Repeatable for credit
Normal Grade Rules
3 units

TECH 234. Quality Systems Management: ISO 9000 and 14000

Strategies for developing and implementing ISO standards: Project management and planning, cost estimation, supply chain management, audit plans and documentation systems for ISO system compliance. Analysis of ISO 9000 and 14000 quality systems for product design, development and production.

Normal Grade Rules
3 units

TECH 235. Measurement Systems and Analysis

Analysis of variables and attributes methods for measurement systems analysis and control including; repeatability, reproducibility, accuracy, linearity and stability. A survey of measurement and testing systems; dimensional metrology, destructive and nondestructive testing, calibration methods, and inspection equipment and techniques.

Prerequisite: TECH 232.

Normal Grade Rules
3 units

TECH 239. Design Assurance in Product Development

Analysis of product development strategies, understanding design constraints and market conditions, design and configuration control systems, documentation and revision control systems, design for manufacturability, phase review approaches for new product introduction, design reviews, and developing and maintaining design guidelines.

Prerequisite: TECH 200, TECH 230, and TECH 234.

Normal Grade Rules
3 units

TECH 290. Graduate Problems

Graduate study or research of technical problems.

Prerequisite: TECH 200 and instructor consent. Not available to Open University Students.

Repeatable for credit
Credit / No Credit
2-4 units

TECH 298. Graduate Project

Graduate study research of professional problems.

Prerequisite: Admission to candidacy for the master's degree and instructor consent. Not available to Open University Students.

Repeatable for credit
Mandatory CR/NC/RP
2-4 units

TECH 299. Master's Thesis

Prerequisite: Admission to candidacy for the master's degree and instructor consent. Not available to Open University Students.

Repeatable for credit
Mandatory CR/NC/RP
2-6 units

UPPER DIVISION

TECH 1290R. Culminating Experience Supervision

Continued work on thesis or project.

Prerequisite: Outstanding RP grade in a preceding semester in a

project or thesis class

Note: No Degree Credit.

Repeatable for credit
No Degree Credit
1 unit

SJSU SAN JOSÉ STATE UNIVERSITY

Academic Year 2019-2020

Course Descriptions

v1
July 1, 2019

ALL DATES, FEES & INFORMATION SUBJECT TO CHANGE WITHOUT NOTICE

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DESCRIPTION CONTENTS

Undergraduate Studies Courses

EARLY START ENGLISH

UPPER DIVISION

ESE 1001. Introduction-College Reading and Composition

This rhetoric-based course introduces students to the demands of college-level expository, analytical, and argumentative reading and writing. Students will study the relationships between authorial purpose, structure, and intended audience; types and use of evidence; the impact of rhetorical strategies; and the social, political, and philosophical assumptions that underlie the text. Students will receive feedback on their writing in every class. Full attendance and participation satisfies the Early Start requirement in English. An end of course analytical essay may be used to improve freshman English placement for SJSU students.

Prerequisite: Writing enrollment category W-III or W-IV and Undergraduate Transitory (UGT) program.

Note: No Degree Credit

Early Start Program,
1-2 units

ESE 1003. Introduction to Analytical Writing

Students will submit an analytical essay on an assigned topic, master a rubric for evaluating analytical writing, peer review essays written by classmates, and then reevaluate their own writing. All deadlines must be strictly adhered to. Online course.

Prerequisite: Writing enrollment category W-III or W-IV and Undergraduate Transitory (UGT) program.

Note: No Degree Credit

Early Start Program,
1 unit

EARLY START MATH

UPPER DIVISION

ESM 1001. ES Elementary Algebra Review

Review topics from elementary algebra, including basic mathematics skills, real numbers and variables, exponents and radicals, polynomials and rational expressions, linear equations and inequalities (including their graphs), systems of linear equations, quadratic equations, and functions. This live class will be taught in an online environment. Full attendance and participation satisfies the Early Start requirement in mathematics. The final exam and an optional ELM retest may be used to improve freshman mathematics placement and in some cases may satisfy the ELM requirement.

Prerequisites: Math enrollment category M-III or M-IV AND Undergraduate Transitory (UGT) program.

Note: No Degree Credit

Early Start Program,
1-2 units

ESM 1005. Topics in Elementary Algebra

This course reviews topics from elementary algebra using an online tool called ALEKS. To fulfill the Early Start requirement, students must spend at least 15 hours using ALEKS. This course may not be used to improve freshman mathematics placement.

Prerequisite: Math enrollment category M-III or M-IV AND Undergraduate Transitory (UGT) program.

Note: No Degree Credit

Early Start Program,
1 unit

UNIVERSITY STUDIES

LOWER DIVISION

UNVS 015F. Statway Part A: Statistics-Concepts & Methods

Concepts and methods of statistics with an emphasis on data analysis. Topics include methods for collecting data graphical and numerical descriptive statistics, correlation, simple linear regression, basic concepts of probability, confidence intervals and hypothesis test for means and proportions, and chi-square tests. Must complete UNVS 15F/15S sequence to satisfy GE Area B4.

Misc/Lab: Lecture 1 hour / Activity 4 hours

Normal Grade Rules
3 units

UNVS 015S. Statway Part B: Statistics-Concepts & Methods

Concepts and methods of statistics with an emphasis on data analysis. Topics include methods for collecting data graphical and numerical descriptive statistics, correlation, simple linear regression, basic concepts of probability, confidence intervals and hypothesis test for means and proportions, and chi-square tests. Completion with a grade of C- or better satisfies the GE Area B4 Mathematical Concepts requirement.

Prerequisite: UNVS 15F with a grade of C- or better or concurrent enrollment in UNVS 1015W.

Misc/Notes: Lecture 1 hour / Activity 4 hours

Normal Grade Rules
GE: B4
3 units

UNVS 057. Community Involvement and Personal Growth

See SOCI 057.

Normal Grade Rules
GE: EE
3 units

UNVS 075. Fundamentals of Leadership and Career Accelerator

See SCI 075.

Normal Grade Rules
3 units

UNVS 090. Leadership in Residential Life

Class is designed for students selected by University Housing Services to serve as leaders in the residence halls. Students will receive an introduction to residential education, student development theory, conflict mediation, community development, and leadership as well as training in university policies and procedures. Classroom learning will be integrated with on the job experience.

Prerequisite: Current application or employment with University Housing Services.

ABC/No Credit
3 units

UNVS 095. Special Topics in Student Leadership Development

University 95 is for students selected as staff for San Jose State University's Summer Transition Programs (e.g., Summer Bridge Resident Assistants and Academic Coaches and Spartan Scholars Program Community Assistants and Academic Coaches). Through a series of lectures, project-based activities, and required readings, students will explore both theoretical and practical elements of leadership.

Repeatable for credit
Normal Grade Rules
1 unit

UNVS 095A. Service Learning for Academic Leaders

Course enhances student success in college through basic and leadership skills development, pertinent academic information, and strategies for achieving personal and academic goals.

Normal Grade Rules
2 units

UNVS 095B. First Year Experience- Academic Success

University 95 is a series of lectures, project-based activities, and required readings to promote academic success. This course introduces students to university faculty, campus administrators, and campus resources. It also provides students with a wide range of information regarding various institutional academic expectations, university policies and procedures, and practical study skills to prepare them for the successful completion of courses at SJSU.

Normal Grade Rules
1-2 units

UNVS 095V. Warriors at Home: Success in College and Life

This course will assist veteran/military students in making positive transitions from military to civilian life or from deployment to post-deployment life. It provides essential tools to navigate the university, succeed in academics and interpersonal relationships, and develop a career plan.

Normal Grade Rules
3 units

UNVS 096D. Academic Skill Development

No Degree Credit
1 unit

UNVS 096E. Leadership and Creating Change
This course will introduce students to conceptual and theoretical dimensions of leading, following, and creating social change. We will be particularly interested in connecting the social construction of identities with the idea of leadership as a form of social influence. This will include an examination of issues of power, privilege, marginalization, inclusion, and social and group behavior. Students will explore literature, case examples and applications in the form of community service-learning to build their understanding of, and capacity for serving as ethical and effective community leaders, advocates and allies.

Normal Grade Rules
3 units

UPPER DIVISION

UNVS 101. Leadership and Career Accelerator
See SCI 101.

Normal Grade Rules
3 units

UNVS 120. Peer Mentor
Seminar course intended to provide the knowledge and skills necessary to be an effective Peer Mentor who will work in the new student seminars and in the Peer Mentor Center at San Jose State University.

Prerequisite: Must apply and be accepted.

Normal Grade Rules
3 units

UNVS 125M. McNair Research Colloquium
Course is designed to assist students in the SJSU McNair Scholars Program to prepare for graduate study at the doctoral level. Various faculty will lecture on topics including research methodology, research writing, protocol for presenting research results conferences, graduate school experiences and academic expectations.

Prerequisite: Students must be accepted in the SJSU McNair Scholars Program.

Repeatable for credit
Credit / No Credit
3 units

UNVS 190. University Internship
Supervised placement in student support services for advanced students.

Repeatable for credit
Credit / No Credit
1-4 units

UNVS 195H. Interdisciplinary Research Practicum
This practicum will integrate the methods of at least two disciplines to conduct basic and applied research. Undergraduate students will have hands-on experiences working with faculty from different disciplinary traditions in real research projects.

Prerequisites: Upper Division Standing

Credit / No Credit
3 units

UNVS 199. Orientation Leadership Studies
This class is designed for students selected by Student Life Center to serve as SJSU Orientation Leaders. Students will learn theoretical/practical aspects of leadership, and receive training in university policies/ procedures. Curriculum will apply to students' leadership experiences.

Prerequisite: Apply and be selected (fall semester), 2.0 G.P.A., upper division standing or instructor consent.

Repeatable for credit
Normal Grade Rules
3 units

GRADUATE

UNVS 295H. Interdisciplinary Research Graduate Practicum
This practicum will integrate the methods of at least two disciplines to conduct basic and applied research. Graduate students will have hands-on experiences working with faculty from different disciplinary traditions in real research projects.

Prerequisites: Graduate standing

Mandatory CR/NC/RP
3 units

UPPER DIVISION

UNVS 1015D. Statway Algebra Review Activity
Supplemental course for Statway students planning to enter a field requiring algebra or calculus, e.g., Business.

Prerequisite: UNVS 15F or instructor consent.

Corequisite: UNVS 15S.

Note: No degree credit.

No Degree Credit
1 unit

UNVS 1015W. Statway Supplemental Activity
Supplemental activity course for Statway students who complete UNVS 15F (Statway A) with a grade below C-. Includes review of UNVS 15F and supporting activities for UNVS 15S.

Corequisite: UNVS 15S

Note: No Degree Credit.

Misc/Lab: Activity 2 hours.

No Degree Credit
1 unit

UNVS 1290R. Culminating Experience Supervision
Continued work on thesis or project writing.

Prerequisite: Outstanding RP grade in a preceding semester in a project or thesis class.

Note: No Degree Credit

Repeatable for credit
No Degree Credit
1 unit

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Urban and Regional Planning Department Courses

URBAN PLANNING

LOWER DIVISION

URBP 092. Int'l Program Studies
Repeatable for credit
Mixed Grading
1-6 units

UPPER DIVISION

URBP 101. The City
History and organization of the city, emphasizing contemporary issues and strategies for influencing urban policy. GE Area: S

Prerequisite: Passage of the Writing Skills Test (WST) or ENGL/LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

Normal Grade Rules
GE: S
3 units

URBP 102. Introductory Community Planning and Development Studio
This course introduces students to the tools and techniques of working directly with diverse local communities to develop priorities and recommendations for improving neighborhood quality of life. Students learn about collaborative planning techniques via lectures, comparative studies, and group discussion.

Prerequisite: Upper Division Standing

Normal Grade Rules
4 units

URBP 103. Local Government and Politics
See POLS 103.

Normal Grade Rules
4 units

URBP 107. Introduction to Real Estate Development Business and Planning
This course will introduce students to the business of real estate development and how the field of urban planning intersects with the development process. Topics addressed include development approval feasibility, land use regulation reform, and development during business cycles.

Prerequisite: Upper Division Standing

Normal Grade Rules
3 units

URBP 110. Urbanization in the Global South
See GEOG 110.

Normal Grade Rules
3 units

URBP 120. Intro to Housing Economics and Policy
Historic and policy aspects of housing, focusing on housing characteristics and public sector intervention. Topics may vary. Course may be repeated for credit when topic changes.

Prerequisite: Upper division standing or instructor consent.

Notes: Offered only occasionally.

Normal Grade Rules
4 units

URBP 125. Urban Anthropology
See ANTH 125.

Normal Grade Rules
3 units

URBP 132. Creating Built Worlds
See ANTH 132.

Normal Grade Rules
3 units

URBP 133. Introduction to Social Issues in Planning
Contemporary social issues related to urban and regional planning. Assessment of community social needs and resident planning. Focus on ethnic areas such as African, Asian and Mexican American neighborhoods.

Prerequisite: Upper division standing or instructor consent.

Normal Grade Rules
4 units

URBP 136. Intro to Land Use and Urban Planning
Land use and facilities planning practices in the context of American cities, emphasizing interrelationships between various land uses and public facilities and service requirements. Study of the role of public law in addressing urban growth and environmental change issues.

Prerequisite: Upper division standing or instructor consent.

Normal Grade Rules
4 units

URBP 142. Introduction to Environmental Planning
Environmental sustainability and its application to local planning. Review of regulatory tools and legislation that underlie most environmental planning and current environmental planning topics. Course may be repeated for credit when topic changes.

Prerequisite: Upper division standing or instructor consent.

Normal Grade Rules
4 units

URBP 143. Intro Private Development and Planning
Introduction to the real estate development process from preliminary product analysis through planning, construction, and marketing.

Prerequisite: Upper division standing or instructor consent.

Normal Grade Rules
3 units

URBP 145. Urban Policy and Its Impact on Inner City Residents
See AFAM 145.

Normal Grade Rules
4 units

URBP 148. Intro Spatial Vis Tech in Urb Plan
Lab-based course in digital visualization for urban spatial representation using industry standard software such as Adobe Photoshop, Adobe Illustrator and Trimble Sketch-Up.

Prerequisite: Upper division standing or instructor consent.

Normal Grade Rules
1-4 units

URBP 150. Introduction to Municipal Finance
An introduction to the theory and practice of municipal finance. Topics include public goals and externalities, the function of the budget, sources of revenues, finance tools, expenditure types, the planning programming-budgetary system (PPBS), and methods of project evaluation.

Prerequisite: Upper Division Standing

Normal Grade Rules
4 units

URBP 151. Introduction to Urban Design
Principles, goals and methods of the urban design process. Urban design as the comprehensive treatment of the human-made environment.

Prerequisite: Upper division standing or instructor consent.

Normal Grade Rules
4 units

URBP 152. Introduction to Urban Design Studio
Introduction to the analysis of alternative urban design policies to direct urban form development. Course may be repeated for credit when topic changes.

Prerequisite: URBP 151 or instructor consent.

Misc/lab: Activity 6 hours.

Normal Grade Rules
4 units

URBP 156. Introduction to Local Transportation Planning

Examination of transportation planning issues addressed at the neighborhood and municipal level such as bicycle and pedestrian planning, traffic calming, and parking policy.

Prerequisites: Upper division standing or instructor consent.

Normal Grade Rules
4 units

URBP 160. Topics in Environmental Planning

In-depth examination of selected topics specifically related to environmental planning. Consult department for current offerings. Course may be repeated for credit when topic changes.

Prerequisites: Upper division standing or instructor consent

Repeatable for credit
Normal Grade Rules
4 units

URBP 163. Twentieth Century Urban Design

See ARTH 163.

Normal Grade Rules
3 units

URBP 169. Introduction to Social Media in Planning

An introduction to social media tools and their use in urban planning, with a particular emphasis on public participation.

Prerequisite: Upper division standing

Normal Grade Rules
1-4 units

URBP 175. Urban Studies Topics

In depth examination of selected topics. Consult schedule of classes for current offerings. Course may be repeatable for credit with different topic.

Prerequisite: Upper division standing or instructor consent.

Repeatable for credit
Normal Grade Rules
1-4 units

URBP 178. Intro to Regional Transport Planning

Principles and concepts relevant to transportation planning and policy at the regional level, such as historical and current regional transportation planning processes, the relationship between regional travel demand and transportation infrastructure, and travel demand modeling practices.

Prerequisite: Upper division standing

Normal Grade Rules
4 units

URBP 179A. Fundamentals of GIS for Urban Planning

Exploration of Geographic Information Systems (GIS) area analysis techniques for spatial information management in local government: planning support systems, needs analysis, envisioning neighborhoods utilizing multiple maps, charts, photos and the Internet. Course may be repeated for credit when topic changes.

Prerequisite: Upper division standing or instructor consent.

Normal Grade Rules
4 units

URBP 179B. Advanced GIS for Urban Planning

Continued study of how geographic information systems (GIS) can be applied to urban and regional planning topics.

Prerequisites: URBP 179A or instructor consent.

Normal Grade Rules
4 units

URBP 180. Individual Studies

Individual work on special topics by arrangement.

Prerequisite: Instructor consent and department chair approval.

Repeatable for credit
Credit / No Credit
1-4 units

URBP 185. Environmental Impact Analysis

See ENVS 185.

Normal Grade Rules
4 units

URBP 190. Advanced Environmental Impact Assessment

See ENVS 190.

Normal Grade Rules
4 units

URBP 192. Int'l Program Studies

Repeatable for credit
Mixed Grading
1-12 units

GRADUATE

URBP 200. Seminar on Urban and Regional Planning

Overview of the historical development of urban and regional planning in the United States, as well as prominent theories of urban planning practice. Emphasizing the connection between the theoretical and historical material and current planning practice.

Note: This course satisfies graduate-level GWAR in this master's program.

Normal Grade Rules
GE: GWAR
4 units

URBP 203. Collaborative Neighborhood Planning

Through fieldwork and laboratory assignments, the student applies community-based participatory planning methods to develop recommendations for improving neighborhood quality of life through planning and design.

Prerequisite: URBP 201 or instructor consent.

Normal Grade Rules
4 units

URBP 204. Quantitative Methods

Urban research design, measurement, selected statistical research tools and introduction to computer processing. Extensive treatment of survey research.

Normal Grade Rules
4 units

URBP 205. Private Development and Urban Planning

Study of the entire process of private development from preliminary product analysis through planning, construction and marketing.

Normal Grade Rules
3 units

URBP 206. Market Analysis, Appraisal, & Finance of Real Estate Development

Students will be taught the real estate capital markets and the mix of the necessary financing sources required of developments. Students will evaluate criteria used by developers, real estate lenders and capital providers looking to minimize risk and maximize returns on real estate investments.

Normal Grade Rules
3 units

URBP 207. Real Estate Development Business and Planning

This course will introduce students to the California planning system, real estate development entitlement process, and contemporary issues in urban and regional planning.

Normal Grade Rules
3 units

URBP 208. Urban Real Estate Development Studio

This is a capstone studio course designed to immerse students in the real world of urban property development. Students will explore this world by taking part in a major mock-development project of an actual site in the San Francisco Bay Area.

Prerequisites: URBP 205, URBP 206, and URBP 207, or instructor consent

Normal Grade Rules
3 units

URBP 211. Regional Analysis and Planning

Students learn the major concepts and techniques of regional analysis and apply these to assess and solve current planning problems.

Prerequisite: Instructor consent.

Normal Grade Rules
4 units

URBP 214. Introduction to Public Management
See PADM 214.

Normal Grade Rules
3 units

URBP 223. Housing Economics and Policy
Overview of the housing situation in the United States; examination of the theory of housing markets and framework for analyzing housing policies; in-depth study of the problem of affordable housing and critical examination of the steps that the public, private, and non-profit sectors have taken to alleviate the problem.

Normal Grade Rules
4 units

URBP 225. Land Use Planning and Law
Study of contemporary growth and land use management techniques used by local, state and federal governments. Examination of the role of public law in addressing urban growth and environmental change issues, and the legal aspects of preparing and administering planning controls and incentives.

Normal Grade Rules
4 units

URBP 226. Regional Transportation Planning
Overview of the evolution of key transportation institutions and policies at the metropolitan, state, and federal levels. Assessment of the current challenges facing regional transportation systems and evaluation of different planning and policy approaches proposed to improve the performance of regional transportation systems.

Prerequisite: Instructor consent.

Normal Grade Rules
4 units

URBP 228. Urban Community Development
The role, objectives and policies of the urban community development process; the social, economic, political and physical implications underlying community development programs; and relationships of these programs to comprehensive urban planning.

Normal Grade Rules
4 units

URBP 231. Urban Design in Planning
Urban design as part of the planning process; contemporary and historic urban design thought and ways of improving design quality in the urban environment.

Normal Grade Rules
4 units

URBP 232. Urban Design Studio
Through fieldwork and laboratory assignments, the student applies urban design theories, methods and principles to a current urban development issue.

Prerequisite: URBP 231 or instructor consent.

Normal Grade Rules
4 units

URBP 233. Social Issues in Planning
Multi-disciplinary study of the principles that guide the growth of a community so all members have equal access to the benefits of living in an urban environment. The course examines the coordination of citizen groups and government bodies to secure needed social services and facilities, champion initiatives that improve quality of life in our community, and engage issues important to underrepresented groups.

Normal Grade Rules
4 units

URBP 234. Field Study Seminar
Discussion and analysis of experience in the planning field under internship programs. May not be counted towards the Master of Urban Planning program of study. Repeatable for credit with approval of the Graduate Student Advisor.

Prerequisites: Instructor consent and enrollment in the Master of Urban Planning degree program.

Repeatable for credit
Normal Grade Rules
1 unit

URBP 236. Urban and Regional Planning Policy Analysis: Tools and Methods
Analytical approaches to explain and evaluate the public policy making process with particular reference to urban and regional planning and development. Apply quantitative methods such as extrapolation techniques, population and economic projection models, and spatial interaction models for policy analysis.

Prerequisites: Passage of the Writing Skills Test.

Note: This course satisfies graduate-level GWAR in this master's program.

Normal Grade Rules
GE: GWAR
4 units

URBP 240. Environmental Planning
Examination of the fundamental concepts and issues related to urban environment that planners face. Focus on land use and open space planning, planning and use of urban resources, interactions of urban residents and the physical environment, and the role of government in formulating appropriate policies and strategies.

Normal Grade Rules
4 units

URBP 241. Planning Sustainable Cities
An overview of urban sustainability covering topics such as the origins of urban sustainability, tools for sustainability planning, global dimensions of sustainability (including different approaches to planning across world regions), and visions for creating sustainable futures.

Repeatable for credit
Normal Grade Rules
2 units

URBP 248. Spatial Visualization Tech in Urb Plan
Lab-based course in digital visualization for urban spatial representation using industry standard software such as Adobe Photoshop, Adobe Illustrator and Trimble Sketch-Up.

Normal Grade Rules
1-4 units

URBP 250. Urban Planning Public Finance
An investigation of both the theory and practice of local public finance with emphasis on applications relevant to urban and regional planning. Topics include: public goals and externalities; the function of the budget; sources of revenue and expenditure; the planning programming-budgetary system (PPBS); methods of project evaluation; and traditional as well as innovative methods of public finance including property tax, user fee, impact fee, tax increment financing and use of special districts.

Normal Grade Rules
4 units

URBP 255. Urban and Regional Growth Management
Extensive study of causes, consequences and costs of sprawl; study of growth management and smart growth programs at the state, regional and local level, including the rationale, techniques, and economic, political, and organizational implications.

Normal Grade Rules
4 units

URBP 256. Sustainable Transportation Planning
Examination of transportation planning issues addressed at the neighborhood and municipal level such as bicycle and pedestrian planning, traffic calming, and parking policy, with a focus on promoting sustainable communities.

Repeatable for credit
Normal Grade Rules
4 units

URBP 260. Environmental Planning Topics
In-depth examination of selected topics specifically related to environmental planning. Consult department for current offerings. Course may be repeated for credit when topic changes.

Repeatable for credit
Normal Grade Rules
4 units

URBP 275. Urban Planning Topics
In-depth examination of selected topics introduced in the core seminars for the Master of Urban Planning degree. Consult schedule of classes for current offerings. Course may be repeated for credit when topic changes.

Repeatable for credit
Normal Grade Rules
1-4 units

URBP 275G. Geographic Information Systems Overview: Urban Planning Applications

An overview of Geographic Information Systems with a focus on applications to urban planning, including demographic data analysis, land use mapping, cartographic techniques and methods for determining the most appropriate display of quantitative data for a variety of intended audiences.

Normal Grade Rules
1 unit

URBP 276. Social Media in Planning

An overview of social media tools and their use in urban planning, with a particular emphasis on public participation.

Normal Grade Rules
1-4 units

URBP 278. Introduction to GIS for Urban Planning

Examination of geographic information systems (GIS) applications to urban and regional planning topics. Course may be repeated for credit when topic changes.

Repeatable for credit
Normal Grade Rules
4 units

URBP 279. Advanced GIS for Urban Planning

Further examination of advanced geographic information systems (GIS) applications to urban and regional planning topics

Prerequisite: URBP 278 or instructor consent.

Repeatable for credit
Normal Grade Rules
4 units

URBP 280. Planning Research Topics

In-depth examination of selected planning research topics introduced in core seminars for the Master of Urban Planning degree, such as the social and environmental impacts of planning policies.

Repeatable for credit
Normal Grade Rules
1-4 units

URBP 295. Capstone Studio: Community Planning

Through fieldwork and laboratory assignments, the student applies theories and techniques of analysis to identify the assets, problems, and opportunities of an urban community.

Prerequisite: Instructor consent.

Normal Grade Rules
6 units

URBP 297P. Planning Report Preliminary Proposal

Advanced research and proposal writing. Students conduct background research and develop a preliminary research proposal that demonstrates their capacity to do independent research, analysis, and writing about a complex planning problem.

Normal Grade Rules
1 unit

URBP 298A. Special Study: Planning Report

Advanced research and report writing. Students develop a plan and complete the initial research to write a planning report that demonstrates their capacity to do independent research, analysis, and writing about a complex planning problem.

Prerequisites: Passage of the Writing Skills Test and Graduate Adviser approval. Passage of URBP 297P with a grade of B or better.

Mandatory CR/NC/RP
3 units

URBP 298B. Special Study: Planning Report Completion

Advanced individual research and report writing. Students work with a faculty advisor to complete a professional planning report that demonstrates their capacity to do independent research, analysis, and writing about a complex planning problem.

Prerequisite: Passage of 298A and Graduate Student Advisor approval.

Mandatory CR/NC/RP
3 units

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Women, Gender and Sexuality Studies Courses

WOMEN GENDER SEXUAL STUDIES

LOWER DIVISION

WOMS 005Q. Gender, Race & Sexuality in Media

This course uses a cultural studies approach to explore the production and consumption of contemporary media in our everyday lives with a focus on race, class, gender, sexuality, and nation. GE Area: D1

Prerequisite: First term freshmen only.

Note: All courses with a 'Q' suffix are designated as First Year Experience courses.

Normal Grade Rules
GE: D1
3 units

WOMS 010. Women, Gender, and Sexuality Studies

Interdisciplinary introduction to core concepts and analytical tools addressing the diversity of human experience cross cut by gender, sexuality, embodiment, and class location. Students will become familiar with key contemporary and historical debates in both global and local contexts. GE Area: D1

Normal Grade Rules
GE: D1
3 units

WOMS 020. Women of Color in the US

Constructs knowledge of the historical and contemporary experience of women of color. Focuses on Native American, African American, Latina, and Asian American women and considers contributions they have made to the shaping of the nation. GE Area: D2

Normal Grade Rules
GE: D2
3 units

UPPER DIVISION

WOMS 101. Sex, Power, and Politics

Multidisciplinary introduction to traditional and new images, roles, experiences, ethnic similarities and differences, and contemporary problems of American women. GE Area: S Prerequisite: Passage of the Writing Skills Test (WST) or ENGL/LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended. Note: All SJSU Studies courses require completion of the WST and upper division standing.

Normal Grade Rules
GE: S
3 units

WOMS 102. The Global Study of Women

This course will be a survey of literature on the interaction of gender and forces of globalism. GE Area: V

Prerequisite: Passage of the Writing Skills Test (WST) or ENGL/LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

Note: All SJSU Studies courses require completion of the WST and upper division standing.

Normal Grade Rules
GE: V
3 units

WOMS 107. Psychology of Women

See PSYC 107.

Normal Grade Rules
3 units

WOMS 112. Women in the Global Economy

Women's participation in the economy, US and internationally: paid employment, consumption, subsistence labor, reproduction, volunteerism. It connects daily life activities with international economic trends, with particular attention to race, class, implications for families and strategies for equity.

Prerequisite: WOMS 10, WOMS 20, WOMS 101 or instructor consent.

Normal Grade Rules
3 units

WOMS 114. Politics of Mothering and Reproduction

Explore contemporary definitions and values inscribed in issues pertaining to mothers and reproduction. It will be built upon three literatures: discourses of law and legality, discourses of nature and science, and discourses based in feminist thinking.

Prerequisite: Upper Division standing or instructor consent.

Normal Grade Rules
3 units

WOMS 120. Special Topics in Women's Studies

Focus announced in the schedule of classes. Repeatable for credit with program coordinator approval.

Prerequisite: WOMS 10, WOMS 20, WOMS 101 or instructor consent.

Repeatable for credit
Normal Grade Rules
3 units

WOMS 121. Philosophy and Feminism

See PHIL 121.

Normal Grade Rules
3 units

WOMS 122. Women in the Second Half of Life

See GERO 122.

Normal Grade Rules
3 units

WOMS 131. Gender, Sexuality, and Religion

See RELS 131.

Normal Grade Rules
3 units

WOMS 156. Black Women Writers: Race, Culture and Resistance

See AFAM 156.

Normal Grade Rules
3 units

WOMS 160. Queering Gender, Race, and Class

Queer analysis of race and class diversity; social, political, and economic hierarchies of race, class, and gender in the U.S. Topics may include sexuality, racism, LGBT experience, the welfare system.

Normal Grade Rules
3 units

WOMS 169. Sexualities and the Body

This course explores the social construction of sexuality and the body from a feminist perspective. It investigates various aspects of sexuality and gendered bodies including identity, community, and social movements based on intersections of race, gender, sexuality, culture, and nation.

Prerequisite: Upper Division Standing or instructor consent.

Normal Grade Rules
3 units

WOMS 175. Sociology of Masculinities and Femininities

See SOCI 175.

Normal Grade Rules
3 units

WOMS 180. Individual Studies

Individual work on special topics by arrangement.

Prerequisite: Minor or emphasis in women's studies.

Repeatable for credit
Credit / No Credit
1-4 units

WOMS 182. Women in Literature

See ENGL 182.

Repeatable for credit
Normal Grade Rules
4 units

WOMS 187. Feminist Perspectives on Gender and Education in the U.S.

The role of gender in the educational system in the United States from both a historical and contemporary context. We will focus on the significance of schools as the primary socializing institution for boys and girls.

Prerequisite: Junior standing or instructor consent.

Repeatable for credit
Normal Grade Rules
3 units

WOMS 189. Islamic Perspectives on Gender

Contemporary feminist theories analyze premises of gender roles in Islamic cultures and variety of sexual expressions. This class will sensitize students to the diversity of Islamic cultures and communities, in addition to geographical, political, and social locations, like ethnicity and class affect the gender debate in Islamic perspectives.

Prerequisite: Upper division standing or Instructor Consent.

Notes: Required for topical major and minor in Women's Studies.

Normal Grade Rules
3 units

WOMS 190. Internship

On-site experience with community or campus organization or other agency involved with women's issues. Individual and group advising augments the experiential learning. Repeatable for credit with program coordinator approval.

Prerequisite: WOMS 101 or instructor consent.

Repeatable for credit
Credit / No Credit
1-4 units

World Languages and Literatures Courses

ARABIC

LOWER DIVISION

ARAB 001A. Elementary Arabic I

This course in Modern elementary Arabic is designed for students with no previous knowledge of Modern Standard Arabic. Starting with the alphabet, students will gradually learn basic oral and written communication in the target language.

Note: This course is not for native speakers of Arabic.

Normal Grade Rules
5 units

ARAB 025A. Intermediate Arabic I

Intermediate Arabic I is designed for students who have completed at least two semesters one year) of Arabic in an academic setting and have knowledge of basic grammatical features of Arabic.

Prerequisite: ARAB 001A, ARAB 001B or equivalent or SJSU placement exam.

Normal Grade Rules
5 units

CHINESE

LOWER DIVISION

CHIN 001A. Elementary Chinese

Basic skills and structure of the language in the context of culture. GE Area: C2

Prerequisite: 001B: CHIN 001A (or equivalent).

Normal Grade Rules
GE: C2
4 units

CHIN 001B. Elementary Chinese

Basic skills and structure of the language in the context of culture. GE Area: C2

Prerequisite: CHIN 001A (or equivalent).

Normal Grade Rules
GE: C2
4 units

CHIN 025A. Intermediate Chinese

Development of basic skills in the use of Mandarin; preparation for advanced courses in the language. GE Area: C2

Prerequisite: 8 units of college Chinese (or equivalent)

Normal Grade Rules
GE: C2
4 units

CHIN 025B. Intermediate Chinese

Continuation of CHIN 025A. Preparation for advanced courses in the language. GE Area: C2

Prerequisite: 12 units of college Chinese (or equivalent)

Normal Grade Rules
GE: C2
4 units

UPPER DIVISION

CHIN 101A. Advanced Chinese

Readings related to culture, discussion, syntax and composition. May be repeated once for credit.

Prerequisite: Four semesters of college Chinese (or equivalent).

Notes: Year course.

Repeatable for credit
Normal Grade Rules
4 units

CHIN 101B. Advanced Chinese

Readings related to culture, discussion, syntax and composition. May be repeated once for credit.

Prerequisite: 20 units of college Chinese (or equivalent)

Notes: Year course.

Repeatable for credit
Normal Grade Rules
4 units

CHIN 102. Chinese Culture

Traditional Chinese culture in light of contemporary values. Ideographs, folk tales, festivals, creeds and customs, myths and superstitions, opera and the arts, women, the art of living.

Notes: Taught in English.

Normal Grade Rules
4 units

CHIN 110. Structure of the Chinese Language

Introduction to study of Chinese dialects and Mandarin grammar from historical viewpoint, with reference to early development and present diversity. Emphasis on the writing system and areal features of the language.

Prerequisite: CHIN 25B or instructor consent.

Normal Grade Rules
4 units

CHIN 120A. Modern Chinese Literature (1900-1949)

Literary movements and major works of Chinese narrative, poetry and drama from 1900 to 1949.

Prerequisite: CHIN101B (or equivalent)

Normal Grade Rules
4 units

CHIN 120B. Introduction to Classical Chinese Literature

Stylistic and structural characteristics of classical Chinese through selected readings in various texts.

Prerequisite: CHIN 25B or instructor consent.

Normal Grade Rules
4 units

CHIN 130. Readings in Chinese Culture

Readings in selected aspects of Chinese culture, e.g., philosophical, social, political, historical. Texts may be chosen from scholarly essays, newspaper articles or creative narrative. May be repeated when content changes.

Prerequisite: CHIN101B or instructor consent

Repeatable for credit
Normal Grade Rules
4 units

CHIN 132. Special Topics in Chinese for Careers

Chinese 132 provides a focus on the use of Chinese for various professions, and examines in depth selected topics in regard to Chinese in the professional world.

Course repeatable when content changes.

Prerequisite: CHIN 025B or instructor consent..

Repeatable for credit
Normal Grade Rules
4 units

CHIN 140. Chinese Culture and Politics Through Literature

Exploration of the interaction between culture, politics and literature as reflected in the contemporary (post-1949) narrative, poetry and drama of China, Taiwan and Hong Kong. GE Area: V

Prerequisite: Passage of the Writing Skills Test (WST) or ENGL/LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

Notes: Taught in English. All SJSU Studies courses require completion of the WST and upper division standing.

Normal Grade Rules
GE: V
3 units

CHIN 180. Individual Studies in Chinese

Individual work by arrangement.

Prerequisite: Upper division standing in Chinese (or equivalent) and instructor consent.

Repeatable for credit
Credit / No Credit
1-3 units

FOREIGN LANGUAGE EDUCATION

UPPER DIVISION

FLED 184Y. Student Teaching II - Classroom Teaching

Minimum 80-120 class periods of classroom teaching or field teaching in appropriate single subjects, grades K-12 and related teaching activities and seminar.

Prerequisite: Joint approval of major and Education departments.

Repeatable for credit
Credit / No Credit
4-6 units

FLED 184Z. Student Teaching III - Classroom Teaching

Notes: May be in different subject/school and will be at a different grade level.

See FLED 184Y.

Repeatable for credit
Credit / No Credit
4-6 units

GRADUATE

FLED 285. Student Teaching Seminar In Foreign Language Education

As a companion course to the Phase II/III student teaching experience in the Single Subject Credential program in Chinese, French or Spanish at San Jose State University, the seminar provides a framework and support for the Performance Assessment for California Teachers (PACT).

Prerequisites: EDSC 184X.

Corequisites: FLED 184Y/FLED 184Z.

Repeatable for credit
Credit / No Credit
1 unit

FLED 380. Teaching Foreign Languages

Theory and practice.

Prerequisite: College approval and competence in at least one foreign language.

Normal Grade Rules
3 units

FRENCH

LOWER DIVISION

FREN 001A. Elementary French

Basic structure of the language in the context of culture. GE Area: C2

Normal Grade Rules
GE: C2
4 units

FREN 001B. Elementary French

Basic structure of the language in the context of culture. GE Area: C2

Prerequisite: FREN 001A (or equivalent).

Normal Grade Rules
GE: C2
4 units

FREN 001X. Elementary French Individualized

Self-paced individualized instruction.

Repeatable for credit
Normal Grade Rules
1-5 units

FREN 001Y. Elementary French Individualized

Self-paced individualized instruction.

Prerequisite: 5 units of FREN 1A and FREN 1X (or equivalent).

Repeatable for credit
Normal Grade Rules
1-5 units

FREN 025A. Intermediate French: Reading

Intensive training in reading authentic texts of a broad variety of genres in French to increase the students' proficiency from ACTFL Low Intermediate to Mid and High Intermediate levels.GE Area: C2

Prerequisite: One Year of college-level French (or equivalent or SJSU placement exam).

Normal Grade Rules
GE: C2
4 units

FREN 025B. Intermediate French: Writing

Intensive practice in French expository writing to increase the students' written proficiency from ACTFL Low Intermediate to Mid and High levels. Review of major grammatical rules, vocabulary development and introduction to translation. GE Area: C2

Normal Grade Rules
GE: C2
4 units

FREN 025C. Intermediate French: Oral Communication

Practice in pronunciation, listening and speaking in formal and informal situations. Introduction to Francophone cultures and linguistic variations. May be repeated twice for credit.

Prerequisite: Two semesters of of college French (or equivalent).

Repeatable for credit
Normal Grade Rules
4 units

UPPER DIVISION

FREN 101A. Advanced French: Reading and Writing

Increase proficiency in reading/writing from intermediate high to advanced. Gain competence in reading abstract and linguistically complex materials (fiction, non fiction and creative). Improve ability to express self in formal and informal writing on practical, social or professional topics.

Prerequisite: Two years of college French or equivalent.

Repeatable for credit
Normal Grade Rules
4 units

FREN 101B. Advanced French: Written Communication

Increase proficiency in reading/writing from advanced to advanced plus level. Gain competence in reading materials that are abstract and linguistically complex (literary genres). Improve ability to write about topics with precision and describe, narrate and support point of view.

Prerequisite: Two years of college French or equivalent.

Repeatable for credit
Normal Grade Rules
4 units

FREN 101C. Advanced French: Oral Communication

Ability to participate effectively in most formal and informal exchanges on practical, social, professional and abstract topics. Express and support opinions and hypothesize using native-like discourse strategies. May be repeated for credit, but only 3 units apply to minor or major.

Prerequisite: Two years of college French or equivalent.

Repeatable for credit
Normal Grade Rules
4 units

FREN 102A. French Culture

History, physical and cultural geography, fine/folk art and daily life of France up to the time of the Revolution.

Prerequisite: 20 units of college French (or equivalent).

Normal Grade Rules
4 units

FREN 102B. Francophone Cultures: Through Literature and Cinema

History, physical and cultural geography, fine/folk art and daily life of France and French-speaking countries. GE Area: V

Prerequisite: Passage of the Writing Skills Test (WST) or ENGL/LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

Notes: On-line - taught in English. All SJSU Studies courses require completion of the WST and upper division standing.

Normal Grade Rules
GE: V

3 units

FREN 102C. French Culture

French culture from the Revolution to the 21st Century.

Prerequisite: 20 units of college French (or equivalent).

Normal Grade Rules
4 units

FREN 105. Advanced Grammar: Phonetic Analysis

Contrastive analysis of French and English sound systems and their practical application to pronunciation. Intensive conversation and reading of poetry and plays. Language laboratory.

Prerequisite: Four semesters of college French (or equivalent).

Repeatable for credit
Normal Grade Rules
4 units

FREN 110. Advanced Grammar: Grammatical Analysis

Structural analysis. Comparison of morphological and syntactical patterns of English and French. Course is repeatable for a total of 6 units.

Prerequisite: FREN 101B (or equivalent).

Normal Grade Rules
4 units

FREN 120A. French Literature from the Middle Ages to 1600

Prerequisite: FREN 101B or instructor consent.

Repeatable for credit
Normal Grade Rules
4 units

FREN 120B. French Literature of the Seventeenth through the Eighteenth Centuries

Prerequisite: FREN 101B (or equivalent). May be repeated for credit when content changes.

Normal Grade Rules
4 units

FREN 132. Special Topics in French for Careers

Provides a focus on the use of the French language for various professions, and examines in depth selected topics in regard to French in the professional world.

Repeatable for up to 8 units when topic changes.

Prerequisite: 4 semesters of French or instructor consent.

Repeatable for credit
Normal Grade Rules
4 units

FREN 140A. French Literature of the Nineteenth Century

May be repeated for credit when content changes.

Prerequisite: FREN 101B (or equivalent).

Normal Grade Rules
4 units

FREN 140B. French Literature 20th-21st Centuries

May be repeated for credit when content changes.

Prerequisite: FREN 101B (or equivalent).

Normal Grade Rules
4 units

FREN 160. Masters of French Literature

Significant periods or genres. May be repeated for credit when content changes.

Prerequisite: Two courses from 120, 140 series (or equivalent).

Repeatable for credit
Normal Grade Rules
4 units

FREN 170. Translation and Comparative Stylistics

Theory and practice of translation for various purposes including literary, scientific, and professional ones. Comparative stylistics of English and French.

Prerequisite: FREN 110 (or equivalent).

Repeatable for credit
Normal Grade Rules
4 units

FREN 180. Individual Studies in French

Individual work by arrangement.

Prerequisite: Upper division standing in French (or equivalent preparation with grade of "B") and instructor consent.

Repeatable for credit
Credit / No Credit
1-3 units

GRADUATE

FREN 202. Seminar in French/Francophone Civilizations and Culture

Research projects exploring the character of France, analysis of French culture and institutions or the appreciation of the cultural richness and diversity of Francophone areas throughout the world, highlighting differences among French-speaking peoples and countries.

Repeatable for credit
Normal Grade Rules
3 units

FREN 298. Special Study

Advanced individual research and projects.

Prerequisite: Instructor consent.

Repeatable for credit
Mandatory CR/NC/RP
1-6 units

FREN 299. Master's Thesis or Project

Prerequisite: Admission to candidacy for the MA degree or advisor consent.

Repeatable for credit
Mandatory CR/NC/RP
3-6 units

GENERAL FOREIGN LANGUAGE

LOWER DIVISION

FORL 025. World Cultures Through Literature and Cinema

Introduction to contemporary non-English speaking cultures taught online in English; Specialized modules highlight cultural features, interactions, and contributions of culture groups associated with five world languages (initially Chinese, French, German, Japanese, Spanish) examined through literature and films. Fulfills GE C1/C2

Normal Grade Rules
GE: M8
6 units

FORL 096A. Elementary Assyrian Culture and Language

This course is designed for heritage or non-native speakers of the Assyrian language with limited speaking fluency and no writing or reading skills. Starting with the alphabet, students will learn reading and writing skills, and acquire elementary oral communication. (Special Session only).

Normal Grade Rules
3 units

UPPER DIVISION

FORL 100W. Writing Workshop

Advanced composition with practice in research and development of writing skills using a variety of literary and cultural concepts. GE Area: Z

Prerequisite: A3 or equivalent second semester composition course (with a grade of C- or better); Completion of core GE, satisfaction of Writing Skills Test and upper division standing.

Note: All SJSU Studies courses require completion of the WST and upper division standing. Must be passed with C or better to satisfy the CSU Graduation Writing Assessment requirement (GWAR).

Normal Grade Rules
GE: Z
3 units

FORL 121. Introduction to Comparative Literature

See COLT 121.

Normal Grade Rules
4 units

FORL 122. Topics in Comparative World Literature

See COLT 122.

Normal Grade Rules
4 units

FORL 126. Holocaust Literature

See ENGL 126.

Normal Grade Rules
GE: V
3 units

FORL 150. Learning a World Language
Introduction to the field of second language acquisition with special attention to adult second language learning. Service learning required. Taught in English.
Normal Grade Rules
4 units

FORL 180. Individual Studies in World Languages and Literatures
FORL 180 is designed for individual studies in languages taught at SJSU that are not part of a major or minor program, such as Arabic, Hebrew, Persian/Farsi or Vietnamese.
Prerequisite: Upper division standing, instructor approval
Repeatable for credit
Mandatory CR/NC/RP
3-6 units

GRADUATE

FORL 200. Graduate Research & Writing
Techniques of writing research papers and theses. Includes bibliographical sources and style sheets. Comprehensive study of literary genres and techniques for critique of these genres. Emphasis on organization of materials.
Note: This course satisfies graduate-level GWAR in this master's program.
Normal Grade Rules
GE: GWAR
3 units

FORL 205. Romance Linguistics
An introduction to the development of the Romance languages from Vulgar Latin: phonology, morphology, syntax, lexical growth; emergence of dialects. Preparatory to historical linguistics of any Romance language.
Prerequisite: Fundamental knowledge of Latin and a bachelor's degree (or equivalent) in at least one Romance language.
Normal Grade Rules
3 units

GERMAN

LOWER DIVISION

GERM 001A. Elementary German
Basic structure of the language in the context of culture. GE Area: C2
Normal Grade Rules
GE: C2
4 units

GERM 001B. Elementary German
Basic structure of the language in the context of culture. GE Area: C2
Prerequisite: GERM 1A or equivalent.
Normal Grade Rules
GE: C2
4 units

GERM 025A. Intermediate German
Review of basic grammar expansion of vocabulary and communication skills in the context of culture. GE Area: C2
Prerequisite: One year of college-level German (or equivalent or SJSU placement exam).
Normal Grade Rules
GE: C2
5 units

GERM 025B. Intermediate German
Introduction of complex grammatical features, continued expansion of vocabulary and communication skills in the context of culture. GE Area: C2
Prerequisite: Three semesters of college German or equivalent.
Normal Grade Rules
GE: C2
5 units

UPPER DIVISION

GERM 101A. Advanced German
Readings, oral discussion, syntax and composition.
Prerequisite: Four semesters of college German (or equivalent).
Misc/Lab: Year course.
Normal Grade Rules
4 units

GERM 101B. Advanced German
Readings, oral discussion, syntax and composition.
Prerequisite: Four semesters of college German (or equivalent).
Misc/Lab: Year course.
Normal Grade Rules
4 units

GERM 102A. German Culture until 1871
Development of society, civilization and culture in German-speaking countries until 1871, including aspects of geography, political and intellectual history, fine art and cultural anthropology.
Prerequisite: Four semesters of college German (or equivalent).
Normal Grade Rules
3 units

GERM 102B. German Culture from 1871 to the Present
Development of society, civilization and culture in German-speaking countries from 1871 to the present, including aspects of geography, political and intellectual history, fine art and cultural anthropology.
Prerequisite: Four semesters of college German (or equivalent).
Normal Grade Rules
3 units

GERM 180. Individual Studies in German
Individual work by arrangement.
Prerequisite: Upper division standing in German (or equivalent with grade of "B") and instructor consent.
Repeatable for credit
Credit / No Credit
1-3 units

GREEK

UPPER DIVISION

GRK 105A. Classical and Koine Greek
Morphology and syntax with emphasis on the Attic dialect. Major dialects and historic linguistic and literary foundations of Koine.
Notes: Offered only occasionally.
Normal Grade Rules
3 units

GRK 105B. Classical and Koine Greek
Morphology and syntax with emphasis on the Attic dialect. Major dialects and historic linguistic and literary foundations of Koine.
Prerequisite: GRK 105A (or equivalent).
Normal Grade Rules
3 units

GRK 180. Individual Studies in Greek
By arrangement.
Prerequisite: Upper division standing in Greek (or equivalent) and instructor consent.
Repeatable for credit
Credit / No Credit
1-3 units

HEBREW

LOWER DIVISION

HEBR 010A. Elementary Hebrew
Basic structure of the language in the context of culture.
Normal Grade Rules
3 units

HEBR 010B. Elementary Hebrew
Basic structure of the language in the context of culture.
Prerequisite: HEBR 010A (or equivalent).
Normal Grade Rules
3 units

HEBR 010X. Elementary Hebrew- Individual Learning
Basic structure of the language in the context of culture.
Repeatable for credit
Normal Grade Rules
1-3 units

HEBR 015A. Intermediate Hebrew
Developing speaking skills.
Prerequisite: HEBR 010A and HEBR 010B (or equivalent).
Normal Grade Rules
3 units

HEBR 015B. Intermediate Hebrew
Developing speaking skills.
Prerequisite: HEBR 010A and HEBR 010B (or equivalent).
Normal Grade Rules
3 units

HEBR 015X. Intermediate Hebrew- Individual Learning
Developing speaking skills.
Repeatable for credit
Normal Grade Rules
1-3 units

UPPER DIVISION

HEBR 102A. Advanced Hebrew
Readings, grammar, discussion and composition.
Prerequisite: Four semesters of college Hebrew (or equivalent).
Normal Grade Rules
3 units

HEBR 102B. Advanced Hebrew
Readings, grammar, discussion and composition.
Prerequisite: 12 units of college Hebrew (or equivalent).
Normal Grade Rules
3 units

HEBR 102X. Advanced Hebrew- Individual Learning
Readings, grammar, discussion and composition.
Repeatable for credit
Normal Grade Rules
1-3 units

ITALIAN

LOWER DIVISION

ITAL 001A. Elementary Italian
Basic skills and structure of the language in the context of culture.
Normal Grade Rules
5 units

ITAL 001B. Elementary Italian
Basic skills and structure of the language in the context of culture.
Prerequisite: ITAL 001A (or equivalent).
Normal Grade Rules
5 units

ITAL 001X. Elementary Italian - Individualized Learning
Alternate to Ital 1A and Ital 1B. Student sets own rate of progress. May be repeated for a 5 unit maximum.
Repeatable for credit
Normal Grade Rules
1-5 units

ITAL 001Y. Elementary Italian - Individualized Learning
Alternate to Ital 1A and Ital 1B. Student sets own rate of progress. May be repeated for a 5 unit maximum.
Prerequisite: 5 units of ITAL 1A, ITAL 1X (or equivalent).
Repeatable for credit
Normal Grade Rules
1-5 units

ITAL 002. Basic Reading and Writing
Sentence structure and idiomatic usage in compositions, translations and simple essays.
Prerequisite: 2 semesters of college Italian (or equivalent).
Normal Grade Rules
3 units

UPPER DIVISION

ITAL 101A. Advanced Italian
Readings, discussion, syntax and composition. When content changes may be repeated.
Prerequisite: Three semesters of college Italian (or equivalent or SJSU placement exam) or instructor consent.
Repeatable for credit
Normal Grade Rules
4 units

ITAL 101B. Advanced Italian
Readings, discussion, syntax and composition. When content changes may be repeated.
Prerequisite: Three semesters of college Italian (or equivalent) or instructor consent.
Repeatable for credit
Normal Grade Rules
4 units

ITAL 102. Italian Culture
Culture and civilization of Italy. Dante, Manzoni, Moravia, Quasimodo, Montale, etc. When content changes may be repeated.
Prerequisite: Four semesters of college Italian (or equivalent).
Repeatable for credit
Normal Grade Rules
3 units

ITAL 180. Individual Studies in Italian
Individual work by arrangement.
Repeatable for credit
Credit / No Credit
1-3 units

JAPANESE

LOWER DIVISION

JPN 001A. Elementary Japanese
Basic skills and structure of the language in the context of culture. GE Area: C2
Normal Grade Rules
GE: C2
4 units

JPN 001B. Elementary Japanese
Basic skills and structure of the language in the context of culture. GE Area: C2
Prerequisite: JPN 001A (or equivalent).
Normal Grade Rules
GE: C2
4 units

JPN 025A. Intermediate Japanese
Continuation of JPN 001B. Preparation for advanced courses in the language. GE Area: C2
Prerequisite: One Year of college-level Japanese (or equivalent or SJSU placement exam).
Normal Grade Rules
GE: C2
4 units

JPN 025B. Intermediate Japanese
Continuation of JPN 025A. Preparation for advanced courses in the language. GE Area: C2
Prerequisite: Three semesters of college Japanese (or equivalent).
Normal Grade Rules
GE: C2
4 units

UPPER DIVISION

JPN 101A. Advanced Japanese
Readings, oral discussion, study of syntax and composition.
Prerequisite: Four semesters of college Japanese (or equivalent).
Normal Grade Rules
4 units

JPN 101B. Advanced Japanese
Readings, oral discussion, study of syntax and composition.
Prerequisite: Four semesters of college Japanese (or equivalent).
Normal Grade Rules
4 units

JPN 101C. Advanced Conversational Japanese
This course focuses on politeness aspects of Japanese language that appear in L19, 20, and 23 of Genki textbook II and heightens conversational competence to intermediate high in ACTFL through project works.
Prerequisite: JPN 025B
Normal Grade Rules
4 units

JPN 102. Japanese Culture
History, geography, fine art and daily life of Japan. May be repeated when content changes.
Prerequisite: Four semesters of college Japanese (or equivalent).
Repeatable for credit
Normal Grade Rules
3 units

JPN 103. Japanese Ideography and Calligraphy
Ideographs and Kana-syllabaries in their historical contexts-meaning, imagery, socio-anthropological backgrounds, formation and use of modern Japanese. Studio practice.
Prerequisite: JPN 101C or equivalent.
Normal Grade Rules
4 units

JPN 105. Media Japanese
Examination of language that appears in Japanese media such as newspapers, Internet news, and TV news to enhance four language skills (listening, reading, speaking and writing) to advanced level.
Prerequisite: JPN 101C or equivalent
Normal Grade Rules
4 units

JPN 107. Japanese for Business Professionals
Advanced Japanese course for specific (business) purposes. It will acquaint students with practical vocabulary, a wide range of language structures, business manners, and business customs for developing communication skills useful in conducting business in Japanese.
Prerequisite: JPN 101C or equivalent.
Normal Grade Rules
4 units

JPN 110. Japanese Linguistics
Structural analysis of Japanese from historical as well as descriptive perspectives and its application to distinct Japanese social and communicative behaviors.
Prerequisite: JPN 101C or equivalent.
Normal Grade Rules
4 units

JPN 120. Japanese Literature and Translation
Examination of Modern Japanese Manga Literature and Light novels and their translation to heighten learners reading and translation skills.
Prerequisite: 101C or equivalent
Normal Grade Rules
4 units

JPN 130. Readings in Japanese Culture
Readings from contemporary texts (including scholarly essays, newspapers and narrative) on various aspects of Japanese culture.
Prerequisite: JPN 101C or equivalent.
Repeatable for credit
Normal Grade Rules
4 units

JPN 140. Japanese Drama and Lyrics
Interpretation of Japanese drama and lyrics from Showa to the present to foster advanced level of Japanese language competence. Analysis of stylistic features, Japanese people and society's socio-cultural values and their historical backgrounds.
Prerequisite: JPN 101C or equivalent
Normal Grade Rules
4 units

JPN 150. Japanese Narratives and Life stories
Examination of Japanese narratives (folk tales) and life stories that represent Japanese society and archetype of Japanese people's psychology.
Prerequisite: JPN 101C or equivalent
Normal Grade Rules
4 units

JPN 160. Special Topics in Japanese Studies
A 25-day summer program that focuses on Japanese language, culture, and history. Explores Japanese culture and history through culture instruction conducted at cultural centers in Uji-city, Kyoto and field trips to historical sites and Japanese companies in Kyoto and other cities such as Osaka, Nara, Hiroshima, and Tokyo.
Repeatable for credit
Normal Grade Rules
3 units

JPN 180. Individual Studies in Japanese
Individual work by arrangement.
Prerequisite: 11 units of upper division Japanese (or equivalent with grade of "B") and instructor consent.
Repeatable for credit
Credit / No Credit
1-3 units

LATIN

LOWER DIVISION

LATN 001A. Elementary Latin
Latin grammar, syntax and readings.
Note: Year course.
Normal Grade Rules
3 units

LATN 001B. Elementary Latin
Latin grammar, syntax and readings.
Note: Year course.
Normal Grade Rules
3 units

LATN 092. Int'l Program Studies
Repeatable for credit
Mixed Grading
1-6 units

UPPER DIVISION

LATN 180. Individual Studies in Latin
Individual work by arrangement.
Prerequisite: Upper Division Standing in Latin and instructor consent.
Repeatable for credit
Credit / No Credit
1-3 units

PERSIAN

LOWER DIVISION

PERS 001A. Elementary Persian Culture and Language I
An elementary level course, designed for students with no or little previous knowledge of Persian language and meant to be an introduction to Persian cultures.
Normal Grade Rules
3 units

PERS 001B. Elementary Persian Language B
This course is a continuation of PERS 96A (PERS 1A) and is designed for students who have some basic knowledge of Persian through self-training, travel, or have completed a course at an academic institution. Emphasis is placed in further developing the students' knowledge of culture and language and across the Persian-speaking world. (Special Session only).
Prerequisite: PERS 096A or instructor consent.
Normal Grade Rules
3 units

PERS 025A. Intermediate Persian Culture and Language
This course is designed for students with some previous knowledge of Persian, either from classroom or as a heritage speaker. Various language activities such as reading, writing, and, listening comprehension will be offered through the introduction of classical Persian poetry.
Prerequisite: Instructor Consent
Normal Grade Rules
3 units

PERS 025B. Intermediate Persian Culture and Language

This course is a continuation of PERS 25A and is designed for students with previous knowledge of Persian, either from classroom or as a heritage speaker. Various language activities such as reading, writing, and, listening comprehension will be introduced while surveying the history and culture of the Persian speaking world across time and place, with a focus on Iran, from its roots in antiquity to the modern day, advancing students' knowledge of Persian language and culture. Themes include the survey of history, socio-political systems, and textual and visual cultural traditions of the Persian society, which have made this culture a unique one for centuries. This course is conducted in Persian while the reading assignments are in both English and Persian.

Prerequisite: PERS 25A or instructor consent.

Normal Grade Rules
3 units

PORTUGUESE

LOWER DIVISION

PORT 001A. Elementary Portuguese I

Basic skills and structure of the language in the context of culture. GE Area: C2

Normal Grade Rules
GE: C2
4 units

PORT 001B. Elementary Portuguese II

Basic skills and structure of the language in the context of culture. GE Area: C2

Prerequisite: PORT 001A (or equivalent).

Normal Grade Rules
GE: C2
4 units

PORT 001X. Elementary Portuguese - Individualized Learning

Alternate to Port 1A and Port 1B. Student sets own rate of progress. May be repeated for a 5 unit maximum.

Repeatable for credit
Normal Grade Rules
1-5 units

PORT 001Y. Elementary Portuguese - Individualized Learning

Alternate to Port 1A and Port 1B. Student sets own rate of progress. May be repeated for a 5 unit maximum.

Prerequisite: 5 units of PORT 1A, PORT 1X (or equivalent).

Repeatable for credit
Normal Grade Rules
1-5 units

PORT 020A. Intermediate Portuguese

Reading, sentence structure and idiomatic usage in conversation and simple essays.

Prerequisite: 2 semesters of college Portuguese (or equivalent or SJSU placement exam).

Normal Grade Rules
3 units

PORT 020B. Intermediate Portuguese

A continuation of Port 20A.

Prerequisite: 3 semesters of college Portuguese (or equivalent).

Normal Grade Rules
3 units

PORT 020X. Intermediate Portuguese - Individualized Learning

Alternate to Port 20A. Student sets own rate of progress. May be repeated for a 3 unit maximum.

Prerequisite: 2 semesters of college Portuguese (or equivalent).

Repeatable for credit
Normal Grade Rules
1-3 units

PORT 020Y. Intermediate Portuguese - Individualized Learning

Alternate to Port 20B. Student sets own rate of progress. May be repeated for a 3 unit maximum.

Prerequisite: 3 semesters of college Portuguese (or equivalent).

Repeatable for credit
Normal Grade Rules
1-3 units

UPPER DIVISION

PORT 101A. Advanced Portuguese

Reading, discussion, morphology, syntax and composition.

Prerequisite: Four semesters of college Portuguese (or equivalent).

Normal Grade Rules
3 units

PORT 101B. Advanced Portuguese

Reading, discussion, morphology, syntax and composition.

Prerequisite: Four semesters of college Portuguese (or equivalent).

Normal Grade Rules
3 units

PORT 102A. Special Topics in Lusophone Cultures

Portuguese 102A provides students with a variety of aspects of the culture and civilization including geography, history, literature, customs, music, sports, media etc. of the different countries of the Portuguese Speaking world (Portugal, Cape Verde, Guinea-Bissau, Sao Tome and Principe, Angola, Mozambique, and East Timor.

Repeatable for up to 9 units of credit with content changes.

Prerequisite: Four semesters of college Portuguese (or equivalent).

Repeatable for credit
Normal Grade Rules
3 units

PORT 102B. Brazilian Culture

History, geography, fine art and daily life in Brazil.

Prerequisite: Upper division standing

Normal Grade Rules
3 units

PORT 180. Individual Studies in Portuguese

By arrangement.

Prerequisite: Upper division standing in Portuguese (or equivalent) and instructor consent.

Repeatable for credit
Credit / No Credit
1-3 units

SPANISH

LOWER DIVISION

SPAN 001A. Elementary Spanish

Basic skills and structure of the language in the context of culture. GE Area: C2

Normal Grade Rules
GE: C2
4 units

SPAN 001B. Elementary Spanish

Basic skills and structure of the language in the context of culture. GE Area: C2

Prerequisite: SPAN 001A (or equivalent).

Normal Grade Rules
GE: C2
4 units

SPAN 003. Special Topics in Practical Spanish

Spanish 003 is a Special Topics course focused on the practical application of basic Spanish in a number of professional fields such as Health Care, Social Services, Hospitality Management, and Law Enforcement.

Repeatable for credit when content changes.

Prerequisite: 9 units of college Spanish (or equivalent).

Notes: Not accepted as preparation for advanced courses. Native speakers see General Information section.

Repeatable for credit
Normal Grade Rules
4 units

SJSU SAN JOSÉ STATE UNIVERSITY

Academic Year 2019-2020

Course Descriptions

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July 1, 2019

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DESCRIPTION CONTENTS

SPAN 004A. Basic Spanish I

An Internet-based or on-site course in practical Spanish for use in a variety of professional and everyday activities. For beginners and those who need to improve conversational skills. May be repeated for 6 unit maximum.

Normal Grade Rules
4 units

SPAN 004B. Basic Spanish II

An Internet-based or on-site course course in practical Spanish for use in a variety of professional and everyday activities. A continuation of SPAN 004A for those who need to improve communication skills. May be repeated for 6 unit maximum.

Notes: No credit toward Spanish major.

Normal Grade Rules
4 units

SPAN 020A. Spanish for Spanish Speakers

Focus on written Spanish. Study of grammar and orthography and development of reading and writing skills. For students whose first or home language is Spanish.

Prerequisite: Knowledge of spoken Spanish and instructor consent.

Normal Grade Rules
4 units

SPAN 020B. Spanish for Spanish Speakers

Continuation of Span 020A. For students whose first or home language is Spanish. Focus on development of reading and writing skills.

Prerequisite: SPAN 020A or instructor consent.

Normal Grade Rules
4 units

SPAN 025A. Intermediate Spanish

Continuation of Span 001B. Preparation for advanced courses in the language. GE Area: C2

Prerequisite: One Year of college-level Spanish (or equivalent or SJSU Placement Exam).

Normal Grade Rules
GE: C2
4 units

SPAN 025B. Intermediate Spanish

Continuation of Span 025A. Preparation for advanced courses in the language. GE Area: C2

Prerequisite: Three semesters of college Spanish (or equivalent).

Normal Grade Rules
GE: C2
4 units

UPPER DIVISION

SPAN 101A. Advanced Spanish

Readings, oral discussion, syntax and composition.

Prerequisite: Four semester of college Spanish (or equivalent).

Normal Grade Rules
4 units

SPAN 101B. Advanced Spanish

Readings, oral discussion, syntax and composition.

Prerequisite: Four semesters of college Spanish (or equivalent).

Normal Grade Rules
4 units

SPAN 102A. Spanish Culture

History, geography, fine art and daily life of Spain.

Prerequisite: Four semesters of college Spanish (or equivalent).

Normal Grade Rules
4 units

SPAN 102B. Hispanic American Culture

History, geography, fine art and daily life of Hispanic America. GE Area: V

Prerequisite: Passage of the Writing Skills Test (WST) or ENGL/LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

Notes: Offered in Spanish or English in alternate semesters. Spanish majors and minors must register for Spanish version. All SJSU Studies courses require completion of the WST and upper division standing.

Normal Grade Rules
GE: V
3 units

SPAN 105. Spanish Phonology

Contrastive analysis of Spanish and English sound systems and application to pronunciation. Language laboratory.

Prerequisite: Four semesters of college Spanish (or equivalent).

Normal Grade Rules
4 units

SPAN 110. Spanish Morphology and Syntax

Structural analysis. Comparison of morphological and syntactical patterns of English and Spanish.

Prerequisite: SPAN 101B (or equivalent).

Normal Grade Rules
4 units

SPAN 111. Advanced Spanish Conversation

Development of skills for group discussion, dialogue and individual oral presentations on topics pertaining to everyday life, the professions, social problems and the arts. May be repeated once for credit, but only 3 units apply to major.

Prerequisite: 4 semesters of college Spanish or advisor consent.

Notes: Native speakers see General Information section.

Normal Grade Rules
4 units

SPAN 115. Introduction to Literary Studies in Spanish

Introduction to literary studies in Spanish with readings from Spain and Spanish America. Overview of genres and fundamental concepts of criticism.

Prerequisite: SPAN 101B or instructor consent.

Normal Grade Rules
4 units

SPAN 120A. Spanish Literature I

Notable works from beginning to present.

Prerequisite: SPAN 101B, SPAN 102A or SPAN 102B (or equivalent).

Normal Grade Rules
4 units

SPAN 120B. Spanish Literature II

Notable works from beginning to present.

Prerequisite: SPAN 101B, SPAN 102A or SPAN 102B (or equivalent).

Normal Grade Rules
4 units

SPAN 132. Special Topics in Spanish for Careers

Course will focus on the use of the Spanish language for various professions, and examines in depth selected topics in regard to Spanish in the professional world.

Course repeatable when content varies.

Prerequisite: Two years of Spanish or instructor consent.

Repeatable for credit
Normal Grade Rules
4 units

SPAN 140A. Spanish American Literature

Notable works from beginning to present.

Prerequisite: SPAN 101B, SPAN 102A and SPAN 102B (or equivalent).

Normal Grade Rules
4 units

SPAN 140B. Spanish American Literature II

Notable works from beginning to present.

Prerequisite: SPAN 101B, SPAN 102A and SPAN 102B (or equivalent).

Normal Grade Rules
4 units

SPAN 160A. Hispanic Culture
Cultural phenomena, both historical and contemporary, of Spanish-speaking countries. Repeatable when topic changes for up to 8 units.
Prerequisite: SPAN 101B (or equivalent).
Repeatable for credit
Normal Grade Rules
4 units

SPAN 160B. Hispanic Linguistics
Spanish as spoken in diverse Hispanic cultures. May be repeated for credit when content changes.
Prerequisite: SPAN 101B (or equivalent).
Normal Grade Rules
4 units

SPAN 160C. Hispanic Literature
Outstanding authors or movements of Spain and Latin America.
Prerequisite: SPAN 101B (or equivalent).
Repeatable for credit
Normal Grade Rules
4 units

SPAN 170. Spanish Translation: Theory and Practice
Theory and practice of translation for various purposes including literary, scientific, and professional ones. Comparative stylistics of English and Spanish.
Prerequisite: SPAN 101B.
Normal Grade Rules
4 units

SPAN 180. Individual Studies in Spanish
Individual work by arrangement.
Prerequisite: Upper division standing in Spanish (or equivalent with grade of "B") and instructor consent.
Repeatable for credit
Credit / No Credit
1-3 units

GRADUATE

SPAN 201. Modern Spanish
Analysis of the evolving patterns of syntax and idiomatic construction in the Spanish language of the twentieth and twenty-first centuries. May be repeated for credit when content changes.
Repeatable for credit
Normal Grade Rules
3 units

SPAN 202. Seminar in Hispanic Civilization and Culture
A comprehensive study of one or more Spanish-speaking countries. A: Andean countries (Colombia, Ecuador, Peru and Bolivia). B: Caribbean (Cuba, Dominican Republic, Puerto Rico and Caribbean coasts of Venezuela, Colombia and the nations of Central America). C: Mexico. D: River Plate Region (Argentina, Chile, Paraguay and Uruguay). E: Spain. May be repeated for credit when course content changes.
Repeatable for credit
Normal Grade Rules
3 units

SPAN 210. Old Spanish
Analysis of the style and structure of medieval Spanish through selected readings. A fundamental knowledge of Latin is required.
Notes: Alternate years, or on demand.
Normal Grade Rules
3 units

SPAN 220. Historical Spanish Linguistics
An inquiry into the growth of the Spanish language in Spain and Latin America from the twelfth century to modern times.
Normal Grade Rules
3 units

SPAN 225. Spanish Dialectology
Regional, social, historical, generational dialects that shape Spanish. Research involves readings on dialectology and sociolinguistics, learning to identify characteristics of Spanish dialects and exploring the implications of language contact, linguistic borrowing and code-switching.
Prerequisite: Graduate standing or instructor consent.
Normal Grade Rules
3 units

SPAN 250. Seminar in the Siglo de Oro
The works of Cervantes, principal dramatists of the Comedia and other significant authors of the Golden Age. May be repeated for credit when content changes.
Repeatable for credit
Normal Grade Rules
3 units

SPAN 260. Seminar in "Modernismo" and the Generation of '98
A: Origin and development of the poetry and prose of the Modernista movement in Latin America. B: Examination of the spiritual and intellectual crisis created in Spain by the 1898 Spanish-American War. Representative works of Unamuno, Baroja, Azorin, Valle-Inclan and Antonio Machado. May be repeated for credit when content changes.
Repeatable for credit
Normal Grade Rules
3 units

SPAN 270. Seminar in Contemporary Literature of Spain and Spanish America
In-depth study of representative Latin American and Spanish authors of the twentieth and twenty-first centuries. May be repeated for credit when content changes.
Repeatable for credit
Normal Grade Rules
3 units

SPAN 280. Seminar in Romanticism in Spain and Spanish America
Philosophical and artistic aspects of the movement, studied through representative Latin American or Spanish works in all literary genres. Focus will alternate each time the course is offered. May be repeated for credit when content changes.
Repeatable for credit
Normal Grade Rules
3 units

SPAN 298. Special Study
Advanced individual research and projects.
Prerequisite: Instructor consent.
Repeatable for credit
Mandatory CR/NC/RP
1-6 units

SPAN 299. Master's Thesis or Project
Prerequisite: Admission to candidacy for the MA degree and advisor consent.
Repeatable for credit
Mandatory CR/NC/RP
3-6 units

TAGALOG

LOWER DIVISION

TAG 001A. Elementary Tagalog I
Develops four Tagalog language skills (listening, speaking, reading, and writing) in three modes of communication (interpersonal, interpretive, and presentational). Course provides the basic skills and knowledge to engage with Filipino social and cultural communities.
Normal Grade Rules
4 units

VIETNAMESE

LOWER DIVISION

VIET 001A. Elementary Vietnamese
Basic skills and structure of the language in the context of culture.
Normal Grade Rules
3 units

SJSU SAN JOSÉ STATE UNIVERSITY

Academic Year 2019-2020

Course Descriptions

v1
July 1, 2019

ALL DATES, FEES & INFORMATION SUBJECT TO CHANGE WITHOUT NOTICE

VIET 001B. Elementary Vietnamese

Continuation of Viet 1A. Basic skills and structure of the language in the context of culture.

Prerequisite: VIET 1A or equivalent.

Normal Grade Rules
3 units

VIET 020A. Vietnamese Literacy for Vietnamese

Designed for Vietnamese speakers wishing to learn to read and write in Vietnamese. Focus on teaching the five accents, the twelve vowels, basic grammar structures and translation from English to Vietnamese.

Prerequisite: Knowledge of spoken Vietnamese and instructor consent.

Normal Grade Rules
3 units

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