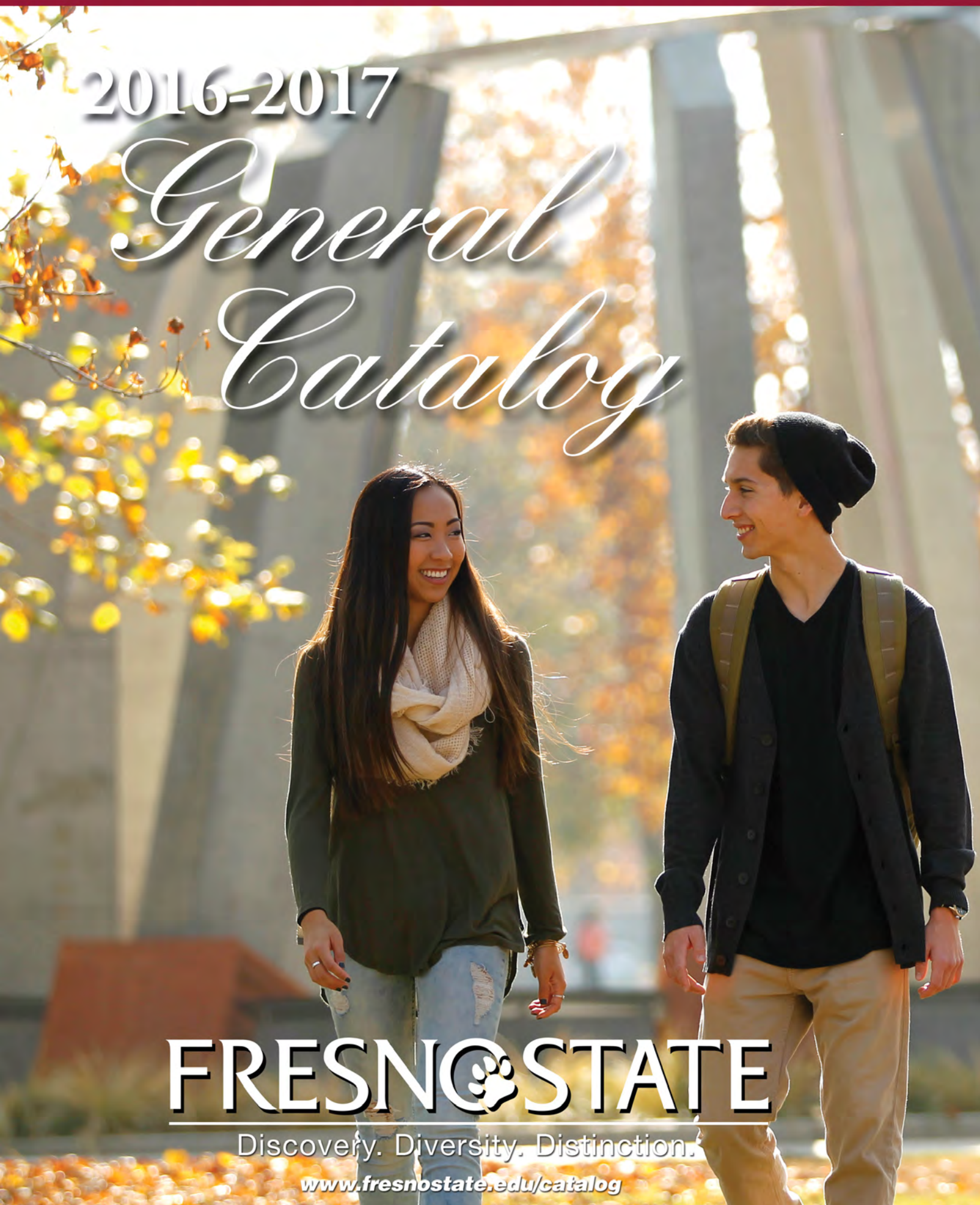
CALIFORNIA STATE UNIVERSITY, FRESNO

2016-2017 General Catalog



FRESNO STATE

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GENERAL CATALOG [2016-2017]

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GENERAL CATALOG

California State University, Fresno

Vol. 110 • May 2016

The General Catalog is prepared under the supervision of the Office of the Provost and Vice President for Academic Affairs and the Office of the Dean of Undergraduate Studies.

Updated as of spring 2017

Academics, Policies, and Regulations

Academic Calendar

Summer 2016

Summer Session	June 13 - August 12

Fall 2016

First Day of the Semester	August 17
First Day of Instruction	August 22
Labor Day Holiday	September 5
Veteran's Day Holiday	November 11
Thanksgiving Break	November 23, 24, 25
Last Day of Instruction	December 7
Consultation Days	December 8, 9
First Day of Finals	December 12
Last Day of Finals	December 15
Last Day of Semester	December 20

Spring 2017

First Day of the Semester	January 12
Martin Luther King Jr. Holiday	January 16
First Day of Instruction	January 17
President's Holiday	February 20
Cesar Chavez Holiday	March 31
Spring Break	April 10, 11, 12, 13, 14
Last Day of Instruction	May 10
Consultation Days	May 11, 12
First Day of Finals	May 15
Last Day of Finals	May 18

Academic Placement

Classification of Students

Student class levels are determined as follows:

Freshmen. Students who have earned a total of fewer than 30 semester units.
Sophomores. Students who have earned a total of 30 to 59 semester units inclusive.
Juniors. Students who have earned a total of 60 to 89 semester units inclusive.
Seniors. Students who have earned 90 semester units or more.
Postbaccalaureate/Graduates. Students who have at least one bachelor's degree from an accredited institution.

Advanced Placement

The Advanced Placement Program of the College Entrance Examination Board permits able high school students to take college-equivalent courses while in high school, and, based upon comprehensive qualifying examinations, receive advanced placement and credit at participating universities and colleges.

California State University, Fresno 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. In order to receive credit for these examinations from California State University, Fresno, students must request an official copy of their test results directly from the College Board.

Credits earned through advanced placement are not included among the maximum of 30 units of credit by examination that may be credited toward a bachelor's degree. The most commonly passed Advanced Placement Tests and equivalent courses are as follows:

Test	Score	Units	Subjects
American History	3,4,5	6	HIST 11, 12
Computer Science AB	3,4,5	6	CSCI 40*
English Lit/Comp	3,4,5	6**	ENGL 5B or 10, 20
English Lang/Comp	3,4,5	6**	ENGL 5B or 10, 2
Math Calc AB	3,4,5	6	MATH 75***
Math Calc BC	3,4,5	6	MATH 75, 76
U.S. Gov't & Politics	3,4,5	3	Pol Sci Elective

Official scores may be obtained from:
Advanced Placement Examination
P.O. Box 6671
Princeton, NJ 08541-6671

For more information, contact the Degree Advising Office, Joyal Administration Building, Room 115.

* Remaining 2 units in lower-division Computer Science electives.
** If English Lit/Comp and English Lang/Comp are passed, then a maximum of 9 units is allowed for ENGL 5B or 10, 2, and 20.
*** Remaining 2 units in lower-division mathematics electives.

International Baccalaureate. Credit is granted for International Baccalaureate Higher Level examination passed with a score of 4 or higher. Contact the Degree Advising Office, Joyal Administration Building, Room 115, for further information.

English Placement Test

The English Placement Test (EPT) is designed to assess the reading and writing skills of students entering the California State University. The CSU EPT must be completed by all non-exempt entering undergraduates prior to enrollment in any course, including developmental courses. Students who score 147 or above on the EPT will be placed in college-level composition classes.

Exemptions from the EPT are granted only to those who present proof of one of the following:

- A score of 500 or above on the critical reading section of the College Board SAT Reasoning Test
- A score of 22 or above on the American College Testing (ACT) English Test
- A score of 3 or above on either the Language and Composition or Composition and Literature examination of the College

Board Scholastic Advanced Placement Program
- Completion of a course that transfers to a CSU and satisfies the requirement in Qualitative Reasoning, provided such a course was completed with a grade of C or better
- A result of Standard Exceeded: Ready for CSU college-level coursework in English on the California Assessment of Student Performance and Progress (CAASPP) exam

The following Conditionally Ready statuses require students to continue their preparation in the 12th grade by completing an approved English course with a grade of C or better. Students that do not meet the conditional requirement will need to participate in the CSU's Early Start Program, unless exemption was met through another pathway.

- 460-490 on the Critical Reading portion of the SAT Reasoning Test
- 19-21 on the English portion of the ACT Test
- A result of Standard Met: Conditionally Ready for college-level coursework in English on the CAASPP exam

Students who cannot demonstrate basic competence on the EPT exam are required to enroll in ENGL 1L in conjunction with ENGL 5B or 10, or if they are nonnative speakers of English, in LING 6. ENGL 1L must be completed with a credit grade by the end of the first year of enrollment.

Beginning in May 1998, SAT II: Writing Test scores were increased about 10 to 20 points. The adjustment was made to make writing test scores more comparable to scores on other SAT II subject tests. Although scores are higher, their relative rank compared to scores for tests taken before May 1998 remain the same.

Entry-level Mathematics Exam

The Entry Level Mathematics (ELM) Examination is designed to assess and measure the mathematics skills acquired through three years of rigorous college preparatory mathematics coursework (Algebra I and II, and Geometry) of students entering the California State University (CSU). The CSU ELM must be completed by all non-exempt entering undergraduates prior to enrollment in any course, including developmental courses. Students who score 50 or above on the ELM will be placed in college-level mathematics classes.Exemptions from the ELM are granted only to those who present proof of one of the following:

- A score of 550 or above on the Mathematics section of the College Board SAT Reasoning Test
- A score of 550 or above on a College Board SAT Subject Test in Mathematics (level 1 or level 2)
- A score of 23 or above on the American College Testing (ACT) Mathematics Test
- A score of 3 or above on the College Board Advanced Placement Calculus AB or Calculus BC exam
- A score of 3 or above on the College Board Advanced Placement Statistics examination
- Completion and transfer to CSU of a college course that satisfies the requirement in Quantitative reasoning, provided such a course was completed with a grade of C or better
- A result of Standard Exceeded: Ready for CSU college-level coursework in mathematics on the California Assessment of Student Performance and Progress (CAASPP) exam

The following Conditionally Ready statuses require students to continue their preparation in the 12th grade by completing an approved math course with a grade of C or better. Students that do not meet the conditional requirement will need to participate in the CSU's Early Start Program, unless exemption was met through another pathway.

- 490-540 on the Mathematics portion of the SAT Reasoning Test
- 20-22 on the Mathematics portion of the ACT exam
- A result of Standard Met: Conditionally Ready for college-level coursework in mathematics on the CAASPP exam

EPT and ELM

These tests must be taken and scores must be received prior to enrollment.

It is the students' responsibility to confirm exemption from either the EPT or ELM exam by contacting the Admissions/Records Office, North Lobby, Joyal Administration Building.

Information bulletins and registration materials for the EPT and ELM may be obtained from the Office of Testing Services.

Credit by Examination

Students may challenge courses by taking examinations developed at California State University, Fresno. Credit shall be awarded to those who pass them successfully.

Credit for Non-collegiate Instruction. Fresno State grants undergraduate degree credit for successful completion of non-collegiate instruction, either military or civilian, appropriate to the baccalaureate degree, which 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 by examination is designed to encourage regularly enrolled students to seek college credit in courses in which they have competence but for which credit has not been earned by the usual academic processes. This permits students to accelerate their progress and provides an opportunity for wider selection of coursework. The following procedures should be followed:

1. With the concurrence of the department, students may apply for credit by examination in any course in our current General Catalog for which they appear to be reasonably qualified by training or experience and for which college credit has not been previously allowed. Credit by examination is not awarded if credit has been granted for previous coursework more advanced than the level represented by the examination in question. Credit by examination is not allowed in courses in which students have been permitted to register as auditors during the same semester, in which students have received a failing or no credit grade, or in which they have unsuccessfully sought credit by examination.
2. Students enroll for credit by examination at any time during the first two weeks of classes. Students must be regularly enrolled in other courses before they are granted permission to earn credit by examination. Units of credit by examination are counted as part of the total units registered for a given semester or term. Applications for credit by examination must be completed by students and approved by the respective departments.
3. The examination must be administered by the end of the fourth week of instruction, and the instructor must report the grade prior to the close of the sixth week.
4. The course in which students request credit by examination is so designated on their record. Students will receive a credit (CR) grade if the examination is passed with a C or higher grade. If they are unsuccessful, a no credit (NC) grade is reported. Units earned count toward all appropriate requirements but are not used in computing their GPA.
5. The number of units earned by credit by examination in any semester or term may not exceed the number of units completed in regular enrollment. A maximum of 30 units earned by examination may be counted toward a bachelor's degree.

Credit earned by examination does not meet the residence requirement of the university. For further information, consult the department concerned. See also Advanced Placement.

Graduate Students

Credit by examination for coursework may be used to fulfill prerequisites only and may not be applied toward the total units required for a master's degree.

Independent Study

Independent study is offered to give students experience in planning and outlining a course of study on their own initiative under departmental supervision. Independent study should deal with a special interest not covered in a regular course or with the exploration in greater depth of a subject presented in a regular course. Each department has an independent study upper -division course (190). In addition, some departments have a lower-division course (90) and/or a graduate-level course (290).

To be eligible for independent study, students should have an overall grade point average of 3.0 or higher. This requirement may be waived in exceptional cases, when approved by the department chair. Maximum credit of 6 units in independent study courses is allowed toward the bachelor's degree, and maximum credit of 6 units in independent study courses may be approved for use toward a 30-unit master's degree. Such credit is limited to a maximum of 3 units per semester. Under extraordinary circumstances more than 3 units per semester may be allowed on petition to the department chair.

Eligible students desiring to register for Independent Study must first obtain the consent of an instructor, who will guide the project, and the chair of the department in which the course is given. Students must register for Independent Study courses during the regular registration period in the same manner as they register for any other course at the time of registration.

An independent study course normally includes an oral examination by a committee set up by the supervising instructor, a formal report that is filed in the department office, and an abstract of the study that is filed with the department chair. Approval forms and copies of the current regulations may be obtained from department, school, or college offices. The entry on the permanent record shows the discipline and course number only; the title does not appear.

Credit for Noncollegiate Instruction

This university grants undergraduate degree credit appropriate to the baccalaureate degree for successful completion of noncollegiate instruction, either military or civilian, that has been recommended by the Commission on Educational Credit and Credentials of the American Council on Education. The number of units allowed are those recommended in AGuide to the Evaluation of Educational Experience in the Armed Services and the National Guide to Educational Credit for Training Programs.

Credit for Military Service Coursework

A lower-division elective credit is given for recruit training for initial entry into the service providing the student was on active duty for at least one year and one day. Credit given varies depending on the branch of service and date of entry. An applicant for

credit must submit a copy of Notice of Separation (DD214) to the Degree Advising Office.

DANTES (Defense Activity for Non-Traditional Educational Support) maintains the educational records of the servicemen and women who have completed SSTs (Subject Standardized Tests), CLEP (College Level Examination Program) examinations and GED tests. DANTES has also maintained USAFI (United States Armed Forces Institute) transcripts since that organization ceased to exist in 1974.

College credit is awarded for acceptable SST scores as recommended by DANTES. Equivalency for SST credit is determined by our departments. Other credits recommended by DANTES (CLEP, etc.) must meet university guidelines for the awarding of credit for those examinations. DANTES/USAFI correspondence credit is combined with other extension or correspondence coursework to a maximum of 24 semester units.

Additional credit is granted for military courses as recommended in A Guide to the Evaluation of Educational Experiences in the Armed Services. A maximum of 30 units is allowed for military credit.

College Level Examination Program

The College Level Examination Program (CLEP) is designed to be a means through which recognition, academic credit, and placement may be given for less conventional forms of educational experience. Those who may have reached a college level of education through home or correspondence study, on-the-job training, television courses, or by other means may take the CLEP examinations, which are offered by the College Entrance Examination Board. They are now offered only as computer-based tests and are available through Testing Services on campus.

Within the restrictions of systemwide policy, this university awards up to 6 units of credit for successfully completed CLEP examinations. Such credit is applied to the total units required for the baccalaureate degree, but it is not applied to the General Education requirement. Not all CLEP examinations are acceptable under system policy. It is the responsibility of the student to check with the appropriate department to determine whether it accepts CLEP credit. This should be done prior to taking the CLEP exam.

Credits earned through CLEP are included among the maximum of 30 units of Credit by Examination that may be credited toward a bachelor's degree. For additional information, call Testing Services,559.278.2457.

Upper-Division Writing Examination.

The UDWE is administered by the university and may be used to satisfy the upper-division writing skills requirement. One unit of credit may be granted (ENGL 100W) to registered undergraduate students upon request. This unit may be applied toward the 40 upper-division unit degree requirement and total units for the baccalaureate degree but cannot be applied toward the 30 residence unit degree requirement or for postbaccalaureate credit. For details, call Testing Services,559.278.2457.

Intrasystem and Intersystem Enrollment Programs

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.

There are two 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 Enrollment Services 559.278.2191.

- **CSU Concurrent Enrollment** – Matriculated students in good standing may enroll 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 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.

Academic Regulations

Students must meet all degree requirements as specified in their catalog year.

Bachelor's/Master's/Doctoral Degrees

California State University, Fresno is authorized to grant the Bachelor of Arts, Bachelor of Science, Master of Arts, Master of Science, Master of Biotechnology, Master of Business Administration, Master of Fine Arts, Master of Physical Therapy, Master of Public Administration, Master of Public Health, and Master of Social Work degrees. California State University, Fresno offers an Educational Specialist degree (Ed.S.) in School Psychology, a Doctor of Physical Therapy (D.P.T.) in Physical Therapy and a Doctor of Nursing Practice (D.N.P.) jointly conferred with California State University, San Jose. California State University, Fresno also offers a doctoral degree (Ed.D.) in Educational Leadership. See Kremen School of Education and Human Development for public school credentials for which the university is authorized to recommend candidates.

Definition of Key Terms

Additional Requirements. Courses from one or more departments or programs that are required in support of the major. Such courses are not included in the minimum 2.0 grade point average required in the major for graduation and may be waived or substituted at the discretion of the major department or program. Additional requirements normally may be applied toward a minor. Additional requirements may also be applied toward General Education unless specifically prohibited by the major department.

Certificate. A set of interdisciplinary courses comprised of a minimum of 12 units focusing on a special area of study. Students are not required to be matriculated or be undergraduates. Certificates are awarded upon completion of the program regardless of catalog year or degree status. The university awards three types of certificates. They include the Certificate of Completion, the Certificate of Special Study, and the Certificate of Advanced Study. See *Certificates* in Degree Requirements for more information.

- The **Certificate of Completion** is awarded for successfully completing a planned educational experience designed for specific academic objectives.

- The **Certificate of Special Study** is awarded for successfully completing a structured program of educational experiences of at least twelve semester units, determined in advance by a department or school, and consisting of upper division (100-199) courses, professional (300-399) courses, and related activities.

- **Certificate of Advanced Study**. A certificate program of special study at the postbaccalaureate level.

Concurrent Enrollment. The term concurrent enrollment is used to describe several different types of enrollment:

1. Open University Enrollment. Nonmatriculated students may enroll in regular California State University, Fresno classes through Continuing and Global Education.
2. Concurrent Enrollment at Other CSU Campuses. CSU students may attend two CSU campuses simultaneously. This type of enrollment is not often used by California State University, Fresno students because of the distance to other CSU campuses. (See the registrar for details.)
3. Concurrent Enrollment at a Non-CSU College or University. While enrolled at California State University, Fresno, students may enroll for additional courses at another institution outside the CSU system. The courseload in the combined enrollment program may not exceed the maximum unit load restrictions for California State University, Fresno.

Core. A common set of courses within a major or minor that all students are required to complete.

Degree Progress Report (DPR). DPR is a tool that assists in the advising process. Students can print their own DPR through self-service. The DPR shows the student's progress in a chosen degree program, using courses taken at California State University, Fresno and transfer institutions. The DPR displays how courses apply toward the student's declared major, General Education, and degree requirements. It also displays a list of approved courses for each requirement to be completed.

Double-Counting. Allowing one course to fulfill two separate requirements concurrently; e.g., allowing one course to fulfill both a major requirement and the upper-division writing skills requirement, or allowing one course to fulfill both a major requirement and General Education requirement.

Electives. Courses/units a student selects to complete the total unit requirement for the baccalaureate degree and/or to complete requirements for the major.

Grade Point Average (GPA). The grade point average is a measure of academic scholarship and performance which is computed by dividing units registered into grade points earned. Three separate GPAs are computed:

1. Cumulative GPA for all baccalaureate or postbaccalaureate units by degree objective.
2. Cumulative GPA for total California State University, Fresno units.
3. GPA for that semester only.

A minimum of a C average (2.0 GPA) for units in the major, all California State University, Fresno units, and total units is required for a baccalaureate degree. (Search for Grade Symbols and Grade Points, Degree Requirements.) Master's degree students have a higher minimum GPA requirement. (Search for Graduate Studies Advancement to Candidacy, Grade Requirements.)

Major. Set of required courses from one or more departments designed to provide students with the knowledge, skills, and experiences necessary to pursue a specific career and/or advanced study. A student must earn a 2.0 grade point average in all courses required for the major, except "additional requirements," in order to graduate. (Minimum Title 5 requirements: B.A. 24 units of which 12 must be upper division exclusive of General Education; B.S. 36 units of which 18 must be upper division exclusive of General Education.)

Minor. In addition to academic majors, the university offers a number of minors. A minor is a formal set of courses in a designated subject area distinct from a student's major. The intent of a minor is to provide a condensed and cohesive academic experience, in addition to a major. Minors consist of a minimum of 12 semester units, at least 6 of which must be upper-division residence units. Minors must be completed with a minimum GPA of 2.0. Minors offered by academic departments and programs are listed in the minors section of the catalog. Detailed descriptions are found in the listings of the particular departments and programs. Courses in the minor may not also count toward a student's major except as Additional Requirements to that major. However, courses fulfilling requirements for a minor usually may be counted toward General Education. Refer to the description of the specific minor for exceptions.

A student may earn one or more minors provided that the requirements above are met for each and that at least 12 units in each of the two minors are distinct and include at least 6 upper-division units in residence.

Option. Set of required courses within a major in addition to the major core courses that emphasizes one important aspect of that school or college, department, or program.

Concentration. A specialized area of study within a major. The concentration does not appear on the diploma. Concentrations may or may not appear within majors that have also approved formal options. The term concentration is often used interchangeably with the terms emphasis, specialization, or track.

Prerequisite Requirements. Prerequisite courses must be completed prior to enrollment in the listed course; corequisite courses must be completed prior to or concurrently with the listed course. Students who do not meet these requirements may be disenrolled by the instructor or by the university.

Recommended Courses. Courses that the department faculty believe would be beneficial for a student to take but are not mandated or required as part of the major.

Units. A credit or semester unit represents one hour of class work per week for one semester. It is assumed that two hours of preparation are required for each hour in class. Three hours of laboratory per week are the equivalent of one unit. In a limited number of courses two hours of laboratory per week are the equivalent of one unit. Also, two hours of activity or studio (art, dance, music, physical education) are normally equivalent to one unit of credit. One quarter unit of credit is equivalent to two-thirds of a semester unit.

Units attempted and units earned are terms that appear on the student's transcript and evaluation. Units attempted is the column used for GPA calculation. The units earned column is used to determine units completed toward the total unit requirement for the degree.

Choice of Catalog

Election of Regulations. An undergraduate student or postbaccalaureate student pursuing a second bachelor's degree or second major must fulfill degree requirements from one catalog, not the most favorable requirements from two or more catalogs. As long as a student maintains "continuous attendance,"* he or she may elect, for purposes of fulfilling graduation requirements, one of the following:

1. The catalog in effect at the time a student enters a California community college or a campus of the California State University system.
2. The catalog in effect at the time a student enters California State University, Fresno.
3. The catalog in effect at the time the student applies to graduate from California State University, Fresno.

**A student may not begin "continuous attendance" while still enrolled in high school.*

Continuous attendance is defined as being officially enrolled at least one semester or two quarters during a calendar year.

Students must demonstrate progress toward fulfillment of degree requirements to maintain registration eligibility as a continuing student. Students who enroll and withdraw from courses for two or more consecutive semesters may not be eligible for registration as a continuing student.

Once a student establishes catalog rights in the CSU or California Community College system, he or she may attend any accredited college or university for no more than two years and maintain catalog rights. A planned educational leave maintains a student's continuous attendance status. (See Planned Educational Leave of Absence.)

Any break in attendance of one calendar year or longer ends a student's continuous attendance status. This results in the loss of catalog rights to all catalog choices prior to the break in attendance. It should be noted that enrollment in Open University, extension, and correspondence courses does not establish catalog rights nor contribute toward continuous attendance to maintain catalog rights. A loss of catalog rights could result in one or more additional semesters to meet new catalog requirements especially in the major and/or General Education. Once a student graduates, however, all rights to the original catalog are terminated.

Graduate (master's) students fulfill requirements based on an approved advancement to candidacy petition. These requirements are based on departmental and university requirements as published in the current catalog at the time of advancement. Continuous enrollment is likewise defined differently for master's students. (Search Graduate Studies.)

Transcript Evaluation

Undergraduate transfer students are generally evaluated under the degree requirements listed in the General Catalog at the time they enter California State University, Fresno.

During the first semester of enrollment, transfer students should receive a copy of a computerized evaluation (DPR - Degree Progress Report) detailing how prior coursework has transferred into the university and indicating remaining degree requirements. It is recommended that students request an updated DPR (Degree Progress Report) through self-service at least once a year for review with their academic adviser. A degree evaluation is completed during the semester a student files for graduation. (Search Graduation and Commencement.) Students should keep their personal copy current.

All transcripts submitted in support of an application for admission become the property of the Records Office and are not returnable. Students are strongly encouraged to obtain duplicate copies of their records from high school and prior college attendance for their personal file.

Grade Symbols and Grade Points

A - Excellent. Performance of the student has demonstrated the highest level of competence, showing sustained superiority in meeting all stated course objectives and responsibilities and exhibiting a very high degree of intellectual initiative. (4 grade points per unit.)

B - Very Good. (1) Performance of the student has demonstrated a high level of competence, showing sustained superiority in meeting all stated course objectives and responsibilities and exhibiting a high degree of intellectual initiative. (3 grade points per unit.)

C - Satisfactory. (2) Performance of the student has demonstrated a satisfactory level of competence, showing an adequate level of understanding of course objectives, responsibilities, and comprehension of course intent. (2 grade points per unit.)

D - Unsatisfactory. (2,3) Performance of the student has been unsatisfactory, showing inadequacy in meeting basic course objectives, responsibilities, and comprehension of course content. (1 grade point per unit.)

F - Failure. Fails to meet course objectives. Work at this level does not meet requirements for credit toward a degree. (0 grade points per unit.)

WU - Failure Withdrawal Unauthorized. (4) The symbol WU indicates that an enrolled student did not withdraw from the course and also failed to complete course requirements. It is assigned 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. (0 grade points per unit.)

CR - Credit for units allowed, work of A, B, or C quality in undergraduate courses and A or B quality in 200-level courses. (0 grade points per unit; units allowed for the degree.)

NC - No credit for units registered for, work of D or F quality in undergraduate courses and C, D, or F quality in 200-level courses. Replaces I grade in courses where CR/NC grading is used if required work is not completed within required time. (0 grade points per unit; no units allowed.)

W - Withdrawal after the fourth week of instruction. (Not used in grade point calculation.)

I - Incomplete Authorized. Required coursework has not been completed and evaluated yet. (Not used in grade point calculation.) See Incomplete Grade Explanation , which follows.

IC - Incomplete Charged. Student who received an authorized Incomplete (I) has not completed the required coursework within the allowed time limit (0 grade points per unit).

RD - Report delayed. Grade must be cleared before a degree is awarded. (Not used in grade point calculation.)

RP - Report in Progress. Continuing work in progress. (No units allowed and not included in grade point calculation until grade is assigned.)

AU - Audit. Grade indicates student's status as auditor and does not earn degree credit.

Explanation of Grades

Audit Status (AU). Persons wishing to attend classes without matriculating or receiving college credit may register as auditors. Auditors register during the first week of instruction. Students enrolled in audit status only may not transfer to credit status without completing admission procedures.

Enrollment as an auditor is subject to permission of the instructor provided that enrollment in a course as an auditor shall be permitted only after students otherwise eligible to enroll on a credit basis have had an opportunity to do so. 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 fourth week of instruction.

Regular class attendance is expected and the student may be required to participate in any or all classroom activities at the discretion of the instructor. An audited course is not listed on the student's permanent record if the requirements for auditing the class are not met.

Credit for courses audited will not subsequently be granted on the basis of the audit. (See the current Class Schedule.)

Credit/No Credit Grading (CR/NC). The credit/no credit grading policy at California State University, Fresno is designed to encourage academic exploration outside the major field of study. The policy also recognizes that in certain types of courses, student performance is best evaluated in terms of credit/no credit grading rather than through the traditional letter grades.

Neither the CR nor NC grade is included in the calculation of the grade point average. The grade of CR is assigned if the student's work is judged to be equivalent to an A, B, or C grade as applicable to regular enrollment in an undergraduate course or equivalent to an A or B grade in a 200-level course.

The NC grade is assigned if the student's work is not equivalent to these standards:

1. **General conditions and limitations**. Some courses are not available for CR/NC grading, (see individual course description), while others are designated as available for CR/NC grading only. All other courses are available for CR/NC grading; however, a student may not enroll in more than 6 units of CR/NC graded coursework per semester. The decision to enroll for CR/NC grading must be made prior to the end of the fourth week of instruction and the decision must be recorded by the student by using the Web registration system.
2. **Undergraduate Students**. A student may not elect CR/NC graded coursework to satisfy requirements for the major unless the courses have been designated CR/NC only. A maximum of 24 semester units at California State University, Fresno of CR/NC evaluated credit, including all coursework taken CR/NC only, may be applied toward the degree.
3. **Graduate Students**. Credit for coursework earned through CR/NC in fall 1978 and in subsequent semesters may not be applied toward the master's degree unless the course has been designated as available for CR/NC only by the Graduate Committee. A maximum of 6 units of CR/NC only credit may be applied to a 30-unit master's degree program and a maximum of 12 units of CR/NC only credit may be applied to a 60-unit program.

See the current *Class Schedule* for further information.

1. Master's degree candidates are reminded that a B (3.0) average is required in the master's degree program and for all courses (related and unrelated; lower division, upper division, and graduate) taken concurrent with the master's degree program.
2. Undergraduate students are reminded that a C (2.0) average is required for all college coursework completed, all courses taken at California State University, Fresno, and all courses in the major in order to graduate with a baccalaureate degree. Some majors are subject to more stringent grading requirements.
3. Master's degree candidates are remindedthat a D is not accepted toward any master's degree program.
4. A WU is assigned only for courses graded A through F. The course can be repeated and the new grade may be substituted

for the WU by petition, except for master's degree students. (See Repeating Courses.)

Incomplete (I). Incomplete (I). The symbol I (Incomplete Authorized) indicates that a portion of required coursework 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. Such reasons must meet the criteria of serious and compelling and occur late in the semester. The grade of I is only appropriate when the student requesting it has completed a minimum of two-thirds of the work for the course with a passing grade. The instructor of record retains the right to decide whether or not an I grade is appropriate. It is the responsibility of the student to bring pertinent information to the attention of the instructor and to determine from the instructor the remaining course requirements that must be satisfied to remove the incomplete. The faculty member should complete the online incomplete contract detailing the work that needs to be completed. A final grade is assigned when the work agreed upon has been completed and evaluated. Students may not enroll in a course for which they have an I grade.

Normally it is expected that the student will make up an I grade during the next semester; however, it must be made up within one calendar year immediately following the last day of the semester/session 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 the I being counted as an IC, or failing grade for grade point average computation. An I grade not made up within one calendar year after the grade has been recorded is changed to an IC (or an NC if CR/NC grading was approved).

Incomplete grades must be cleared before a degree is awarded. In the absence of the instructor who has assigned the incomplete, a student seeking to make up this grade should consult the department chair.

A short-term extension of time may be granted with justification by contacting the Office of the Registrar prior to the last day of the second semester/session.

Report in Progress (RP). The RP symbol is used in connection with courses that extend beyond one academic term. It indicates that work in progress has been evaluated as satisfactory to date but that assignment of a final grade must await completion of additional work. The RP may be used only in courses designated on the approved RP grade course list published by the Office of the Provost and Vice President for Academic Affairs. Cumulative enrollment in units attempted may not exceed the total number applicable to the student's educational objective.

While completing work on an RP or an I, graduate students are required to be continuously enrolled at California State University, Fresno, every semester until the awarding of the degree. Graduate students enrolled in Project (298) or Thesis (299) receive RP grades at the end of the first semester of enrollment and are advised to complete work on the culminating experience during four additional semesters, subject to the five-year overall time limit for completion of all master's degree requirements. In addition, if an RP in 298 or 299 is not replaced by a final grade within two years as recommended, the student's major department may require him or her to reregister for the course. (Search Graduate Studies.)

Withdrawal Unauthorized (WU). The symbol WU indicates that an enrolled student did not 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. In instances where a course is graded CR/NC or the student elects a CR/NC grading option, the WU grade will be converted to NC.

Withdrawal (W). The W symbol indicates that the student was permitted to drop the course after the fourth week of instruction for serious and compelling reasons with the approval of the instructor and appropriate campus officials. It carries no connotation of quality of student performance and is not used in calculating grade point average. Undergraduate students may withdraw from no more than 18 semester units.

Grading Policies and Practices

Grading. Students are expected to complete all requirements for a class by the end of the semester unless an incomplete is permitted by the instructor in accordance with university policy. Students shall not be assigned additional work or be allowed to revise previous assignments in order to improve a final grade.

College Syllabus and Record Keeping. All faculty members shall provide students at the beginning of each semester a syllabus or outline stating course goals and objectives including grading methodology, types and number of projects, written assignments, tests, experiments, etc.

Dean's List and President's List. Undergraduate students enrolled in at least 12 units during a regular matriculated term, earning no grade lower than a C, and earning at least a 3.5 grade point average (GPA) for the term are placed on the Dean's List for that term and a note is added to their transcript. Students meeting these requirements and having a 4.0 GPA for the term are placed on the President's List.

Repeating Courses. Undergraduate students may register for courses a second time only if they earned a grade of D, F, IC, or WU during the first attempt and they have not exceeded 28 units of repeated coursework.

Undergraduate students may not register to take a course more than two times until they complete the required paperwork, meet with the major adviser, obtain verification of all of the following conditions, and submit the verification to the major department chair for approval:

1. they have not exceeded 28 units of repeated coursework,
2. they received a grade of D, F, IC, or WU upon the second attempt of the course,
3. the course to be repeated is a program requirement,
4. the program they are pursuing requires a grade of C or higher in the course to fulfill a program requirement, and
5. there are no other courses in the catalog that can be used to fulfill the program requirement.

The chair will not grant this approval unless all of these conditions are met.

If the request is approved, the student submits the required paperwork to the Admissions and Records Office.

Grade Substitution by Repetition of Courses. An undergraduate student may grade substitute up to 16 semester units of undergraduate coursework at California State University, Fresno. If the original grade was D, F, WU, or IC, and the subsequent grade is the same or higher, the new grade will be substituted for the original grade. Only the substituted grade will be used in determining the student's grade point average. Grade substitution can be used only once for an individual course. If the original grade was C, CR, or better, the course cannot be repeated. A student may repeat a total of 28 units, 16 of which may be used for grade substitution, as described above, and 12 units of which can be averaged.

A course in which a grade of NC was earned may be repeated but since the NC grade does not affect the grade point average, no substitution is necessary; however, the repeat will count toward the 12 unit limitation of averaged units.

A course attempted at another institution may be repeated by enrolling in a regular California State University, Fresno course determined by the Degree Advising Office to be equivalent. A course for which grade substitution has been granted at another institution may not be repeated for grade substitution at California State University, Fresno. **In addition, a course taken at California State University, Fresno may not be repeated for grade substitution at another institution.**

Postbaccalaureate students pursuing (1) a second baccalaureate degree, (2) a second undergraduate major, (3) a teaching credential, or (4) no specific objective, are also free to repeat a course and request grade substitution on the same basis as undergraduates provided the original course was completed when the student had postbaccalaureate standing.

Postbaccalaureate students pursuing a doctoral degree, master's degree, or certificate of advanced study may, with approval of an adviser, repeat a course for academic credit, regardless of what grade was originally earned in the course. However, the student is not eligible to petition for grade substitution. All course work taken, beginning with the first term of the student's doctoral or master's degree program is used in determining the student's grade point average and graduation eligibility.All appropriate grade substitutions will automatically be posted to the student's records at the end of each semester except in cases in which the first attempt was at another institution. For these cases, a Grade Substitution Petition form must be filed with the Admissions, Records, and Degree Advising Office by the last day of the semester.

All appropriate grade substitutions will automatically be posted to the student's records at the end of each semester except in cases in which the first attempt was at another institution. For these cases, a grade substitution Petition form must be filed with the Admissions, Records, and Degree Advising Office by the last day of the semester.

For further information, contact the Admissions, Records, and Degree Advising Office located in the North Lobby, Joyal Administration Building.

Academic Renewal. Under certain circumstances, the university may disregard up to two semesters (three quarters) of previous undergraduate coursework taken at California State University, Fresno or at any other college from all considerations associated with requirements for the baccalaureate degree. When such action is approved, the student's permanent academic record is marked to indicate that no work taken during the disregarded term(s), even if satisfactory, may apply toward baccalaureate requirements. However, all work must remain legible on the record ensuring a true and complete academic history.

In order to qualify for renewal, all of the following conditions must be met:

1. Five years must have elapsed since the most recent work to be disregarded was completed.
2. It must be evident that the poor level of work represented by the term(s) under consideration is not representative (see No. 3) of the student's usual academic performance and was due to extenuating circumstances.
3. The student must have completed the following in residence at California State University, Fresno since the most recent

work to be disregarded was completed: (a.) 15 semester units with at least a 3.0 GPA or (b.) 30 semester units with at least a 2.5 GPA or (c.) 45 semester units with a 2.0 GPA. Work completed at another institution cannot be used to satisfy this request.
4. It must be evident that it would be necessary for the student to complete one or more additional terms in order to qualify for the baccalaureate degree if the request were not approved, i.e., that the student would have less than a 2.0 grade point average in one or more of the following: (a) Cumulative collegiate coursework (b) All California State University, Fresno coursework (c) Coursework required for the major
5. This policy may not be used in concert with any other academic forgiveness policy impacting particular academic term(s).

For further information or to apply for academic renewal, contact the Degree Advising Office, 559.278.4076.

Planned Educational Leave of Absence. A planned educational leave of absence is defined as a planned interruption or pause in a student's regular education of more than one semester during which the student temporarily ceases formal studies at California State University, Fresno, while pursuing other activities that may assist in clarifying the student's educational goals. The intent of the policy is to make it possible for a student to suspend his or her academic work and later resume studies with a minimum of procedural difficulty.

A student who is approved for a planned leave will be considered a continuing California State University, Fresno student. A student may enroll for classes at the end of an approved leave without reapplying for admission and may continue at California State University, Fresno without changing graduation requirements.

A planned educational leave must be recommended by a faculty adviser and approved by the department chair (or program coordinator).

Planned educational leaves may be granted for a variety of reasons or projects but certain characteristics must be contained in any request for a leave:

1. The student must have a definite objective, which in the judgment of the faculty adviser and the chair, contributes to his or her educational goals and objectives.
2. A medical condition is not considered grounds for a planned educational leave of absence.
3. The request must be for a specific period of time which shall not exceed four consecutive semesters.
4. The student must plan to return to California State University, Fresno at the conclusion of his or her leave.

The following regulations apply to the planned educational leave:

1. A student currently enrolled in a fully matriculated session may be considered for a planned educational leave.
2. A student may be granted only one leave as an undergraduate student and one leave as a graduate student. Planned educational leaves are granted for up to four consecutive semesters.
3. In addition to recommendation by a faculty adviser and a chair, international students must be recommended by the director of international student services and programs, and educational opportunity program students by an EOP counselor.
4. Petitions for planned educational leaves must be filed (with the appropriate recommendation) at the Registrar's Office before the first day of classes for the semester during which the leave is to begin.
5. Leaves are not approved for students in disqualified status or on contract to remove academic deficiencies.
6. It is expected that a student will devote his or her leave primarily to nonclassroom activities. A leave is not approved if the student plans to attend another institution, unless the coursework the student seeks is not available at California State University, Fresno. Any academic credit earned while on a planned educational leave is accredited by California State University, Fresno only if permission is granted for that credit in advance.
7. Students who do not return to the university at the conclusion of their planned educational leave and those who enroll elsewhere will be considered to have withdrawn from the university at the end of their last semester of regular enrollment at California State University, Fresno and will have to reapply for admission upon their return.

Students wishing to apply for a planned educational leave should obtain a request form from the Admissions, Records, and Degree Advising Office, North Lobby, Joyal Administration Building, 559.278.2261.

Student Academic Petitions. The Student Academic Petitions Committee has the authority to permit exceptions to university baccalaureate degree requirements when fulfilling the degree requirement would prove to be an undue hardship for the student and/or such an exception can be demonstrated to be educationally justifiable. The committee will take action only upon the submission of a formal petition by the student that sets forth the facts and circumstances that may warrant special consideration.

Petitions and procedural information are available in the University Advising Center. The Petitions Committee does not make decisions pertaining to substitutions for undergraduate and graduate major requirements. Such requests are initiated through the student's department. Requests to waive established university policy governing graduate study may be addressed to the dean, Division of Graduate Studies. If a request cannot be accommodated, it is forwarded to the Graduate Committee.

Contact University Advising Center for further assistance with student academic petitions.

Grade Protests. The Student Academic Petitions Committee also has the responsibility of handling grade protests for all students, undergraduate and postbaccalaureate. Students who believe they have been graded unfairly or incorrectly by an instructor must consult first with the faculty member concerned within the first 15 working days of the following semester and make every effort to resolve the issue. The instructor has five working days to respond. For cases in which an incorrect grade was assigned due to a recording error, the instructor will submit a Grade Correction Request form to the Admissions and Records Office

If the issue is not resolved, a student must immediately consult with the department chair, who will give the student an answer within 10 working days. If a student still believes that the grade was assigned unfairly or incorrectly after completing this process, the student then may request that the Student Academic Petitions Committee review the issue. To request review, students must immediately make an appointment with an academic counselor in the University Advising Center (Joyal, Rm. 224; 559.278.1787) to discuss their particular situation and to receive a copy of the university's grade protest policy as well as additional procedural instructions.

Students then must submit a written statement no later than midsemester setting forth all pertinent details to the chair of the Petitions Committee.

Scholarship Status

Satisfactory Scholarship. Satisfactory scholarship means at least a C average (2.0 grade point average or twice as many grade points as units attempted) in both campus and cumulative GPAs and satisfactory progress toward a degree for undergraduate and postbaccalaureate students without a master's degree objective. Graduate (master's degree) students must maintain at least a B average.

A student (undergraduate, postbaccalaureate or graduate) whose campus or cumulative grade point average falls below the satisfactory scholarship level is placed on probation and is disqualified if the grade point average falls below probation levels. (For details see next page.) Only the most recent probation or disqualification action appears on the student's transcript.

Probation. Undergraduate students are placed on academic probation, a type of academic warning, if their:

1. Grade point average (GPA) based on total units attempted at all colleges is below a 2.0 (C average) or
2. GPA based on all units attempted at California State University, Fresno is below a 2.0 average.

Students remain on academic probation until both overall and California State University, Fresno grade point averages are 2.0 or better, or until they are disqualified under one of the provisions of the disqualification regulations.

These regulations also apply to all postbaccalaureate students except those enrolled in master's programs. The latter are expected to maintain a cumulative GPA of at least 3.0 in all units attempted subsequent to admission to the master's program. Master's students who fall below the required GPA are placed on probation.

Students enrolled in master's programs are required to maintain a minimum 3.0 postbaccalaureate cumulative grade point average (GPA) prior to advancement to candidacy. Search Graduate Studies.

A student may be placed on administrative-academic probation for withdrawal from a substantial portion of a program in two successive terms or in any three terms; for repeated failure to progress toward a degree; or for failure to comply with an academic requirement or regulation that is routine for all students or for a defined group of students.

Disqualification. Students are disqualified if either their campus or cumulative GPA falls within the disqualified range on either the overall or California State University, Fresno record equal to or greater than that indicated below.

A student becomes disqualified when the campus or cumulative grade point average in college work attempted falls below 1.50 for freshmen, 1.70 for sophomores, 1.85 for juniors, and 1.95 for seniors.

- As a freshman (fewer than 30 semester hours of college work completed) the student falls below a grade point average of 1.50 in all units attempted or in all units attempted at the campus where enrolled
- As a sophomore (30 through 59 semester hours of college work completed) the student falls below a grade point average of 1.70 in all units attempted or in all units attempted at the campus where enrolled
- As a junior (60 through 89 semester hours of college work completed) the student falls below a grade point average of 1.85 in all units attempted or in all units attempted at the campus where enrolled
- As a senior (90 or more semester hours of college work completed) the student falls below a grade point average of 1.95 in all units attempted or in all units attempted at the campus where enrolled
- Postbaccalaureate students who fall below a grade point average of 1.95 in all postbaccalaureate units

The best way to regain satisfactory scholarship status is to repeat classes at California State University, Fresno in which the student previously earned D, F, IC, or WU grades. Undergraduate students are limited to 16 units of grade substitution. Disqualified students who are readmitted are advised to take no more than 13 units, to attend a Maximizing Academic Potential (MAP) workshop, and to obtain a minimum of 2.00 in the semester GPA.

Graduate (master's) students are disqualified if their cumulative California State University, Fresno grade point averagefalls below 2.0.

Students placed on administrative-academic probation may be disqualified for the following reasons:

1. If they fail to meet the conditions for removal of probation,
2. Become subject to academic probation while on administrative-academic probation, or
3. Again become subject to administrative-academic probation for the same or similar reasons.

Readmission of Disqualified Students Undergraduate and Graduate

Students placed on academic disqualification at the end of a semester may be placed on disqualified readmitted status or may not be allowed to attend the subsequent semester.

Undergraduate. Disqualified California State University, Fresno students who have been away one semester or longer or were academically disenrolled must submit an application for readmission to the university and the appropriate readmission petition signed by a major academic adviser. Students readmitted under a special disqualification contract must fulfill the terms of that contract or again face disqualification. Contact 559.278.2191 for more information.

Postbaccalaureate/Graduate. To be considered for readmission to the university after disqualification, graduate and advanced certificate students must submit a "Petition for Readmission of Disqualified Graduate or Advanced Certificate Student" form to their graduate (or advanced certificate) program coordinator. Petitions are available online at www.fresnostate.edu/gradstudies. Disqualified graduate (or advanced certificate) students who have been away for more than one semester must also submit an application for readmission to the university. Additionally, students who seek a second baccalaureate or credential are asked to obtain the recommendation of the department/program to which they seek readmission. Students who are undeclared must have the approval of the dean of graduate studies to be readmitted to the university.

Transcripts and Reports

Transcript of Record. Students may request transcripts of their academic records at California State University, Fresno by accessing the online form and payment at www.fresnostate.edu/transcripts. The fee is $4 for the first copy and $2 for each additional copy, plus a $2 processing fee. ordered at the same time. California State University, Fresno transcripts are not provided to students with unpaid financial obligations and other administrative holds as determined by university officials. Transcripts of records from other institutions submitted to California State University, Fresno are not returned to students.

Reports to Students. Students may obtain their grades via the Student Center systems at the end of each regular semester.

Enrollment in Graduate-level (200-297) Courses

Enrollment in graduate-level (200-297) courses is limited to those who have been officially admitted to a graduate degree, advanced certificate, or credential program. However, there is a special program for last-semester undergraduate seniors who want to enroll in 200-level courses. All criteria listed on the Undergraduate Petition to Enroll in Graduate (200-level) Courses must be met. This petition, available from the Division of Graduate Studies, should be filed prior to the semester in which the student desires enrollment in 200-level course(s).

Admissions and Records

Requirements for admission to California State University, Fresno are in accordance with Title 5, Chapter 1, Subchapter 3, of the California Code of Regulations. Complete information is available at www.csumentor.edu/planning.

Electronic versions of the CSU undergraduate and graduate applications are accessible at *www.csumentor.edu*. The CSUMentor system allows students to browse through general information about CSU's 23 campuses, view multimedia campus presentations, send and receive electronic responses to specific questions, and apply for admission and financial aid.

Applying online via *www.csumentor.edu* is expected unless electronic submission is impossible. An acknowledgement will be sent when online applications have been submitted. Application in "hard copy" form may be obtained online via www.csumentor.edu as a portable data format (PDF). Application forms (in PDF) may also be downloaded from *www.calstate.edu/sas/publications*. Paper applications should be mailed to the Admissions and Records Office.

Importance of Filing Complete, Accurate, and Authentic Application for Admission Documents. California State University, Fresno 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 academic credit, suspension, or expulsion (Section 41301 of Title 5, California Code of Regulations).

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, Section 6109 of the Internal Revenue Code (26 U.S.C. 6109). See also *Policies and Regulations*.

Taxpayers who claim Hope Scholarship or Lifetime Learning tax credit will be required to provide their name, address, and Taxpayer Identification Number to the campus.

Undergraduate Application Procedures

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 in the form of a check or money order payable to "The California State University" or by credit card if submitting the online application, and may not be transferred or used to apply to another term. An alternate major may be indicated on the application. The applications of persons denied admission to an impacted campus may be re-routed to another campus at no cost, but only if the applicant is CSU eligible.

An alternate campus and major may be indicated on the application, but B. Generally, an alternate major will be considered at the first choice campus before an application is redirected to an alternate choice campus.

For undergraduate admission to California State University, Fresno you must

1. Submit a current application with a nonrefundable application fee to the Admissions and Records Office.
2. Request institutions formerly attended to send directly to the Admissions and Records Office transcripts of credits from high school and colleges. Failure to include all colleges attended may result in cancellation of your registration. All transcripts submitted by students are retained by California State University, Fresno.
3. Take the Scholastic Aptitude Test (SAT I) or American College Test (ACT) and request official scores be sent to California State University, Fresno if you are a lower-division applicant. The Test of English as a Foreign Language (TOEFL) is required of all foreign applicants and applicants who do not have at least three years of full-time schooling at the secondary level or beyond where English is the principal language of instruction.
4. Take any additional proficiency or placement tests required. (See Systemwide Placement Tests Requirements.)

In addition to the other documents required, a veteran should file a copy of the Notice of Separation (DD 214) from the armed services with the application for admission. Academic credit will be awarded for service time and service schools completed as recommended by A Guide to the Evaluation of Educational Experiences in the Armed Services. Veterans who are California residents may be exempt from certain admission requirements. Special admission may be granted if the applicant is judged likely to succeed academically. Standard admission procedures should be followed.

Applications will not be accepted after admissions categories have closed. Final eligibility for admission cannot be determined until all required documents have been received. Due to staff limitations, an evaluation of transfer credit will generally not be available until sometime during the first semester's enrollment.

A maximum of 70 semester units of credit is allowed toward the bachelor's degree for work completed in a community college. However, community college credit in excess of 70 units may be used to satisfy subject requirements. No upper-division credit will be given.

Remedial course units are not accepted for degree credit. For limitations on extension and correspondence credit, see Extension Classes.

Students desiring university housing or financial aid should file special applications with the appropriate offices concerned as soon as possible.

Impacted Programs

The CSU designates programs as impacted when more applications from regularly eligible applicants are received in the initial filing period (October and November for fall terms, June for winter terms, August for spring terms, February for summer terms) than can be accommodated. Some programs are impacted at every campus which they are offered; others are impacted only at a few campuses. Candidates for admission must meet all of the campus' specified supplementary admission criteria if applying to an impacted program or campus.

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 the following websites:

- *www.csumentor.edu*
- *www.calstate.edu/impactioninfo.shtml*
- *www.calstate.edu/sas/impaction-campus-info.shtml*

Campuses will communicate its supplementary admission criteria for all impacted programs to high schools and community colleges in their service area and will disseminate this information to the public through appropriate media. This information will also be published at the CSU campus individual website and made available online 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 in impacted programs at more than one campus should file an application at each campus for which they seek admission consideration.

Supplementary Admission Criteria. Each campus with impacted programs or 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 AA-T or AS-T degree, 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. For fall admission, applicants should take tests as early as possible, but no later than November or December of the preceding year.

The supplementary admission criteria used by the individual campuses to screen applicants are made available by the campuses to all applicants seeking admission to an impacted program. Details regarding the supplemental admission criteria are published at *http://www.calstate.edu/AR/impactioninfo.shtml*.

Graduate and Postbaccalaureate Application Procedures

All graduate and post-baccalaureate applicants (e.g., Ed.D., joint Ph.D. 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) must file a complete graduate application as described in the graduate and post-baccalaureate admission materials at *www.csumentor.edu*.

Applicants seeking a second bachelor's degree should submit the undergraduate application for admission unless specifically requested to do otherwise. Applicants who completed undergraduate degree requirements and graduated the preceding term are also required to complete and submit an application and the $55 nonrefundable application fee. Since applicants for post-baccalaureate programs may be limited to the choice of a single campus on each application, re-routing to alternate campuses or later changes of campus choice are not guaranteed. To be assured of initial consideration by more than one campus, it is necessary to submit separate applications (including fees) to each. Applications submitted by way of *www.csumentor.edu* are preferable. An electronic version of the CSU graduate application is available on the World Wide Web at *www.csumentor.edu*.

For additional information, see the *Division of Graduate Studies*.

Returning Students

Applicants who seek readmission after an absence of one semester or more must file an application for admission. Applicants absent one semester only are exempt from the $55 application fee providing no academic work was taken in the interim at any other institution. Students absent on an approved planned educational leave are not required to file an application for admission and are exempt from the application fee. (See Planned Educational Leave.)

Application Filing Periods

Each non-impacted campus accepts applications until capacities are reached. Many campuses limit undergraduate admission in an enrollment category due to overall enrollment limits. If applying after the initial filing period, consult the campus admission office for current information. Similar information is conveniently available at www.csumentor.edu/filing_status.

- Applications for the fall semester are accepted beginning Oct. 1. The initial filing period lasts until Nov. 30.
- Applications for the spring semester are accepted beginning Aug. 1. The initial filing period lasts until Aug. 31.
- Applications for the summer semester are accepted beginning Feb. 1. The initial filing period lasts until Feb. 28

Application Acknowledgment. On-time applicants may expect to receive an acknowledgment from the campuses to which they have applied within two to four weeks of filing the application. The notice may also include a request that applicants submit additional records necessary to evaluate academic qualifications. Applicants may be assured of admission if the evaluation of relevant qualifications indicates that applicants meet CSU admission requirements, and in the case of admission impaction, supplemental criteria for admission to an impacted program. Unless specific written approval/confirmation is received, an offer of admission is not transferable to another term or to another campus.

Hardship Petitions. The campus has established procedures for consideration of qualified applicants who would be faced with extreme hardship if not admitted. Petitioners should write the campus Admissions and Records Office regarding specific policies governing hardship admission.

Undergraduate Admission Requirements

Freshman Requirements. Generally, applicants will qualify for consideration for first-time freshman admission if they meet the following requirements: (1) they have graduated from high school, have earned a Certificate of General Education Development (GED), or have passed the California High School Proficiency Examination (CHSPE); (2) they have a qualifiable minimum eligibility index (see table on Eligibility Index); and (3) they have completed with grades of C or better each of the courses in the comprehensive pattern of college preparatory subject requirements (see Subject Requirements).

Eligibility Index. The eligibility index is the combination of the high school grade point average and scores on either the ACT or the SAT. Grade point averages (GPA) are 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.

A CSU Eligibility Index can be calculated by multiplying your grade point average by 800 and adding your total score on the mathematics and critical reading scores of the SAT. For students who took the ACT, multiply the grade point average by 200 and add ten 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 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 admissions tests in the computation of the CSU Eligibility Index.

Persons who neither graduated from a California high school nor are a resident of California for tuition purposes need a minimum index of 3502 (SAT) or 842 (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 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.

Honors Courses. Up to eight semesters of honors courses taken in the last two 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.

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 one 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 physica; lboth must have 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.

Foreign Language Subject Requirement. The foreign language subject requirement may be satisfied by applicants who demonstrate competence in a language other than English, equivalent to or higher than expected of students who complete two years of foreign language study. Consult with your school counselor or any CSU campus Admissions and Records Office or Relations with Schools offices for further information.

Subject Requirement Substitution for Students with Disabilities. Applicants with disabilities are encouraged to complete college preparatory course requirements if at all possible. If an applicant is judged unable to fulfill a specific course requirement because of his or her disability, alternate college preparatory courses may be substituted for specific subject requirements.

Substitutions may be authorized on an individual basis after review and recommendation by your academic adviser or guidance counselor in consultation with the coordinator of a CSU Services for Students with Disabilities office. Although the distribution may be slightly different from the course pattern required of other students, students qualifying for substitutions will still be held responsible for 15 units of college preparatory study.

Students should be aware that failure to complete courses required for admission may limit later enrollment in certain majors, particularly those involving mathematics. For further information and substitution forms, contact the coordinator of disabled student services at your nearest CSU campus.

High School Students. High school students may be considered for enrollment in certain special programs if recommended by the principal and the appropriate campus department chair and if preparation is equivalent to that required of eligible California high school graduates. Such admission is only for a given specific program and does not constitute a right to continued enrollment. Contact our Admissions and Records Office.

Transfer Policies of CSU campuses. Most commonly, college level credits earned from an institution of higher education accredited by a regional accrediting agency are 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 and 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.

Conditional/Provisional Admission - Freshmen. California State University, Fresno may provisionally admit first-time freshman applicants based on their academic preparation through the junior year of high school and planned coursework for the senior year. The campus will monitor the final terms of study to ensure that admitted students complete their secondary school studies satisfactorily, including the required college preparatory subjects, and graduate from high school. Students are required to submit an official transcript after graduation to certify that all course work has been satisfactorily completed. Official high school transcripts must be received prior to deadline set by the University. In no case may documentation of high school graduation be received any later than the census date for a student's first term of CSU enrollment. A campus may rescind admission decisions, cancel financial aid awards, withdraw housing contracts and cancel any University registration for students who are found to be ineligible after the final transcript has been evaluated.

Applicants will qualify for regular (non-provisional) admission when the university verifies that they have graduated and received a diploma from high school, have a qualifiable 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.

The CSU uses only the ACT composite 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.

Transfer Requirements

Applicants who have completed fewer than 60 transferable semester college units (fewer than 90 quarter units) are considered lower-division transfer students. Applicants 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.

Lower-Division Transfer Requirements. Generally, applicants will qualify for CSU admission consideration as a lower-division transfer if they have a cumulative grade point average of at least 2.0 in all transferable units attempted.

1. Will meet the freshman admission requirements (grade point average and subject requirements) in effect for the term to which they are applying (see “Freshman Requirements” section); or
2. Were eligible as a freshman at the time of high school graduation except for missing college preparatory subject requirements, have been in continuous attendance in an accredited college since high school graduation, and have made up the missing subject requirements with a 2.0 or better GPA.

Applicants who graduated from high school prior to 1988 should contact the admission office to inquire about alternative admission programs.

Making Up Missing College Preparatory Subject Requirements. Lower-division applicants who did not complete subject requirements while in high school may make up missing subjects in any of the following ways:

1. Complete appropriate courses with a C or better in adult school or high school summer sessions.
2. Complete appropriate college courses with a C or better. One college course of at least three semester or four quarter units will be considered equivalent to one year of high school study.
3. Earn acceptable scores on specified examinations, e.g., SAT subject tests.

Please consult with the CSU campus admission office to which you are applying for further information about alternative ways to satisfy the subject requirements.

Due to increased enrollment demands, most CSU campuses do not admit lower-division transfer applicants.

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* 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 which 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.

* Non-residents must have a 2.4 GPA or better.

For this requirement, transferable courses are those designated for baccalaureate credit by the college or university offering the courses.

Effective fall 2000 admission, all upper-division transfer students should contact the Admissions and Records Office to inquire about alternative admission programs.

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 a clear transfer preparation and admission pathway to those CSU degree majors deemed similar. Those students who complete these transfer degrees and who 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.

California Community College students who earn an associate degree for transfer (AA-T or AS-T) are guaranteed admission with junior standing to the California State University but not to any particular campus or program. Because several CSU campuses are receiving more transfer applications from eligible students than can be accommodated, these campuses have declared impaction resulting in higher admission criteria. See more on impaction at www.calstate.edu/SAS/impactioninfo.shtml. However, transfer students who earn the AA-T or AS-T degrees, are given priority admission over other transfer applicants when applying to a non-impacted CSU campus or to a non-impacted program from a community college within the local admission area of the campus. These students are also given priority admission consideration when applying from a community college that is outside the local admission area of an impacted CSU campus or when applying to a similar program that is impacted at any CSU campus. A current list of CSU degree programs that have been deemed similar to the associate degrees for transfer can be found at www.calstate.edu/transfer/adt-search.

Those 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, must 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 must 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.

Conditional/Provisional Admission - Transfers. California State University, Fresno may provisionally or conditionally admit transfer applicants based on their academic preparation and courses planned for completion. The campus will monitor the final terms to ensure that those admitted complete all required courses satisfactorily. All accepted applicants are required to submit an official transcript of all college level work completed. Campuses may rescind admission for any student who is found to be ineligible after the final transcript has been evaluated. In no case may such documents be received and validated by the University any later than a student's registration for their second term of CSU enrollment.

Test Requirements. 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. Contact campus Testing Services at 559.278.2457. Or students may write to or call:

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

CSU minimum TOEFL undergraduate standards are 61 for Internet, 500 for paper. Graduate standards are 80 for Internet, 550 for paper.

Graduate-Postbaccalaureate English Language Requirement (TOEFL). 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. Those who do not possess a bachelor's degree from a postsecondary institution where English is the principal language of instruction must receive a minimum score of (campus minimum score) on the Test of English as a Foreign Language (TOEFL). Some programs require a higher score. Several CSU campuses may use alternative methods for assessing fluency in English including Pearson Test of English Academic (PTE Academic), the International English Language Testing System (IELTS), and the International Test of English Proficiency (ITEP).

All graduate applicants must submit a minimum TOEFL score of 550, unless they have a baccalaureate degree from an institution of higher education in which English is the language of instruction. Some campuses may also use alternative methods of assessing English fluency. Graduate applicants taking the Internet version must score 80 or above.

Each campus will posts the tests it accepts on its website and will notify students after they apply about the tests it accepts and

when to submit scores.

Systemwide Placement Test Requirements. The CSU requires that each entering undergraduate, except those who qualify for an exemption, take the CSU Entry Level Mathematics (ELM) examination and the CSU English Placement Test (EPT) prior to enrollment. These placement tests are not a condition for admission to the CSU, but they are a condition of enrollment. These examinations are designed to identify entering students who may need additional support in acquiring college entry-level English and mathematics skills necessary to succeed in CSU baccalaureate-level courses. Undergraduate students who do not demonstrate college-level skills both in English and in mathematics will be placed in appropriate remedial programs and activities during the first term of their enrollment. Students placed in remedial programs in either English or mathematics must complete all remediation in their first year of enrollment. Failure to complete remediation by the end of the first year may result in denial of enrollment for future terms. Students register for the EPT (www.csuenglishsuccess.org/ept) and/or ELM (www.csumathsuccess.org/elm_exam). Campus may establish deadlines by which new students must register for and/or take placement exams as a requirement for enrollment. (See Academic Placement for EPT and ELM.)

Early Start Program. Entering resident freshmen who are not proficient in math or English will need to start the remediation process before their first regular term.

The goals of Early Start Program are

- to better prepare students in math and English, before the fall semester of freshman year;
- to add an important and timely assessment tool in preparing students for college; and
- to improve students' chances of successful completion of a college degree.

Newly admitted freshman students who are required to complete Early Start will be notified of the requirement and options for completing the program as part of campus communications to newly admitted students.

Adult Students. As an alternative to regular admission criteria, applicants who are 25 years of age or older may be considered for admission as adult students if they meet all of the following conditions:

1. Possess a high school diploma (or have established equivalence through either the General Educational Development or California High School Proficiency Examinations).
2. Have not been enrolled as a full-time student for more than one term during the past five years. (Part-time enrollment is permissible.)
3. have earned a C average or better in all college coursework attempted in the last five years

    - First time freshman: completion of at least high school level intermediate algebra and high school college prep level English.
    - Lower-division transfer: completion of at least intermediate algebra at the college level and completion of English composition at the college level.
    - Upper-division transfer: a student with 56 or more transferable units does not qualify for special admission through this program and must meet all regular admission requirements.

Consideration will be based upon a judgment as to whether the applicant is as likely to succeed as a regularly admitted freshman or transfer student and will include an assessment of basic skills in the English language and mathematical computation. For information, call the Reentry Office at **559.278.1787**.

Graduation Requirements in Writing Proficiency. All students must demonstrate competency in writing skills as a requirement for graduation. Information on currently available ways to meet this graduation requirement may be obtained from the Degree Advising Office or the Testing Office.

Graduate and Postbaccalaureate Admission Requirements

Postbaccalaureate students seeking a second undergraduate degree must file a graduate admission application. For additional information, see the Division of Graduate Studies.

Appeal of Admission Decision. Section 89030.7 of the California Education Code requires that the California State University establish 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.

International (Foreign) Students

The CSU must assess the academic preparation of foreign students. For this purpose, “foreign students” include those who hold U.S. temporary visas as students, exchange visitors, or in other non-immigrant classifications. The CSU uses separate requirements and application filing dates in the admission of “foreign 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 foreign institutions must be on file by the deadline (see application deadlines in the copy that follows) for the first term and, if not in English, must be accompanied by certified English translations.

Applicants must have completed a comprehensive pattern of college preparatory courses. Verification of English proficiency (see the section on TOEFL requirement) and academic performance are required. Applicants who are seeking admission from American secondary or post-secondary schools must fulfill all requirements.

No admission decision will be made until required materials have been submitted to International Admissions.

Application Forms. All foreign students requesting admission for undergraduate or graduate study at California State University, Fresno must complete and file the international student application. Applicants must submit the following:

- an international application
- a $55 nonrefundable processing fee (note that checks must be drawn on a U.S. bank account)
- a current official bank statement from financial sponsor
- an official TOEFL score taken no earlier than two years prior to attendance at California State University, Fresno
- official original or certified true copies of academic documents and other school records in the native language and in English translation

Graduate students must also submit current GMAT/GRE scores and letters of recommendation.

All documents submitted become the property of California State University, Fresno and will not be returned. They will be kept permanently for those students who actually attend; however, documents for those students who do not enroll will be retained for only one year.

Application Deadlines. The international application, fee, and all required documents, transcripts, and test scores must be received no later than:

Undergraduate
Fall Semester - June 1
Spring Semester - November 1

Graduate
Fall Semester - March 1
Spring Semester - October 1

Academic credentials will be evaluated for academic eligibility in accordance with the general regulations governing admission to California State University, Fresno. Additionally, applicants must demonstrate English proficiency. (See TOEFL below.)

Graduate applications will be reviewed by the individual academic departments to determine eligibility for the requested graduate program.

TOEFL. To ensure that students are prepared to take advantage of the educational opportunities available at California State University, Fresno, each international student who must submit TOEFL scores will be required to participate in a post-admission testing program. The test will be administered during orientation immediately before the student’s first matriculated semester. The purpose of the testing program (e.g. the University English Exam) is to assess strengths and weaknesses in written English. As a result of the post-admission testing, a student may be required to enroll in certain English as a Second Language (ESL) courses. TOEFL will be waived for those students who hold a bachelor’s degree from a U.S. university.

An undergraduate student whose academic qualifications are acceptable, but who has not achieved an acceptable TOEFL score, may be granted a conditional admission. Such a student must obtain an I-20 form (Certificate of Eligibility) from an English language school and attend an English as a Second Language (ESL) program. In order to transfer from a language school to California State University, Fresno, a conditionally admitted student must present an official TOEFL score of 500 on the pencil-based exam or 173 on the computer-based exam, on a test taken within the last two years. (See also TOEFL Requirement.)

Insurance Requirement. Effective August 1,1995, as a condition of receiving an I-20 or IAP-66 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 Information Agency (USIA) and NAFSA: Association of International Educators. The campus president or designee shall determine which insurance policies meet these criteria. Further information may be obtained from the International Student Services and Programs Office at 278.2782

Determination of 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. Residency material can be viewed on the internet by accessing the website at www.calstate.edu/GC/resources.shtml.

Each campus' Admissions and Records 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.

Non-citizens establish residency 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 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 adviser.

Residency determination dates are set each term. They are as follows:

Quarter Term Campuses
Fall - September 20

Winter- January 5
Spring - April 1
Summer - July 1

Semester Term Campuses
Fall - September 20
Winter* - January 5
Spring - January 25
Summer - June 1

*Applies only to winter term at CSU Stanislaus

CalState TEACH operates on a trimester system. The residency determination dates for CalState TEACH are as follows:

Fall - September 20
Spring- January 5
Summer- June 1

There are exceptions from nonresident tuition, including the following:

1. A student below the age of 19 whose parents were residents of California and left the state while the student, who remained, was still a minor. When the minor reaches age 18, the exception continues until the student has resided in the state the minimum time necessary to become a resident.
2. Minors who have been present in California with the intent of acquiring residence for more than a year before the residence determination date and have been entirely self-supporting for that period of time. The exception continues until the student has resided in the state the minimum time necessary to become a resident.
3. Persons below the age of 19 who have lived with and been under the continuous direct care and control of an adult or adults, not a parent, for the two years immediately preceding the residence determination date. Such adult must have been a California resident for the most recent year. The exception continues until the student has resided in the state the minimum time necessary to become a resident.
4. Dependent children and spouse of a person in active military service stationed in California on the residence determination date. There is no time limitation on this exception unless the military person transfers out of California or retires from military service. If either of those events happen, the student's eligibility for this exception continues until the student resides in the state the minimum time necessary to become a resident.
5. Military personnel in active service stationed in California on the residence determination date for purposes other than education at state-supported institutions of higher education. Effective January 1, 1994, this exception continues until the military personnel has resided in the state the minimum time necessary to become a resident.
6. Military personnel in active service in California for more than one year immediately prior to being discharged from the military. Eligibility for this exception runs from the date the student is discharged from the military until the student has resided in the state the minimum time necessary to become a resident.
7. Dependent children of a parent who has been a California resident for the most recent year. This exception continues until the student has resided in the state the minimum time necessary to become a resident, so long as continuous attendance is maintained at an institution.
8. Graduates of any school located in California that is operated by the United States Bureau of Indian Affairs, including, but not limited to, the Sherman Indian High School. The exception continues so long as continuous attendance is maintained by the student at an institution.
9. Certain credentialed, full-time employees of California school districts and students who have attended high school in California and graduated or attained the equivalent.
10. Full-time state university employees and their children and spouses; state employees assigned to work outside the state and their children and spouses. This exception continues until the student has resided in the state the minimum time necessary to become a California resident.
11. Children of deceased public law enforcement or fire suppression employees, who were California residents, and who were killed in the course of law enforcement or fire suppression duties.
12. Certain amateur student athletes in training at the United States Olympic Training Center in Chula Vista, California. This exception continues until the student has resided in the state the minimum time necessary to become a resident.
13. Federal civil service employees and their natural or adopted dependent children if the employee has moved to California as a result of a military mission realignment action that involves the relocation of at least 100 employees. This exception continues until the student has resided in the state the minimum time necessary to become a resident.
14. State government legislative or executive fellowship program enrollees. The student ceases to be eligible for this exception when the student is no longer enrolled in the qualifying fellowship.

Students classified as nonresidents may appeal a final campus decision within 120 days of notification by the campus. A campus residency classification appeal must be in writing and submitted to:

The California State University
Office of General Counsel
401 Golden Shore, 4th Floor
Long Beach, CA 90802-4210

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 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 and Records 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.

The California State University

Welcome to the California State University (CSU) – the world's largest comprehensive higher education system in the nation with 23 unique campuses serving more than 470,000 students with 47,000 employees statewide. Each year, the University awards more than 100,000 degrees. CSU graduates now total more than 3 million strong, and 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*.

More than 50-year tradition of excellence

Since 1961, the CSU has provided an affordable, accessible, and high-quality education to 3 million graduates around the state of 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

- CSU faculty attract nearly $540 million annually 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 43 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 104 fully online and 69 hybrid degree programs and concentrations.
- The CSU offers 3,253 online courses to provide more educational options to students who may prefer an online format to a traditional classroom setting.
- The CSU's growing online concurrent enrollment program gives students the ability to enroll in courses offered by other campuses in the CSU system.
- Over the past four years, 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 470,000 students are engaged in some type of community service, totaling 32 million hours of service annually.
- More than 11,000 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 Board of Trustees, most of who are appointed by the governor and serve with faculty and student representatives, govern the system. 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 Academic Senate and other campus stakeholder groups, render and implement local policy decisions.

CSU Historical Milestones

The Donahoe Higher Education Act established the individual California State Colleges as a system with a Board of Trustees and a Chancellor in 1960. In 1972, the system was designated as the California State University and Colleges, and in 1982 the system became the California State University. 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 State 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 Students Association—was founded to represent each campus student association on issues affecting students.

Through its many decades of existence, the CSU has continued to adapt to address societal changes, student needs and work-

force 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 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 educational doctorate (Ed.D.), Doctor of Physical Therapy (DPT), 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 an effort to accommodate community college transfer students, the CSU, in concert with the California Community Colleges, launched the Associate Degree for Transfer, which guarantees admission to the CSU with junior status for transfer students who earn the AA-T or AS-T degrees.

Always adapting to changes in technology and societal trends to support student learning and degree completion, the CSU initiated 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 also 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. In 2014-15, the CSU celebrated The Class of 3 Million, the year-round campaign celebrating the 3 million alumni from all of CSU's campuses, including the Class of 2015.

The CSU strives to continually develop innovative programs, services and opportunities that will give students the tools they need to meet their full potential. With 23 campuses, 470,000 students and 47,000 faculty and staff, the CSU is committed to providing a quality higher education that prepares students to become leaders in the changing workforce.

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Map of CSU Office and Campus Locations

Check out the website for the entire California State University: *www.csumentor.edu*. You will find helpful hints, frequently asked questions, campus tours, and general information about all 23 campuses. The phone number listed for each campus is for the Office of Admission.

1. **California State University, Bakersfield**
   9001 Stockdale Highway
   Bakersfield, CA 93311-1022
   Dr. Horace Mitchell, President

(661) 654-2782
www.csub.edu

2. **California State University, Channel Islands**
   One University Drive
   Camarillo, CA 93012
   Dr. Richard R. Rush, President
   (805) 437-8400
   www.csuci.edu
3. **California State University, Chico**
   400 West First Street
   Chico, CA 95929-0150
   Dr. Paul J. Zingg, President
   (530)-898-4636
   www.csuchico.edu
4. **California State University, Dominguez Hills**
   1000 East Victoria Street
   Carson, CA 90747-0005
   Dr. Willie Hagan, President
   (310) 243-3696
   www.csudh.edu
5. **California State University, East Bay**
   25800 Carlos Bee Boulevard
   Hayward, CA 94542
   Dr. Leroy M. Morishita, President
   (510) 885-3000
   www.csueastbay.edu
6. **California State University, Fresno**
   5241 North Maple Avenue
   Fresno, CA 93740
   Dr. Joseph I. Castro, President
   (559) 278-4240
   www.csufresno.edu
7. **California State University, Fullerton**
   800 North State College Boulevard
   Fullerton, CA 92831-3599
   Dr. Mildred García, President
   (657) 278-2011
   www.fullerton.edu
8. **Humboldt State University**
   One Harpst Street
   Arcata, CA 95521-8299
   Dr. Lisa Rossbacher, President
   (707) 826-3011
   www.humboldt.edu
9. **California State University, Long Beach**
   1250 Bellflower Boulevard
   Long Beach, CA 90840-0115
   Dr. Jane Close Conoley, President
   (562) 985-4111
   www.csulb.edu
10. **California State University, Los Angeles**
    5151 State University Drive
    Los Angeles, CA 90032
    Dr. William A. Covino, President
    (323) 343-3000
    www.calstatela.edu
11. **California Maritime Academy**
    200 Maritime Academy Drive
    Vallejo, CA 94590

Rear Admiral Thomas A. Cropper, President
(707) 654-1000
www.csum.edu

12. **California State University, Monterey Bay**
Vallejo, CA 94590
Dr. Eduardo M. Ochoa, President
(707) 654-1000
www.csumb.edu

13. **California State University, Northridge**
18111 Nordhoff Street
Northridge, CA 91330
Dr. Dianne F. Harrison, President
(818) 677-1200
www.csun.edu

14. **California State Polytechnic University, Pomona**
3801 West Temple Avenue
Pomona, CA 91768
Dr. Soraya M. Coley, President
(909) 869-7659
www.csupomona.edu

15. **California State University, Sacramento**
6000 J Street
Sacramento, CA 95819
Dr. Robert S. Nelsen, President
(916) 278-6011
www.csus.edu

16. **California State University, San Bernardino**
5500 University Parkway
San Bernardino, CA 92407-2318
Dr. Tomás D. Morales, President
(909) 537-5000
www.csusb.edu

17. **San Diego State University**
5500 Campanile Drive
San Diego, CA 92182
Dr. Elliot Hirshman, President
(619) 594-5200
www.sdsu.edu

18. **San Francisco State University**
1600 Holloway Avenue
San Francisco, CA 94132
Dr. Leslie E.Wong, President
(415) 338-1111
www.sfsu.edu

19. **San José State University**
One Washington Square
San Jose, CA 95192-0001
Dr. Susan W. Martin, President
(408) 924-1000
www.sjsu.edu

20. **California Polytechnic State University, San Luis Obispo**
One Grand Avenue

San Luis Obispo, CA 93407
Dr. Jeffrey D. Armstrong, President
(805) 756-1111
www.calpoly.edu

21. **California State University, San Marcos**
333 S. Twin Oaks Valley Road
San Marcos, CA 92096-0001
Dr. Karen S. Haynes, President
(760) 750-4000
www.csusm.edu

22 **Sonoma State University**
1801 East Cotati Avenue
Rohnert Park, CA 94928-3609
Dr. Ruben Armiñana, President
(707) 664-2880
www.sonoma.edu

23. **California State University, Stanislaus**
One University Circle
Turlock, CA 95382
Dr. Joseph F. Sheley, President
(209) 667-3122
www.csustan.edu

The California State University International Programs

Developing intercultural communication skills and international understanding among its students is a vital mission of The California State University. Since its inception in 1963, the CSU International Programs has contributed to this effort by providing qualified students an affordable opportunity to continue their studies abroad for a full academic year. More than 20,000 CSU students have taken advantage of this unique study option.

International Programs participants earn resident academic credit at their CSU campuses while they pursue full-time study at a host university or special study center abroad. The International Programs serves the needs of students in over 100 designated academic majors. Affiliated with more than 50 recognized universities and institutions of higher education in 18 countries, the International Programs also offers a wide selection of study abroad destinations and learning environments.

Australia - Griffith University, Macquarie University, Queensland University of Technology, University of Queensland, Western Sydney University, Victoria University

Canada - Concordia University

Chile - Pontificia Universidad Católica de Chile

China - Peking University (Beijing)

Denmark - Danish Institute for Study Abroad

France - Institut Catholique de Paris, Université d'Aix-Marseille (Aix-en-Provence), Universités de Paris I, III, IV, VI, VII, VIII, X, XI, XII, XIII, Université Paris-Est Marne-la-Vallée, Université d'Evry Val d'Essonne, Université de Versailles Saint-Quentin-en-Yvelines

Germany - University of Tübingen and a number of institutions of higher education in the Federal state of Baden-Württemberg

Ghana - University of Ghana

Israel - University of Haifa

Italy - CSU Florence Study Center, Accademia di Belle Arti Firenze

Japan - Waseda University, University of Tsukuba

Korea - Yonsei University

Mexico - Instituto Tecnológico y de Estudios Superiores de Monterrey, Campus Querétaro

South Africa - Nelson Mandela Metropolitan University

Spain - Universidad Complutense de Madrid, Universidad de Granada, Universidad de Jaén

Sweden - Uppsala University

Taiwan - National Taiwan University

United Kingdom - University of Bradford, University of Bristol, University of Hull, Kingston University, Swansea University

Students participating in International Programs 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. Most International Programs require students to have upper-division standing at a CSU campus by the time of departure; several programs are open to sophomores or Graduate students. California Community College transfer students admitted to a CSU campus 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.calstate.edu/ip*.

Degree Requirements

Baccalaureate Degree Requirements

A student must complete the following requirements in order to earn a Bachelor of Arts or Science degree. Requirements are described in detail in the latter part of this section. Most students accumulate a combination of units in the major, General Education, and nondesignated electives in order to fulfill the requirements of a baccalaureate degree. These requirements are fulfilled when a student successfully completes:

1. a minimum of 120 semester units for the Bachelor of Arts and the Bachelor of Science degree programs
2. an academic major
3. General Education requirements
4. Specific course/skill requirements: (a) English Composition (English 5A-B, 10, or equivalent); (b) United States History (History 11 or 12); (c) United States and California Constitution (Political Science 2 or 101); (d) Upper-division writing skills
5. a minimum of 30 residence units, of which 24 must be upper division, 12 in the major, and 9 in General Education
6. a minimum of 40 upper-division units
7. a minimum of a C average for units in the major, all California State University, Fresno units, and total units.

To receive the degree, a student files an application for graduation obtained from the Degree Advising Office after paying the graduation fee at the cashier's window in the Joyal Administration Building by one of the published deadlines.

Double (Concurrent) Major Requirements

Undergraduate students may desire to complete the requirements for more than one major at the time of completion of the baccalaureate degree (i.e., graduate with a double major). All requirements for each degree must be met. When students apply for graduation, they must designate which is the primary degree major. Minimum requirements and exceptions for double majors are as follows:

- Double B.A. majors must include a minimum of 24 units exclusive of the other major, 12 of which must be upper-division.
- Double B.S. majors must include a minimum of 36 units exclusive of the other major, 18 of which must be upper-division.
- Units may be double-counted for both majors above 24 mutually exclusive units (12 upper-division) in B.A. programs and 36 units (18 upper-division) in B.S. programs.
- Courses in General Education may be used to fulfill secondary major requirements.
- Students may not earn a special major as a double major.

One Degree with Multiple Majors and/or Minors: Two or more majors leading to the same baccalaureate degree (B.A. or B.S.) do not constitute separate baccalaureate degrees. Only one degree and one diploma will be awarded. Only one application fee is required for one degree, regardless of the number of majors and minors. A student may earn a maximum of two majors and two minors so long all work can be completed within 144 units.

Graduating with Multiple Degrees: A student may be awarded more than one baccalaureate degree (such as a B.A. and B.S.) at the same time provided that requirements of all degree programs have been completed. Students who complete two or more different baccalaureate degrees may apply for all degrees in a single degree period by submitting separate applications simultaneously. A fee is required for each application submitted. Students who concurrently complete the requirements for two or more baccalaureate degrees will be acknowledged on separate diplomas for each degree earned.

Note: Students may not pursue a baccalaureate and master's degree concurrently.

Special Major for the Bachelor's Degree

The special major for a bachelor's degree (either a Bachelor of Arts or a Bachelor of Science) provides an opportunity for students to engage in an individualized course of study leading to a degree when legitimate academic and professional goals are not accommodated by standard degree majors. The special major consists of correlated studies in two or more fields. It is not intended as a means of bypassing normal graduation requirements or a means by which students may graduate who fail to complete the degree major in which they are enrolled. Also, students may not earn a special major as a double major, and postbaccalaureate students are not eligible to earn a special major at the baccalaureate level.

The special major must be approved by the Dean of Undergraduate Studies, with approval based upon a case-by-case justification. Candidates must have one full year of academic work (at least 30 units) still to be completed to meet minimum degree requirements. The minimum total unit requirement for a special major is 120 units. The minimum requirement for the special major is an approved program of 45 units, at least 30 units of which must be upper-division work. Units applied to General Education requirements may not be counted. Also, a maximum of 6 independent study units may be included in the special major program. Any exception to this limit must be approved in writing by the Dean of Undergraduate Studies upon written recommendation by the special major adviser prior to registration for the additional units. Students may not exceed a total of 144 earned units. Students requesting a special major must obtain application forms from the University Advising Center. On these forms students

must do the following:

1. prepare a statement giving their reasons for desiring a special major in terms of academic and professional goals and why these goals cannot be met through a standard major
2. develop a specific list of courses which would, in their opinion, lead to the stated academic and professional goals
3. secure the signed approval from the University Advising Center, as well as from the special major adviser and department chair in the areas from which the special major courses are drawn

Students must submit the foregoing material to the University Advising Center who will then review and send for final approval to the Dean of Undergraduate Studies. All established campus requirements and procedures for awarding bachelor's degrees will apply, including residence units, the upper-division writing requirement and number of acceptable transfer units.

B.S. Program Requirements: At least 25 units of the B.S. Special Major must be from campus colleges offering a broad range of instructional programs in science- or technology-based disciplines. These colleges include the following: Agricultural Sciences and Technology, Craig School of Business, Engineering, Health and Human Services, Science and Mathematics, and Social Sciences. Coursework must be taken in at least two different subject areas or fields of study, with no less than 9 units each from a minimum of two areas.

Residence Requirements

The residence requirement for the baccalaureate degree specifies that 30 units shall be earned in residence 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. The residence requirement for graduate students is 21 units.

Extension credit and credit by evaluation, including credit by examination, may not be used to fulfill the above described requirements.

Specific Course/Skill Requirements

English Requirement. English 1, Composition, or its equivalent is a university graduation requirement that should be completed before the end of the fourth semester of university attendance. (A grade of C is the minimum acceptable grade to satisfy this requirement.) The English Placement Test does not substitute for English 1. Search English Placement Test for test scores prerequisite to enrollment in English 1.

U.S. History and Government Requirements. Undergraduate and second baccalaureate degree candidates must demonstrate competence with respect to the Constitution of the United States, American history, and in the principles of state and local government of California in order to graduate. This may be done by passing examinations or by completing History 11 or 12 and Political Science 2 or 101. (In cases in which students have completed the federal government requirement, Political Science 102 [1 unit] will fulfill the California government requirement.) (Search History Department -- American History Requirement , Political Science Department -- United States Constitution Requirement, and General Education.)

Upper-Division Writing Skills (UDWS) Requirement. All undergraduate and second baccalaureate degree candidates must demonstrate competency in writing skills at the upper-division (junior-senior) level as a requirement for graduation. After completing 60 units and English Composition (ENGL 5A, 5B or 10) or its equivalent with a C or better, students may meet this requirement in one of two ways:

either

1. Pass the Upper-Division Writing Examination (UDWE) composed of two essays. This examination is given five times each year, including once before the beginning of each semester. Students are permitted to take the examination a maximum of two times. Upon successful completion of the UDWE, undergraduate students may request 1 unit of credit (ENGL 100W), which will be posted to their transcripts the semester following the date the UDWE was passed. For details, call Testing Services, 559. 278.2457.

or

2. Obtain a C, CR, or letter grade of C or better in an approved upper-division writing course at this university. Approved writing courses can be identified in the catalog and Class Schedule by the letter W (e.g., ENGL 160W, BA 105W).

It is imperative that the UDWS requirement be met within two semesters after completing 60 units. The UDWS requirement cannot be fulfilled by a class or test taken outside of The California State University system and cannot be satisfied at a CSU campus at which the student has not matriculated.

The UDWS requirement is not part of the General Education requirement. Passing the UDWE does not exempt students from taking a W course if it is required in their major, e.g., PLANT 110W.

Graduate students should consult Graduate Studies regarding the graduate-level writing proficiency requirement.

Remedial Courses. Students admitted to a CSU campus are expected to possess basic competence in the English language

and mathematical computation. Students who require remediation should be placed in remedial classes during their first term of enrollment and should demonstrate proficiency by the end of the first academic year. Such remedial courses are usually designated by the letter R following the course number. Credits earned in remedial courses cannot be used to satisfy degree requirements. (Search Learning Center.)

Unit Limitations

The following unit limitations apply to all bachelor's degrees:

1. A maximum of 70 transferable semester units (105 quarter) is allowed from two-year institutions (community/junior colleges).
2. A maximum of 8 semester units of Kinesiology (P.E.)/Dance Techniques/Athletics activity is allowed. (Kinesiology and dance majors may have credit for 12 semester units.)
3. A maximum of 12 semester units is allowed for work experience/internship/agricultural projects. (A maximum of 6 semester units may transfer into the university. A maximum of 6 semester units of the 12 is allowed in agricultural projects.) All work experience and internships are graded on a credit/no credit basis.
4. A maximum of 24 semester units at California State University, Fresno is allowed for CR/NC grading, excluding Credit by Examination. (Search Credit/No Credit Grading for other limitations.)
5. A maximum of 30 semester units is allowed for Credit by Examination (excluding Credit for Advanced Placement Examination).
6. A maximum of 24 semester units is allowed for credit through Extension and/or correspondence coursework.
7. A maximum of 6 semester units is allowed for independent study coursework.
8. A maximum of 6 semester units is allowed for coursework in typing/keyboarding.
9. A maximum of 30 semester units is allowed for military service and/or education.

Second Baccalaureate Degree or Undergraduate Major Requirements

Postbaccalaureate students (i.e., those who already hold a bachelor's degree) may pursue a program leading to an additional baccalaureate degree or undergraduate major. Students are urged to consult with a departmental adviser and with the Division of Graduate Studies to determine whether a second baccalaureate or graduate program better meets their needs.

1. Postbaccalaureate students seeking an additional undergraduate degree must complete the following requirements: (a) A minimum of 30 units in residence at California State University, Fresno since completion of the most recent degree, including 24 upper-division units. (b) At least 12 units in the major in residence at this university since the last baccalaureate degree. (Departments may set higher requirements.) (c) All state and university requirements for that degree, including English 1, General Education, United States Constitution and California state and local government, American history, and the upper-division writing skills requirement. (These requirements may be met by courses taken in the students' undergraduate programs.) (d) All units required in the major. No credit may be applied from courses taken for an earlier degree. If required major courses were previously taken, the student must substitute, with the approval of the department, additional major courses. Graduate -level courses (200 series) may not be applied toward the requirements for a second baccalaureate degree or additional undergraduate major. (e) Completion of 40 upper-division units taken since the most recent degree was granted. (f) Filing of an undergraduate degree application and payment of graduation fee. (Search Graduation.)
2. Postbaccalaureate students seeking an additional undergraduate major must complete items b and d above. The transcript will indicate that all coursework for the additional major has been completed. Students pursuing a second baccalaureate degree or additional undergraduate major cannot select the catalog used for the initial undergraduate degree. If students do not remain in continuous attendance, the requirements will be those in effect at the time they reenter the university or complete their programs. (Search Choice of Catalog under Academic Regulations.)
3. Postbaccalaureate students may not earn a minor or a second minor.
4. Determination of honors at graduation for students earning a second baccalaureate degree will be calculated based on grades earned in all courses required in the major by the university to complete the second degree which are taken subsequent to completing their first degree.

Postbaccalaureate Credit

Upper-division and/or graduate-level units earned at Fresno State in the semester or summer session in which the bachelor's degree is granted are automatically listed on the student's permanent record as postbaccalaureate credit as long as

1. the courses are not needed for the bachelor's degree.
2. the student is neither on academic probation nor academic disqualification at the beginning of the final term.
3. the units are not in excess of stated maximum limitations (e.g., 6 units of independent study.)

In addition, only credit for courses in which grades A, B, C, or CR are earned may be counted. No course may have its credit divided between baccalaureate and postbaccalaureate programs; use of such credit for graduate degrees at California State

University, Fresno requires special approval and is limited to one-third of the total units required in a graduate degree program. (See *Graduate Studies - Advancement to Candidacy*.) Only students with graduate standing may enroll in the following courses: 290, 298, 299. (See *Graduate Studies - Criteria for Thesis and Projec*t.) Use of postbaccalaureate credit for other purposes is to be determined by the appropriate authority.

Graduation

Students who anticipate meeting bachelor's degree requirements by the end of a term should obtain and file a completed application for a degree (with appropriate fees) with the Degree Advising Office within the first two weeks of that term. The Graduate Office processes graduate degree applications. See Academic Calendar for filing dates and deadlines. Failure to apply before the final deadline will delay the granting of the degree.

The Degree Advising Office checks students' applications for bachelor's degrees and reports to them regarding eligibility for the degrees. Degrees are not awarded to students with I or RD grades remaining on their records. Students receiving I grades during the final year that have not been completed (or changed to F grades) by the appropriate clearance deadline will not be considered for graduation that semester and must reapply for the degree. (Search Incomplete.)

In order to be eligible for graduation, students must:

1. Submit an application for the degree and pay the graduation fee
2. Have been approved for graduation by the faculty
3. Have completed with appropriate scholastic standing all courses required for the degree. (Graduates receive their official diplomas by mail.)
4. Have filed official transcripts for all coursework attempted prior to graduation

It is the responsibility of students to be sure that all requirements have been met and that documentation has been filed with the Degree Advising Office, or Graduate Office, by the appropriate deadlines. No additions, deletions, or changes to students' records are permitted after the degree has been recorded.

Honors at Graduation. Honors at the time of graduation from the university are awarded to undergraduate students based on the following criteria:

- Students must have an overall minimum grade point average of 3.5 on all work attempted.
- Students must have a minimum grade point average of 3.5 on all work taken at the university.
- Students must have completed 45 units in residence at California State University, Fresno.

The grade point average earned at California State University, Fresno determines which honors the student receives:

Summa Cum Laude (highest honors) 3.90 to 4.00
Magna Cum Laude (high honors) 3.70 to 3.89
Cum Laude (honors) 3.50 to 3.69

Since the requirement for honors could change, students are requested to check the current General Catalog for the criteria in effect at the time of graduation.

The Four-Year Scholars Program

A pledge between first-time freshmen students and Fresno State to ensure graduation with a baccalaureate degree in four years when a student follows the requirements and conditions outlined below. Students interested in the program must see a dedicated Four-Year Scholars Program adviser in the University Advising Center before the end of the sixth week of their first fall semester.

To facilitate students' graduation goals, California State University, Fresno extends to qualified students the opportunity to engage in a formal partnership that assures timely completion of a degree. Students enrolling in the university's Four-Year Scholars Program are pledged certain advantages which will facilitate progress toward a degree. These advantages include the following:

- **Guaranteed Course Availability with Personalized Academic Plan**
- **Highest-Level Priority Registration**
- **Specialized Advising Each Semester to Ensure Students Stay on Track**
- **Eligibility for Parking Fee Waiver/Kennel Bookstore Voucher (if maintaining good academic standing in the program)***

The Four-Year Scholars Program is a partnership. Students share in the responsibility for timely graduation. To obtain a degree in four years, students must satisfy the following conditions:

1. **Advisers**. Students must meet with a designated Four-Year Scholars Program adviser every semester beginning in the first semester of their freshman year for the purpose of (a) reaching agreement on/or updating their Four-Year Scholars Education Plan, (b) considering available course offerings in relation to pertinent graduation requirements, and (c) confirming academic progress toward timely graduation.
2. **Four-Year Scholars Education Plan**. The program is a plan designed in consultation with a designated Four-Year Scholars Program adviser to ensure completion of all degree requirements within four years. The Four-Year Scholars Education Plan must be signed jointly by the student, the major adviser and one of the dedicated Four-Year Scholars Program advisers in the University Advising Center.
3. **Entry Level Math (ELM) and English Placement (EPT) Tests**. Unless exempted, students must have taken these exams during the senior year of high school or the summer prior to enrollment as a freshman. Scores must be at a level that allows the student to enroll in college-level coursework. Students who require remedial and/or developmental courses prior to enrollment in college-level courses will require independent assessment as to eligibility for Four-Year Scholars Program enrollment.
4. **General Education and University Requirements**. Students must fulfill in a timely manner all General Education and university requirements articulated in the General Catalog for their year of entry. Students not able to obtain their preferred course and /or their preferred section (days and hours) must be flexible in selecting available alternatives to maintain degree progress.
5. **Major**. Students must have a declared major to join this program (some majors are not conducive to this program, i.e. pre-nursing). Students must seek advising from a designated California State University, Fresno Four-Year Scholars Program adviser in their major department so degree obligations can be met. Changes of major may delay the completion of a degree. Students must be sure all prerequisite courses, including "Additional Requirements to the Major" are accounted for in the their academic plans for graduation. If a student is in a "pre" major, the student must be accepted into the major to remain in the Four-Year Scholars Program. If the student is not accepted into the major, the student will be removed from the program.
6. **Minor**. If students in the Four-Year Scholars Program wish to take a minor, they must carefully plan it in close cooperation with a Four-Year Scholars Program adviser. Pursuit of a minor requires an increased total unit load and could result in a student being removed from the program. Students may not exceed at total of 144 earned units when adding minors.
7. **Unit Load**. Students must take a minimum of 15 units per semester or complete a minimum of 30 units per year, to earn the minimum 120 units for a degree.
8. **Grade Point Average (GPA)**. The cumulative GPA, the campus GPA, and the GPA in a student's major all must be at or above 2.0 for graduation. Additionally, students must maintain a 2.0 per term to remain in the program. Certain majors or pre-majors require a higher GPA than 2.0, and in such cases that GPA will be used to determine continued eligibility. Students electing to repeat courses for purposes of grade substitution to improve their GPA must do so over and above the minimum articulated annual unit requirements if they expect to complete their Four-Year Scholars Program within the originally planned time. Doing so may put the student at risk for removal from the program. Academically disqualified students will be removed from the Four-Year Scholars Program.
9. **Registration and Fees**. Students will register during their priority registration date and time and will pay fees by the required deadlines. Students enrolling late cannot be assured of course availability.
10. **Course Enrollment**. Students will enroll and attend California State University, Fresno at those times (including evenings and weekends) when courses are offered and available. Prior approval by the student's designated Four-Year Scholars Program adviser is required before registering at another institution for courses intended for transfer to California State University, Fresno.
11. **Financial Aid**. If eligible for assistance, students must meet the appropriate deadlines each year and meet all academic progress requirements and fee payment deadlines.
12. **Degree Filing**. Students must file their application for graduation and pay the related fees by the university deadline.
13. **Accountability**. Students must comply with all administrative, judicial, and academic policies and procedures of the university, as well as all aforementioned conditions of the Four-Year Scholars Program.

Noncompliance with any of the above conditions 1 through 13 may result in voiding the terms of the Four-Year Scholars Program and the university's pledge to award the student a degree within four years. Disenrollment from the program will also result in the discontinuance of program benefits (priority registration, etc.)

Enrollment in the California State University, Fresno Four-Year Scholars Program is initiated by a student filing an application with the University Advising Center. Signing of this application by a student and his or her designated Four-Year Scholars Program adviser confirms their mutual understanding of the respective obligations of the student/university partnership required for the achievement of a degree in four years.

** If the student has maintained good academic standing in the program (passed all courses required by the university and his or her program requirements) at the end of the first academic year, the student may be eligible for a parking fee waiver or Kennel Bookstore voucher for the following academic semester. This eligibility will be reviewed each semester afterward.*

Additional information about the Four-Year Scholars Program may be obtained by contacting the University Advising Center at 559.278.1787.

Commencement

Commencement is held annually at the end of spring semester. Students who have completed degree requirements in the summer or in the fall semester immediately preceding commencement are eligible to participate with those who complete their work in the spring semester. For additional information, see Kennel Bookstore, Student Life, and/or the Office of the Vice President for Student Affairs and Dean of Students.

Certificates

Many students want to study areas not covered by traditional degree programs to increase professional competence, to acquire paraprofessional training, to change careers or to promote personal enrichment. A baccalaureate or master's degree, or second baccalaureate or second major may be inappropriate for them, yet they may still deserve recognition for their work. To meet the needs of these students the university has established three kinds of certificates:

1. The **Certificate of Completion** is awarded for successfully completing a planned educational experience (workshop, conference, short course, or seminar) designed for specific academic objectives.
2. The **Certificate of Special Study** is awarded for successfully completing a structured program of educational experiences, at least 12 semester units, determined in advance by a department or college/school, and consisting of upper-division (100-199) courses, professional (300-399) courses, and related activities.
3. The **Certificate of Advanced Study** is awarded for successfully completing an established, approved program of at least 12 semester units of graduate (200-299) courses, upper-division (100-199) courses, and professional (300-399) courses, as recommended by a department and approved by the Division of Graduate Studies.

Public School Teacher and Services Credentials

California State University, Fresno offers basic - Multiple Subject, Single Subject, and Special Education - teaching credentials as well as advanced - Specialist and Services - credentials required for employment in K-12 public schools. The Kremen School of Education and Human Development is the primary unit responsible for professional preparation and credential authorization. However, subject matter preparation required for basic credential programs and professional preparation required in some advanced credentials - school nursing, psychology, school social work, agriculture, speech-language pathology, and deaf and hard-of-hearing - are provided by various academic departments. For information about credential programs, refer to the Education section of this catalog or to the appropriate academic department.

Basic Teaching Credentials, Elementary
Multiple Subject:
Multiple Subject, BLCAD
Multiple Subject, with emphasis in Early Childhood Education
Multiple Subject Internship
CalState TEACH

Basic Teaching Credentials, Secondary
Single Subject:
- Agriculture
- Art
- Business
- English; English-Drama; English-Speech
- Foreign Languages - Spanish, French
- Industrial Technology
- Mathematics
- Music
- Physical Education
- Science - Biology, Chemistry, Physics, Earth Science
- Social Science

Single Subject Internship

Basic Teaching Credentials, Special Education

Preliminary Education Specialist (formerly Preliminary Level I Education Specialist)

- Mild/Moderate Disabilities (including internship)
- Moderate/Severe Disabilities (including internship)
- Deaf and Hard of Hearing (including internship)

Advanced Specialist and Services Credential
Specialist Teaching Credentials
- Agriculture
- Early Childhood
- Reading and Literacy Leadership
- Professional Level II Education Specialist:
- Mild/Moderate Disabilities (including internship)
- Moderate/Severe Disabilities (including internship)
- Deaf and Hard of Hearing (including internship)

Services Credentials
- Preliminary Administrative
- Professional Administrative

Speech-Language Pathology

School Nurse Services

Pupil Personnel in
- School Counseling
- School Psychology
- School Social Work, Child Welfare and Attendance

Fees and Expenses

Academic Year 2016-2017

The following reflects applicable systemwide fees for both semester and quarter campuses that were authorized by the Board of Trustees at their July and November 2011 meetings and September 2012 meeting. These rates are subject to change.

Tuition and other fees are subject to change without notice.

Student Fees*

Students are required to pay tuition and other fees (as indicated in the chart on this page), course fees, and nonresident/foreign tuition. General authority governing most fees is contained in the California Education Code, Sections 89700 and 89724.

All Students

Application Fee (nonrefundable), payable by check or money order at time application is made: $55.

Student Involvement & Representation Fee

(Optional Fee)
A Student Involvement & Representation Fee of $2.00 will be charged in addition to tuition and other fees. Students have until census date to opt out.

Course Fees

Course fees are provided in the “class notes” after each subject listing in the Class Schedule. Fees may range from $4 to $1,000 depending on the course.

Nonresident and Foreign Tuition Fee

Nonresidents and foreign students are required to pay the nonresident tuition fee in addition to tuition and other fees. The nonresident tuition fee is charged at $372 per unit. The total nonresident tuition paid per term will be determined by the number of units taken. Mandatory systemwide fees are waived for those individuals who qualify for such exemption under the provisions of the California Education Code (see section on fee waivers). Students are charged campus fees in addition to tuition fees and other systemwide fees.

Graduate Business Professional Fee

The Graduate Business Professional Fee of $254 is paid on a per unit basis in addition to basic tuition fees and campus fees for the following graduate business programs: Master of Business Administration (M.B.A) and a Master of Science (M.S.) in Accountancy, Business Administration, Health Care Management, Business and Technology, Information Systems, or Taxation. For exemptions, see fee waivers.

Doctorate Tuition Fees*

Education (all students) **$5,559**
Nursing Practice (all students) **$7,170**
Physical Therapy (all students) **$8,074**

* Applicable term fees apply for campuses with special terms, as determined by the campus. Total College Year fees cannot exceed the Academic Year plus Summer Term fees. The Summer Term fee for the Education Doctor at quarter campuses is equal to the Per Semester fee listed in the table. Total fees for the Education Doctor over the College Year equals the Per Academic Year fee plus the Per Semester fee for the summer term at all CSU campuses

Tuition and Other Fees Per Semester

(all students)

	Undergraduate		Credential Program		Graduate/Postbaccalaureate	
	0-6 units	*6.1 or more units*	*0-6 units*	*6.1 or more units*	*0-6 units*	*6.1 or more units*
Facility Fee	$3	$3	$3	$3	$3	$3
Health Service Fee	$113	$113	$113	$113	$113	$113
Instructionally Related Activities Fees	$132	$132	$132	$132	$132	$132
Student Academic Service Fee	$18	$18	$18	$18	$18	$18
Student Body Fee	$34.50	$34.50	$34.50	$34.50	$34.50	$34.50
Bulldog Card Fee	$5	$5	$5	$5	$5	$5
University Student Union Fee	$114	$114	$114	$114	$114	$114
Tuition Fee	$1,587	$2,736	$1,842	$3,174	$1,953	$3,369
Total	**$2,006.50**	**$3,155.50**	**$2,261.50**	**$3,593.50**	**$2,372.50**	**$3,788.50**

- The CSU makes every effort to keep student costs to a minimum. Fees listed in published schedules or student accounts may need to be increased when public funding is inadequate. Therefore, CSU must reserve the right, even after fees are initially charged or initial fee payments are made, to increase or modify any listed fees. All listed fees, other than mandatory systemwide fees, are subject to change without notice, until the date when instruction for a particular semester or quarter has begun. All CSU listed 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 fees 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).These rates are subject to change.
- Questions pertaining to your teacher credential classification may be directed to the campus Credential Office in the Kremen School of Education at 559.278.0300.
- Questions pertaining to your undergraduate/postbaccalaureate class level status may be directed to the Admissions and Records Office at 559.278.2261.

Extension Program Fees

(subject to change by the Campus Fee Committee)

Extension, per unit
Lecture or discussion course – $0-$300

Open University
per unit $295

Special Sessions – varies per unit

Miscellaneous Fees

Application Fee
Nonrefundable $55

Credential Fee
(collected for Commission on Teacher Credentialing)
Amount varies. Contact the Credential Office, Kremen School of Education and Human Development.

Diploma Reissue Fee
$20

Graduation Application Fee
(bachelor's or master's) $35

Parking Permit Prices for Students
Automobile per semester $93
Motorcycle per semester $17
Automobile fall/spring $186
Motorcycle fall/spring $34
Automobile summer $44
Motorcycle summer $11

Penalty Fees
Check return fee $20
Late registration $25
Failure to meet administratively required appointment or time limit $10
Lost or broken items replacement -- cost
Lost library items replacement -- cost plus $10 service charge
Damaged library items replacement -- cost plus $10 service charge

Programming Fee
Fee is assessed to corporate and governmental sponsors of international students for required additional services (not a state fee) $250

Receipt Research Fee
one year or less $2
more than one year $5

Refund Processing Fee
$5

Transcript of Record
$4 first copy ($2 each additional copy)

- This catalog copy reflects applicable systemwide tuition, nonresident tuition, and other fees. (Tuition and other fees are subject to change without notice.)
- A nonresident student is any person who has not been a bona fide resident of the state of California for more than one year immediately preceding enrollment. The exact determination date may be ascertained by contacting the Admissions/Records Office.
- The law governing the CSU provides that a student body fee may be established by student referendum with the approval of two-thirds of those students voting. The Student Body Fee was established at California State University, Fresno by student referendum on May 12, 1959. The same fee can be abolished by a similar two-thirds approval of students voting on a referendum called for by a petition signed by 10 percent of the regularly enrolled students. (California Education Code, Section 89300). The level of the fee is set by the chancellor. An increase in the student body fee may be approved by the chancellor only following a referendum on the fee increase approved by a majority of students voting. Student body fees support a variety of cultural and recreational programs, child care centers, and special student support programs.
- Mandatory systemwide fees are waived for those individuals who qualify for such exemption under the provisions of the California Education Code (see section on fee waivers).
- Students are charged campus fees in addition to tuition fees and other systemwide fees. Information on campus fees can be found by contacting the individual campus(es).

Credit Cards

Visa and MasterCard bank credit cards may be used for payment of student fees at the university Cashier's Office. In addition, American Express, Diners Club, Discover, Visa, and MasterCard may be used via SmartPay.

Refund of Mandatory Fees, including Nonresident Tuition

Regulations governing the refund of 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 California State University. Refunds of fees and tuition charges for self-support, special session, and extended education programs or courses at the California State University are governed by a separate policy established by the University.

In order to receive a full refund of mandatory fees, less an administrative charge established by the campus, 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 Schedule of Classes.

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 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 the 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 less an administrative charge established by the campus.

For state-supported non-standard terms or courses of less than four (4) weeks, no refunds of mandatory fees and 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 mandatory fees, including nonresident tuition, under the following circumstances:

- The fees were assessed or collected in error;
- The University canceled the course for which the fees were assessed or collected;
- The University makes a delayed decision that the student was not eligible to enroll in the term for which 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 university for a refund demonstrating exceptional circumstances and the chief financial officer of the University or designee may authorize a refund if he or she determines that the fees and tuition were not earned by the University.

Information concerning any aspect of the refund of fees may be obtained from Accounting Services, 559.278.2876.

Tuition and Fee Decrease by Dropping from 7 or More Units to 6 or Fewer Units. Students who drop some but not all units resulting in a lower tuition and/or mandatory fee obligation during the first 10 days of instruction shall be eligible for a refund of the difference in fees.

As specified by Title V of the Education Code, and the Board of Trustees of the CSU, late tuition and other fees are not refundable.

Health Service Fee

The health service fee is required of all regularly enrolled students, regardless of the class level or the number of units enrolled. Fee waiver students, or students who will be physically absent from the campus for the entire semester (such as a study abroad semester), or students who will be taking classes only at sites 50 miles or more from campus, may apply for a refund in accordance with the refund procedures established by Student Financial Services. Refunds will only be made for fees paid within the current academic year. The Health Center will adjudicate the requests based upon records of usage; any use of the Health Center during the semester, or, for continuing students, during the summer or winter break prior to the semester, will preclude a refund. Students who receive a refund but later wish to avail themselves of health services will be charged a sum equivalent to the mandatory fee at the time of their first visit. Use of the Health Center will preclude a refund of the $98 mandatory fee.

Application Fees

Application fees shall be refunded only upon satisfactory proof that the applicant was unable to begin the term with respect to which application was made by reason of his or her death, physical disability, or compulsory military service (Title 5, Section 41802).

Parking Fees

A student is entitled to a refund of parking fees in the amount shown in the following schedule if on any one calendar day within the applicable period the student files with Student Financial Services a written application for refund and returns all documents issued (including parking permits). If the permit is affixed to a vehicle and the vehicle is presented to the university for removal of the item by or under the direction of the state, such presentation and removal shall constitute return of the item.

The refund application schedule is as follows:

- 1-30 calendar days, 75% refund
- 31-60 calendar days, 50% refund

- 61-90 calendar days, 25% refund

Note: A copy of the University Refund Policy may be obtained from Student Financial Services in the Joyal Administration Building, Room 181.

Returned Checks

Writing a bad check is against the law. Recipients of bad checks may sue the payer in Small Claims court for three times the amount of the check or $100, whichever is more. In addition, suit may be made against the payer for the face value of the check and all court costs. (California Civil Code, Chapter 522, Section 1719.)

Writing a bad check will result in the following.

1. The student's university records will be attached and the student will be denied all services.
2. The student will be charged $20 for processing in addition to the face value of the check
3. Enrollment of classes may be subject to cancellation. If enrollment is cancelled, the student will not be reinstated.

- Payment of returned checks must be made with a cashier's check or money order.
- Personal checks will not be accepted, including checks written by a friend or relative.
- Placing a "stop payment" or closing an account will not release the student from financial obligation. (Title 5, Section 42381)

Fees and Debts Owed to the Institution

Should a student or former student fail to pay a fee or a debt owed to the institution, 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 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 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 report the debt to a credit bureau, offset the amount due against any future state tax refunds due the student, refer the debt to an outside collection agency and/or charge the student actual and reasonable collection costs, including reasonable attorney fees if litigation is necessary, in collecting any amount not paid when due.

If a person believes he or she does not owe all or part of an asserted unpaid obligation, that person may contact Student Financial Services, 559.278.2876. Student Financial Services, or another office to which the person may be referred, will review all pertinent information provided by the person and available to the campus and will advise the person of its conclusions.

Fee Waivers and Exemptions

The California Education Code provides for the waiver of mandatory systemwide tuition fees as follows:

Section 66025.3 –Dependent eligible to receive assistance under Article 2 of Chapter 4 of Division 4 of the Military and Veterans Code; child of 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 a 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 or child of a recipient of a Medal of Honor, under 27 years old, meets the income restriction and California residency requirement.

Section 68120 – Qualifying children and surviving spouses/registered domestic partners of deceased public law enforcement or fire suppression employees who were California residents and who were killed in the course of active law enforcement or fire suppression duties (referred to as Alan Pattee Scholarships); and

Section 68121 – Qualifying students enrolled in an undergraduate program who are 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 these benefits should contact the

Admissions/Registrar's Office for further information and/or an eligibility determination.

The California Education Code provides for the following nonresident tuition exemptions:

Section 68075.7 – Nonresident students are exempt from paying nonresident tuition or any other fee that is exclusively applicable to nonresident students if they (1) reside in California, (2) meet the definition of "covered individual" as defined in subsection (c) of Section 3679 of Title 38 of the United States Code, as that provision read on July 1, 2015; and (3) are eligible for education benefits under either the federal Montgomery GI Bill-Active Duty program or the Post-9/11 GI Bill program.

Section 68122 – Students who are victims of trafficking, domestic violence, and other serious crimes who have been granted T or U visa status are exempt from paying nonresident tuition if they (1) attended high school in California for three or more years; (2) graduated from a California high school or attained the equivalent; and (3) registered as an entering student or are currently enrolled at a CSU campus.

Section 68130.5 – Students who are not residents of California are exempt from paying nonresident tuition if they (1) attended high school in California for three or more years; (2) graduated from a California high school or attained the equivalent; and (3) registered as an entering student or are currently enrolled at a CSU campus. In addition, students without lawful immigration status will be required to file an affidavit stating that they have filed an application to legalize their immigration status, or will file an application as soon as they are eligible to do so. This exemption from paying nonresident tuition does not apply to students who are non-immigrant aliens within the meaning of 8 United States Code 1101(a)(15), except as provided by Section 68122 above.

Refund Policy for Tuition and Other Fees

(All refunds will be subject to a $5 administrative fee.) It is the student's responsibility to drop courses, regardless of the reason, by all enrollment period deadlines to avoid charges or be eligible for a full or prorated refund. Failure to do so may result in charges and holds preventing university services. Students who decide not to attend should drop all courses before the first day of instruction to avoid enrollment charges.

Please note: The last day to be eligible for any refund of tuition and fees resulting from dropping from full-time to part-time is not the same day as the last day to add/drop a course. The last day to add/drop and still be eligible for any refund of tuition and fees is usually the 10th day of instruction. This is different from the last day to add/drop any course, which is usually the 20th day of instruction.

Estimate of Expenses

The basic expenses for attendance at California State University, Fresno for a year (two semesters) for full-time students who live away from home are approximately $21,000. This figure is exclusive of the Nonresident Tuition Fee but includes an estimate of such personal items as clothes, laundry, and incidental expenditures. Students who live at home or share apartments with other students and commute to the campus are able to reduce their expenses considerably below the estimated figure. Note: tuition and other fees estimate is for California residents.

Room and Board (average) = $9,200*
Tuition and Other Fees = $4,265-$16,951
Books and Supplies (approx.) = $1,000

* Estimate for on-campus housing only, 2017-2018 academic year.

Source of Funds and Average Costs for 2015-16 CSU Budget

	Amount	Average Cost Per FTE Student	Percent
State Appropriation (GF) (1)	$2,987,063,000	$8,380	59.4
Net Tuition Fee Revenue (2)	$1,654,161,000	$4,410	31.3
Other Fees Revenue (2)	$491,651,000	$1,311	9.3
Total Support Cost	**$5,132,875,000**	**$14,101**	**100**

1. Represents state GF appropriation in the Budget Act of 2015/16; GF is divisible by resident students only (356,450 FTES).
2. Represents CSU Operating Fund, Tuition Fee and other fees revenue amounts (net of tuition fee discounts) submitted in

campus August 2015/16 final budgets. Revenues are divisible by resident and nonresident students (375,080 FTES).

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 2015/16 budget amounts were $2,987,063,000 from state General Fund (GF) appropriations and before adding $20.5 million CalPERS retirement adjustment, $1,654,161,000 from tuition fee revenue and after tuition fee discounts (forgone revenue), and $491,651,000 from other fee revenues for a total of $5,132,875,000. The 2015/16 resident FTES target is 356,450 and the nonresident FTES based on past-year actual is 18,630 for a total of 375,080 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 2015/16 average support cost per FTES based on GF appropriation and net tuition fee revenue only is $12,790 and when including all sources as indicated below is $14,101, 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 $5,721.

The average CSU 2015/16 academic year, resident, undergraduate student basic tuition fee and other mandatory fees required to apply to, enroll in, or attend the University is $6,815 ($5,472 tuition fee plus $1,343 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.

VIP Bike Registration

The Volunteer Identification Program is available free of charge on our campus. With this service your bike is engraved with your driver's license number or a serial number and is listed on a statewide computer system if stolen. Forms for VIP registration are available at the University Student Union information desk, the residence halls and the Commons #4 Office, and the Campus Security Office.

Financial Assistance

Financial Aid

Andres R. Hernandez, Interim Director
Joyal Administration, Room 296
559.278.2182
www.fresnostate.edu/finaid

Financial aid is any resource available to students to offset the costs associated with attending California State University, Fresno. Aside from student and family resources, there are four basic programs of financial aid: grants, loans, work-study, and scholarships. About 95 percent of these programs are administered by the Financial Aid Office.

The majority are funded by the federal and state governments and are need-based. Eligibility for financial aid from need-based programs is determined through a formula mandated by Congress. Several programs administered by the Financial Aid Office are not need-based.

Need-Based Financial Aid Programs

For the following need-based aid programs, students are required to submit the Free Application for Federal Student Aid (FAFSA). Students are encouraged to submit the FAFSA through the Internet at www.fafsa.ed.gov. Paper applications are also available at high schools and college financial aid offices in late December and should be completed after January 1st for the next academic year.

The official priority filing date is March 2 for the next academic year.

* Federal Pell Grant
Federal Perkins Loan
Federal Supplemental Educational Opportunity Grant
Teacher Education Assistance for College and Higher Education (TEACH) Grant Program.

* Federal Direct Stafford Student Loan
Federal Work-Study Nursing Student Loan
Bureau of Indian Affairs Grant

** California Graduate Equity
Fellowship Program for Underrepresented Students
California State Educational Opportunity Grant (EOP)
California State University Grant
Cal Grants A, B, T, and AB540
State Graduate Fellowship

For assistance in completing the FAFSA, please contact the Financial Aid Office.

Details about these programs are listed under Program Specifications.

Additional Financial Aid Sources

Alan Pattee Scholarships. Pursuant to the Alan Pattee Scholarship Act, Education Code Section 68120, children of deceased public law enforcement or fire suppression employees, who were California residents and who were killed in the course of law enforcement or fire suppression duties, are not charged mandatory systemwide fees or tuition of any kind at any California State University campus. Students who may qualify for these benefits should contact the Registrar's Office for an eligibility determination.

Air Force Reseve Officer Training Corps Scholarships. The Air Force ROTC program at California State University, Fresno offers full two-year, three-year, and four-year, scholarships for both technical and non-technical majors. These scholarships cover a tuition of up to $4,500 per semester for undergraduate students working toward their prospective degree.

Fresno State is one of AFROTC's six Hispanic Serving Institutions and Fresno State students are eligible for AFROTC HSI Scholarships. Eligible students need not be Hispanic to qualify, but may compete for the scholarship (after one semester in our program) on the spring scholarship board after nomination by the AFROTC Det 035 commander.

These scholarships also include a yearly textbook payment of up to $900. This total does not include a monthly stipend pay for all cadets who are contracted, whether under a scholarship or not. Stipend pay is tax free money given to students who are

contracted with the Air Force ROTC program and are enrolled as full-time students (12 or more units). Stipend pay depends on your academic year as follows: freshmen $300, sophomores $350, juniors $450, and seniors $500. To qualify for the scholarships, you must graduate before turning age 31 and have at least a 2.50 cumulative GPA. Applications should be submitted to the Department of Aerospace Studies. For additional information, contact our unit admission officer at 559.278.2593 For more on AFROTC, see Aerospace Studies.

Army Training Corps Officer. The Army ROTC program at California State University, Fresno has the following options available for fully qualified students to fund undergraduate and in some cases graduate degrees.

1. High School: The Army ROTC Four-Year Scholarship program is available to students who have graduated from high school or possess an equivalent certificate before September of the year they enter college. Scholarships pay up to $20,000 a year for college tuition and education fees, or up to $10,000 room and board, whichever is chosen by the student. Additional scholarship benefits are also available.
2. On-Campus Scholarships: For fully qualified students already attending Fresno State, we offer three- and two-year scholarships. These scholarships are limited and are awarded on a competitive bases.
3. On-Campus Non-Scholarships: All contracted students enrolled in the ROTC program receive an annual allowance of as much as $5,000 and can earn as much as $23,000 during their college careers.
4. Simultaneous Membership Program: The California National Guard and Reserve provides 100% tuition assistance to qualified students.

These scholarships also include a yearly textbook payment of up to $1,200. Monthly stipend pay depends on a student's academic year as follows: freshmen $300, sophomores $350, juniors $450, seniors $500. To qualify for the scholarships, you must graduate before turning age 31 and have at least a 2.50 cumulative GPA.

For additional information contact our scholarship assistance officer at 559.278.5460 or see the Department of Military Science.

Graduate Assistantships. A number of graduate assistantships and teaching associateships are available to students who are enrolled in a master's degree program. For additional information, see the Division of Graduate Studies at http://www.fresnostate.edu/gradstudies.

Division of Graduate Studies Student Research Awards and Travel Grants. For additional information, see the Division of Graduate Studies at www.fresnostate.edu/gradstudies.

Nonresident Tuition Waivers. A select number of non-resident tuition waivers are available for outstanding graduate students who demonstrate the potential to make significant academic and professional contributions in their disciplines and the graduate program. Recipients are expected to work with the K-12 system in giving lectures/presentations. For additional information, contact the department.

Resident Advisers and Public Safety Assistants. University Courtyard employs up to 17 students to work as resident advisers (RAs) and eight students to work as public safety assistants (PSAs) in the residence halls. RAs act as effective role models, develop a cohesive community of students, organize and conduct programs, and serve as a resource to students living on-campus. PSAs patrol the buildings and grounds, and provide escort services. Applications are available from the University Courtyard Housing Office at the beginning of November.

University Association and Foundation Loan Funds. The university operates an Emergency Loan Fund to assist students who need up to a maximum of $600 for educationally related emergency expenses only. These loans must be repaid within 90 days or before the end of the semester, as designated by Perkins and Nursing Loan Counseling Services. Loans are granted on the basis of the students' need and ability to repay. The funds for these programs have been provided by gifts to the university. Applications for loans are processed through Perkins and Nursing Loan Counseling Office, Joyal Administration Building, Room 152.

Waivers of Nonresident Fees. Upon written waiver by the dean of students or the director of admissions and records, children or spouses of California State University full-time employees, who are not yet legal residents of California, may be exempted from the nonresident fee. Also, with verification by the dean of the Kremen School of Education and Human Development, certificated California school district employees who are not yet legal residents of California may be exempted from the nonresident fee, if they are provisionally credentialed and working toward regular credentials, completing postponed requirements, or completing the fifth year required under the Teacher Preparation and Licensing Law of 1970 (Ryan Act).

Program Specifications

Satisfactory academic progress requirements. To conform with the regulations that govern state and federal student financial aid programs, the university is required to define and enforce standards of satisfactory academic progress for all students.

All funds administered by the Financial Aid Office are subject to these standards.

The intent of these standards is to encourage students to make steady progress toward the completion of all degree or credential requirements within a reasonable period of time.

To maintain satisfactory progress, students must successfully complete a minimum percentage of the total units they have taken. (See *www.fresnostate.edu/finaid* then go to Online Forms, SAP forms.)

All recipients of financial aid must notify the Financial Aid Office prior to dropping below the units identified as units funded on their award notification. Aid recipients who fail to comply with these requirements may be subject to cancellation of their financial aid award and/or repayment of aid received.

The regulations also address the issue of time-to-degree. An undergraduate student's funding will be suspended once a student exceeds 180 total units taken. (Some exceptions are granted.) A postbaccalaureate student's funding will be suspended once a student in a 30-unit degree program exceeds 38 total units taken. (Some exceptions are granted.) Graduate students enrolled in programs requiring 60 units will be granted an exception upon request.

All prior academic activity at the college level is considered in determining total units taken. Total units taken includes all transfer credit recorded, whether or not applicable to the degree, in addition to units taken at California State University, Fresno.

All financial aid recipients are reviewed for satisfactory academic progress at the end of each semester. The following criteria are used for determination of satisfactory progress: (1) A, B, C, D, and CR are acceptable indicators of satisfactory academic progress; (2) F, I, W, WU, NC, RP, RD, AU are not acceptable.

A more detailed explanation of satisfactory academic progress requirements at California State University, Fresno is available on the website at www.fresnostate.edu/finaid or in the Financial Aid Office, Joyal Administration Building, Room 296.

Federal Perkins Loan. Authorized by the Higher Education Act, this program provides a limited amount of low-interest loans to students who demonstrate an exceptional financial need. Currently students may borrow $27,500 during the course of their undergraduate degree. Graduate students may borrow up to $60,000 (including any amount borrowed as an undergraduate). New borrowers begin repayment nine months after they graduate, leave school, or cease attending at least half-time. (Students who received funding under the National Direct Student Loan Program have a six-month grace period.) A repayment period of up to 10 years has been established by the federal government. The Higher Education Act also authorized certain conditions under which part or all of the loan may be canceled. Details are available in Student Loan Collections Services, Joyal Administration Building, Room 156.

Federal Supplemental Educational Opportunity Grant (FSEOG). FSEOG is a grant program and, thus, does not require repayment. Awards are restricted to those undergraduates who demonstrate the greatest need and who are also Federal Pell Grant recipients. Funding for the program is limited to the allocation received from the federal government.

Federal Work-Study (FWS). FWS is a federally funded employment program. Awards are based on financial need. Both undergraduate and postbaccalaureate students are eligible to participate. Students receiving FWS awards are placed in jobs on-campus and with selected off-campus agencies, including community service programs such as America READS.

Nursing Student Loans. Under this program, a student who can show that a loan is needed to enter or continue in the nursing program may borrow up to $2,500 an academic year for the first two years; $4,000 for the final two academic years, up to a $13,000 maximum. No interest is charged while the borrower pursues at least a half- time course of study, or for a period of nine months after leaving school. Interest then starts at 5 percent simple interest and the loan is repaid at not less than $15 per month. Interest and payments are deferred for a period of time while the borrower is a member of the uniformed service or is a volunteer under the Peace Corps Act.

Bureau of Indian Affairs (BIA) Grants. If you are an eligible American Indian, Eskimo or Aleut student, or a certified member of a tribal group that is served by the Bureau of Indian Affairs, you may apply for a BIA grant. The amount is based on financial need and availability of funds from your area agency. You must first submit an application for financial aid (FAFSA) and supportive documents. Obtain the BIA application from your area agency, then see the BIA adviser in the Financial Aid Office to complete the BIA Need Analysis section of the application. Be sure to check with your Tribal Agency Office for BIA deadlines. Deadlines vary from one agency to another. BIA applications are normally available January through June of each year.

California Graduate Equity Fellowship Program. For additional information, see the Division of Graduate Studies at www.fresnostate.edu/gradstudies.

California State Educational Opportunity Grant Program (State EOP). Educational Opportunity Program Grants are provided by the state of California for students admitted to one of the campuses of The California State University under the Educational Opportunity Program. Eligibility for this grant is determined by criteria similar to that which governs federal financial aid programs. Admission to the university through the EOP does not automatically mean that the student is awarded a State EOP

Grant. Grants provide aid to undergraduate students who, for lack of such assistance, would be unable to enter or remain in an institution of higher education. Funds are limited and range from $250 to $1,000 for the academic year.

California State University Grant. This is a need-based program for California residents, providing financial support to students. Eligibility for this grant is determined by criteria similar but not limited to that which governs federal financial aid programs.

Federal Pell Grant. The Federal Pell Grant Program is a program of student financial aid authorized by Title IV, Part A, of the Education Amendments of 1972. This program provides grants for some credential programs and for all eligible undergraduate students to assist them in meeting educational costs. Program regulations change from year to year.

Cal Grants A, B, and AB540 Entitlement Competitive Awards. The California Student Aid Commission offers Cal Grants A, B, and AB540 to undergraduate students on the basis of demonstrated need and specific program requirements. To apply, complete the FAFSA, Cal ISIR, and GPA Verification Form. The deadline for new applicants is March 2 for the next academic year. Renewal applicants may continue to apply after March 2. Recipients who complete a baccalaureate degree and who are accepted and enrolled in a teaching credential program at an institution approved by the California Commission on Teacher Credentialing will be eligible to apply for renewal of their Cal Grant award for an additional year of grant eligibility, provided financial need continues to exist. All students who are planning to enroll in an approved credential program and wish to continue receiving Cal Grant benefits will be required to submit a supplemental request. Forms are available in the Financial Aid Office.

Law Enforcement Personnel Dependents Grants (LEPD). Law Enforcement Personnel Dependents Grants range from $1,259 to $12,192 per year for up to four years for dependents and spouses of law enforcement officers killed or totally disabled in the line of duty. Applicants should write to the California Student Aid Commission for a special application.

Federal Direct Subsidized Student Loan. The Federal Direct Subsidized Loan Program enables students with financial need to secure loans for the payment of educational expenses. Available to undergraduates and graduates, the Federal Direct Loan is a federally subsidized program where students borrow directly from the U.S. Department of Education. Undergraduates who qualify may borrow up to $3,500 per year as freshman, $4,500 for second-year students, $5,500 per year as juniors, seniors, or credential students, up to $23,000 maximum. Graduate students who qualify may borrow up to $8,500 per year to a $65,000 maximum (includes indebtedness as an undergraduate). Simple interest at 4.05% is charged when students begin repayment. Repayment begins six months after students graduate, leave school, or cease attending at least half- time. The federal government pays the interest until the student borrower enters the loan repayment period.

Teacher Education Assistance for College and Higher Education (TEACH) Grant Program. This program provides up to $4,000 a year in grant assistance to students who plan on becoming teachers and who meet certain specified requirements. If a student who receives a TEACH Grant does not complete the required teaching, the grant must be repaid as a Direct Unsubsidized Loan under the William D. Ford Federal Direct Loan Programs.

Non-Need-Based Financial Aid Programs. The following non-need-based programs are administered by our Financial Aid Office.

Federal Direct Parent Plus Loans for Undergraduate Students (PLUS). The PLUS Program was initiated to provide assistance to parents who do not demonstrate financial need as determined by the government formula. Parents may borrow up to the cost of attendance minus other aid for each dependent child enrolled at least half-time. Applications and information are available at the Financial Aid Office and at the website at www.fresnostate.edu/finaid.

Federal Direct Unsubsidized Student Loan. This program is open to students who may not meet need-based requirements of the Federal Direct Subsidized Loan or who may qualify for only a partial Federal Direct Subsidized Loan. Terms and conditions are similar to the Federal Direct Subsidized Loan, except the simple interest rate is 6.8% and the borrower is responsible for interest which accrues during the in school period.

CSU Chancellor's Doctoral Incentive Program. The largest program of its kind in the nation, the CSU Chancellor's Doctoral Incentive Program is designed to increase the pool of individuals who show promise of becoming strong candidates for California State University instructional faculty positions. The program provides loans of up to $10,000 per year up to a total of $30,000 within five years. For each year of full-time postdoctoral teaching at a CSU campus, individuals are granted loan forgiveness at a rate of 20% per year. Information is available through the Division of Graduate Studies,559.278.2448 or visit www.calstate.edu/HR/FLP.

California Pre-Doctoral Program for Undergraduate and Graduate Students. For additional information, see the Division of Graduate Studies at *www.fresnostate.edu/gradstudies*.

Scholarships

University Scholarships and Student Affairs Development

Greg Varela, Program Coordinator
Student Affairs
Joyal Administration, Room 274
559.278.6572
www.fresnostate.edu/scholarships

University Scholarship Program

Fresno State awards more than a thousand scholarships totaling more than $3.8 million to incoming and continuing students. Institutional scholarships range from $100 to almost $12,000 and are awarded to both undergraduate and graduate students.
Factors for Consideration Scholastic Achievement

- Academic major or career interests
- Involvement in school organizations
- Leadership and participation in community activities
- Full-time enrollment

Depending on specific donor criteria these factors can vary, so regardless of accomplishments, interests, or background, we encourage all students to apply online for consideration of general and departmental scholarships.
Scholarship Application Procedures

The 2014/2015 scholarship application for Fresno State will be available online starting October 1, 2013. The "priority" application deadline is February 28, 2014. However, several scholarship opportunities will remain open beyond that deadline for specific majors, programs, or student groups. Therefore, we encourage all students to occasionally log-in to check their application status and to see if there are any new scholarship opportunities available.

The University Scholarship website provides a one-stop opportunity to apply for hundreds of institutional scholarships by submitting just one application. Simply log on to *http://www.fresnostate.edu/studentaffairs/scholarships/index.html* to complete and submit the online scholarship application.

Additional On-Campus Scholarship Opportunities Requiring a Separate Application

Air Force Reserve Officer Training Corps Scholarships. Air Force ROTC three-year, four-year, and graduate degree scholarships are available in many technical and non-technical majors to cover the costs of fees and tuition, book allowance, lab fees, and a monthly stipend. For additional information log on to http://www.fresnostate.edu/afrotc/ or see Aerospace Studies in this catalog.

Army Reserve Officer Training Corps Scholarships. The U.S. Army offers two-, three-, and four-year scholarships at different monetary levels to qualified students in a variety of academic disciplines. For additional information log on to http://www.fresnostate.edu/craig/depts-programs/army/index.html or see Military Science in this catalog.

Fee Waivers. The California Education Code includes provisions for the waiver of mandatory systemwide fees as follows:

- Section 66025.3 - Qualifying children, spouses/registered domestic partners, or unmarried surviving spouses/registered domestic partners of a war period veteran of the U.S. military who is totally service-connected disabled or who died as a result of service-related causes; children of any veteran of the U.S. military who has a service-connected disability, was killed in action, or died of a service-connected disability and meets specified income provisions; any dependents or surviving spouse/registered domestic partner who has not remarried of a member of the California National Guard who in the line of duty and in active service of the state was killed or became permanently disabled or died of a disability as a result of an event while in active service of the state; and undergraduate students who are the recipient of or the child of a recipient of a Congressional Medal of Honor and meet certain age and income restrictions;
- Section 68120 - Qualifying children and surviving spouses/registered domestic partners of deceased public law enforcement or fire suppression employees who were California residents and who were killed in the course of active law enforcement or fire suppression duties (referred to as Alan Pattee Scholarships); and
- Section 68121 - Qualifying students enrolled in an undergraduate program who are 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 these benefits should contact the Admissions/Registrar's Office for further information and/or an eligibility determination.

The California Education Code provides for the following nonresident tuition exemptions:

- Section 68122 - Students who are victims of trafficking, domestic violence, and other serious crimes who have been granted T or U visa status are exempt from paying nonresident tuition if they (1) attended high school in California for three or more years, (2) graduated from a California high school or attained the equivalent, and (3) registered as an entering student or are currently enrolled at a CSU campus.

- Section 68130.5 - Students who are not residents of California are exempt from paying nonresident tuition if they (1) attended high school in California for three or more years, (2) graduated from a California high school or attained the equivalent, and (3) registered as an entering student or are currently enrolled at a CSU campus. In addition, students without lawful immigration status will be required to file an affidavit stating that they have filed an application to legalize their immigration status, or will file an application as soon as they are eligible to do so. This exemption from paying nonresident tuition does not apply to students who are nonimmigrant aliens within the meaning of 8 U.S.C. 1101(a)(15), except as provided by Section 68122 above.

Students who may qualify for any of these benefits should contact the Admissions/Registrar's Office for further information on the specific requirements and/or an eligibility determination.

Athletics. The department of Athletics complements the academic mission of the university by offering students an athletic experience of high quality through broad-based, competitive sports programs for both men and women. To provide such an experience, the department is committed to integrity and excellence in both athletics and academics through a comprehensive academic support system. For additional information see Athletics in this catalog.

Craig Scholarships and Fresno Merchants Scholarship Program. These are awarded to incoming freshmen who certify their intention of obtaining a B.S. in business administration. Renewal each year is based on continued eligibility and proper progress toward the business degree. For additional information log on to *http://www.fresnostate.edu/craig/scholarships/scholars.html* or contact the Craig School of Business at 559.278.2482.

The Community Service Scholarship Program provides scholarships of up to $1000 to students who are selected to complete 150 hours of community service. Positions are available to Fresno State students during the academic year and summer months. For more information, contact the office of Career Services at 559.278.2381.

Smittcamp Family Honors College. California State University, Fresno also offers the President's Honors Scholarships through the Smittcamp Family Honors College. Admission to this prestigious program provides a four-year scholarship to high achieving, incoming freshmen. Each student receives a grant equivalent to full tuition, fees, and costs to cover housing on campus for all four years of study. For additional information log on to http://www.fresnostate.edu/academics/honors/index.html or contact the Honors College at 559.278.8160.

For a comprehensive listing of these and other scholarship opportunities at California State University, Fresno, visit our website at http://www.fresnostate.edu/studentaffairs/scholarships/

Institutional Information

Availability of Institutional and Financial Assistance Information

The following information concerning student financial assistance may be obtained from the Financial Aid Office, Joyal Administration Building, Room 296, 559.278.2182 (see also *www.fresnostate.edu/finaid*):

1. A description of the federal, state, institutional, local, and private student financial assistance programs available to students who enroll at Fresno State;
2. 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;
3. 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;
4. 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;
5. The method by which financial assistance disbursements will be made to students and the frequency of those disbursements;
6. The way the school provides for Pell-eligible students to obtain or purchase required books and supplies by the seventh day of a payment period and how the student may opt out;
7. 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;
8. The general conditions and terms applicable to any employment provided as part of the student's financial aid package;
9. The terms and conditions of the loans students receive under the Direct Loan and Perkins Loan Programs;
10. The exit counseling information the school provides and collects for student borrowers; and
11. Contact information for ombuds offices available for disputes concerning federal, institutional and private loans.

Information concerning the cost of attending California State University, Fresno is available from the Financial Aid Of-

fice, Joyal Administration Building, Room 296, 559.278.2182. The Financial Aid Office provides information on tuition and fees; estimated costs of books and supplies; estimated costs of typical student room, board, and transportation; and (if requested) additional costs for specific programs. See also fees.

Information concerning refund policies of California State University, Fresno may be obtained from the Office of Accounting Services, Joyal Administration Building, Room 181, 559.278.2876. The listing of complete policy and procedures is available online at *http://www.fresnostate.edu/accountingservices/*.

Information concerning policies regarding the return of federal Title IV student assistance funds as required by regulation is available from the Financial Aid Office, Joyal Administration Building, Room 296, 559.278.2182.

Information concerning the undergraduate academic programs of California State University, Fresno may be obtained from the Office of the Dean of Undergraduate Studies, Henry Madden Library, Harold H. Haak Administrative Center, Fourth Floor, 559.278.4468.

Information concerning the graduate degree programs of California State University, Fresno may be obtained from the Division of Graduate Studies, Henry Madden Library, Harold H. Haak Administrative Center. You may call 559.278.2448. Additional information is available at *http://www.fresnostate.edu/gradstudies*.

Information regarding special facilities and services available to students with disabilities may be obtained from the Office of Services for Students with Disabilities, Henry Madden Library, 559.278.2811.

Information concerning California State University, Fresno policies, procedures, and facilities for students and others to report criminal actions or other emergencies occurring on campus may be obtained from the Police Department, Public Safety Building, 559.278.8400.

Information concerning California State University, Fresno annual campus security report and annual fire safety report may be obtained from the Police Department, Public Safety Building, 559.278.8400 or see information on the Clery Act on the University Police Department website at *www.fresnostate.edu/police/clery*.

Information concerning the prevention of drug and alcohol abuse and rehabilitation programs may be obtained from Health and Psychological Services in the Student Health Center, 559.278.6738.

Information regarding student retention and graduation rates at California State University, Fresno and the number and percentage of students completing the program in which the student is enrolled or has expressed interest may be obtained from the Office of Institutional Effectiveness, Henry Madden Library, Harold H. Haak Administrative Center, Fourth Floor, 559.278.3906. Additional information is available at *www.fresnostate.edu/irap*.

Information concerning athletic opportunities available to male and female students and the financial resources and personnel that Fresno State dedicates to its men's and women's teams may be obtained from the Athletics Department, 559.278.2643.

Information concerning teacher preparation programs may be obtained from the Kremen School of Education and Human Development, Student Services, Education Building, Room 100, (559) 278.0300.

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) is available from the Office of the Vice President for Student Affairs, Joyal Building, Room 262, 559.278.2541.

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*.

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 the Admissions and Records Office, 559.278.2261.

Prior to withdrawing from the university, students who receive financial aid funds must consult with Financial Aid Office 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.

Lower-Division

Notes: **A minimum of 51 G.E. units are required.** All classes are three or more semester units. Some programs, such as Engineering, Liberal Studies and Nursing, require a different G.E. pattern – consult major advisors for details.

See program-specific course descriptions for G.E. courses that are exclusive for these programs.

Foundation

Select one course from each of the following four categories: One in A1, one in A2, one in A3, and one in B4 for a minimum of 12 units. FOUNDATION courses must be satisfied with a minimum "C" grade.

AREA A & B4 - Fundamental Skills and Knowledge

- A1 - Foundation - Oral Communication: Communication 3, Communication 6H, Communication 7, Communication 8
- A2 - Foundation - Written Commication: English 5B, English 10, English 10H
- A3 - Foundation - Critical Thinking: Africana Studies Program 20, Anthropology 30, Chicano and Latin American Studies 30, Communication 5, Computer Science 1, College of Science and Mathematics 10, Geography 25, Geomatics Engineering 5, Interdisciplinary Capstone 50, Natural Science 4, Natural Science 4H, Philosophy 25, Philosophy 35H, Philosophy 45, Sociology 3, Sociology 3S, Women's Studies 12
- B4 - Foundation - Quantitative Reasoning: Criminology 50, Decision Sciences 71, Mathematics 10A, Mathematics 11, Mathematics 45, Mathematics 45H, Mathematics 70, Mathematics 75, Mathematics 75A

Breadth

The Breadth component of the General Education Program exposes students to a variety of disciplines within the structured framework of Areas B, C, D, and E.

A maximum of two courses from one department or program may be applied to satisfy Breadth requirements.

Area B - **Physical Universeand Its Life Forms.**
Two courses: One in B1 and one in B2 – see above for B4

- B1 - Breadth - Physical Sciences: Chemistry 1A, Chemistry 1AL, Chemistry 3A, Chemistry 10, Chemistry 10H, Earth & Environmental Sciences 1, Earth & Environmental Sciences 1V, Earth & Environmental Sciences 4, Earth & Environmental Sciences 8H, Physics 2A, Physics 4A, Physics 4AL, Physics 10, Physical Science 21
  B1LS - Breadth - Physical Sciences Liberal Studies Only: Natural Science 1A
- B2 - Breadth - Life Sciences: Biology 1A, Biology 10, Biology 10H, Biology 11, Biology 12

Area C- **Arts and Humanities**
Three courses: One in C1, one in C2, and a third from C1 or C2

- C1 - Breadth - Arts: Armenian Studies 20, Armenian Studies 20H, Art 1, Art 20, Art 40, Art 50, Art History 10, Art History 11, Chicano and Latin American Studies 9, Drama-Theatre Arts 22, Drama-Theatre Arts 62, Drama-Theatre Arts 75H, English 41, English 42H, English 43, English 44, Music 9, Music 9, Music 60H, Music 74, Music 75
- C2 - Breadth - Humanities: Arabic 1A, Arabic 1B, Armenian 1A, Armenian 1B, Armenian 2A, Communicative Disorders and Deaf Studies 90, Communicative Disorders and Deaf Studies 92, Chinese 1A, Chinese 1B, English 20, English 30, French 1B, French 2A, French 2B, German 1B, German 2A, German 2B, Greek 1A, Greek 1B, Hmong 1A, Hmong 1B, Humanities 10, Humanities 10H, Humanities 11, Humanities 15, Humanities 20, Italian 1A, Italian 1B, Italian 2A, Italian 2B, Japanese 1A, Japanese 1B, Latin 1A, Latin 1AH, Latin 1B, Linguistics 10, Persian 1A, Persian 1B, Philosophy 1, Philosophy 2, Philosophy 10, Philosophy 20, Portuguese 1A, Portuguese 1B, Spanish 1B, Spanish 2A, Spanish 2B, Spanish 3, Spanish 4A, Spanish 4B

Area D- Social, Political, & Economic Institutions & Behavior, Historical Background.
One course in each sub-area

- D1 - American History: History 11, History 12, History 15H
- D2 - American Government: Political Science 2, Political Science 2H
- D3 - Social Science: Africana Studies Program 10, Africana Studies Program 15, Africana Studies Program 27, Agricultural Business 1, American Indian Studies 50, Anthropology 2, Anthropology 3, Armenian Studies 10, Asian American Studies 15, Communicative Disorders and Deaf Studies 98, Child and Family Sciences 31, Chicano and Latin American Studies 3, Chicano and Latin American Studies 5, Criminology 10, Economics 25, Economics 40, Economics 50, Geography 2, Geography 4, History 20, History 21, Industrial Technology 20, Mass Communication and Journalism 1, Middle East Studies 10, Political Science 1, Political Science 71, Political Science 71H, Psychology 10, Psychology 62H, Sociology 1, Sociology 1S, Women's Studies 10

Area E - **Lifelong Understanding and Self-Development.**
Three units

- E1 - Lifelong Understanding & Self Development: Art 13, Animal Sciences 67, Child and Family Sciences 38, Child and Family Sciences 38H, Child and Family Sciences 39, College of Science and Mathematics 15, Dance-Theatre Arts 16, Dance-Theatre Arts 70, Drama-Theatre Arts 32, Finance 30, Gerontology 10S, Gerontology 18, Gerontology 111, Kinesiology 32, Literacy and Early Education 80T, Linguistics 30, Nutrition 53, Nutrition 53H, Peace and Conflict Studies 110, Public Health 90, Public Health 91, Public Health 110, Philosophy 32H, Psychology 61, Recreation Administration 80, University 1, University 50H, Women's Studies 18

Upper-Division

UPPER DIVISION G.E. CONSISTS OF 12 UNITS

IB, IC, ID, and MI courses can be taken no sooner than the term in which 60 units of coursework are completed. They may not be selected from the primary major department.
Integration

Requirement: Three upper-division courses: one course in each of three Breadth areas. (Completion of the FOUNDATION and BREADTH requirements, and upper-division standing, are prerequisites to enrollment in INTEGRATION courses.)

INTEGRATION

Three upper division courses – one in each area

- IB - Physical Universe & Its Life Forms: Anthropology 161; Chemistry 170; Computer Science 100; Earth & Environmental Sciences 112, 167, 168; Geography 115, 128; Natural Science 115, 120, 121, 125; Public Health 161; Physics 100; Plant Science 105; Physical Science 131, 168
- IC - Arts & Humanities: Africana Studies Program 129; Armenian 148; Art 102; Dance-Theatre Arts 171; Drama-Theatre Arts 163, 188TZ; English 101, 102, 102WZ, 103, 112, 113, 114, 174, 174Z; French 109, 149; Humanities 104, 108, 110, 118; Interdisciplinary Arts Studies 108; Linguistics 115, 130, 138; Music 170A, 171, 171Z, 187, 187Z; Philosophy 120, 150, 151; Spanish 125, 129
- ID - Social, Political & Economic Institutions: Africana Studies Program 144; Agricultural Business 155; American Indian Studies 103; Anthropology 116W, 145; Chicano and Latin American Studies 114; Criminology 101, 120, 153; Economics 146, 167, 176, 183; Geography 173; Gerontology 100; History 101; Smittcamp Honors College 102; Kinesiology 111; Mass Communication and Journalism 178; Psychology 173; Sociology 131, 143, 163; Social Science 110; Women's Studies 101

MULTICULTURAL/INTERNATIONAL

- M/I - Multicultural/International: Africana Studies Program 150, 164; Anthropology 105W, 120, 123, 125; Asian American Studies 110; Business Administration 104; Communicative Disorders and Deaf Studies 139; Chicano and Latin American Studies 160, 170; Communication 164; Economics 181; Geography 167; Gerontology 161; History 186; Humanities 140; Interdisciplinary Capstone 177; Linguistics 147; Marketing 100S; Mass Communication and Journalism 175, 176, 179; Nursing 141, 141LS; Public Health 104, 128S; Philosophy 131, 132; Political Science 120, 120Z; Recreation Administration 130; Sociology 111, 142; Social Science 180; Social Work 136; Women's Studies 110, 120, 135

G.E. Prerequisites

- A2 is prerequisite to C2, D1, D2, and D3*
- B4 is prerequisite to B1
- A1, A2, A3 and B4 are prerequisite to IB, IC, ID, and MI

* ***Note***: A2 is a prerequisite for students who have not met the English exemption requirements. See adviser for details.

Full List - General Education in A-E Format

While the revised General Education Program is presented here in terms of FOUNDATION, BREADTH, INTEGRATION, and MULTICULTURAL/INTERNATIONAL, it relates simply to the A-E format widely used throughout the state as indicated by the course prefixes in the table. The following list reflects those courses accepted into the G.E. program as of December 15, 2003.

FOUNDATION

Foundation - Oral Communication
COMM 3 - Fundamentals of Public Communication (Area A1)

COMM 6H - Rhetoric for Autonomy and Collaboration in the Marketplace of Ideas (Area A1)
COMM 7 - Persuasion (Area A1)
COMM 8 - Group Discussion (Area A1)

Foundation - Written Commication
ENGL 5B - Academic Literacy II (Area A2)
ENGL 10 - Accelerated Academic Literacy (Area A2)
ENGL 10H - Honors Accelerated Academic Literacy (Area A2)

Foundation - Critical Thinking
AFRS 20 - Critical Thinking About Race (Area A3)
ANTH 30 - Critical Thinking in Anthropology (Area A3)
CLAS 30 - Critical Thinking in Chicano and Latin American Studies (Area A3)
COMM 5 - Argumentation (Area A3)
CSCI 1 - Critical Thinking and Computer Science (Area A3)
CSM 10 - The Scientific Method (Area A3)
GEOG 25 - Critical Thinking in Geography (Area A3)
GME 5 - Critical Reasoning (Area A3)
INTD 50 - Critical Thinking on Global Issues (Area A3)
NSCI 4 - Science and Nonsense: Facts, Fads, and Critical Thinking (Area A3)
NSCI 4H - Science and Nonsense; Critical thinking and the philosophy of science (Area A3)
PHIL 25 - Methods of Reasoning (Area A3)
PHIL 35H - Logic for Autonomy and Collaboration i the Marketplace of Ideas (Area A3)
PHIL 45 - Introduction to Logic (Area A3)
SOC 3 - Critical Thinking About Society (Area A3)
SOC 3S - Critical Thinking About Society (Area A3)
WS 12 - Critical Thinking: Gender Issues (Area A3)

Foundation - Quantitative Reasoning
CRIM 50 - Statistical and Computer Applications in Criminal Justice (Area B4)
DS 71 - Quantitative Analysis (Area B4)
MATH 10A - Structure and Concepts in Mathematics I (Area B4)
MATH 11 - Elementary Statistics (Area B4)
MATH 45 - What Is Mathematics? (Area B4)
MATH 45H - Exploring Math (Area B4)
MATH 70 - Calculus for Life Sciences (Area B4)
MATH 75 - Calculus I (Area B4)
MATH 75A - Calculus with Review IA (Area B4)

BREADTH

Breadth - Physical Sciences
CHEM 1A - General Chemistry 1A (Area B1)
CHEM 1AL - General Chemistry Laboratory 1A (Area B1)
CHEM 3A - Introductory General Chemistry (Area B1)
CHEM 10 - Chemistry and Society (Area B1)
CHEM 10H - Chemistry & Society (Area B1)
EES 1 - Natural Disasters and Earth Resources (Area B1)
EES 1V - Natural Disasters and Earth Resources - Virtual Labs (Area B1)
EES 4 - Environmental Science (Area B1)
EES 8H - Natural Disasters and Earth Resources (Area B1)
PHYS 2A - General Physics (Area B1)
PHYS 4A - Mechanics and Wave Motion (Area B1)
PHYS 4AL - Laboratory in Mechanics and Wave Motion (Area B1)
PHYS 10 - Conceptual Physics (Area B1)
PSCI 21 - Elementary Astronomy (Area B1)

Breadth - Physical Sciences Liberal Studies Only
NSCI 1A - Integrated Science: Physics and Chemistry (Area B1LS)

Breadth - Life Sciences
BIOL 1A - Introductory Biology (Area B2)
BIOL 10 - Life Science (Area B2)
BIOL 10H - Life Science (Area B2)
BIOL 11 - Plant Biology (Area B2)

BIOL 12 - Animal Biology (Area B2)

Breadth - Arts

ARMS 20 - The Arts of Armenia (Area C1)
ARMS 20H - Arts of Armenia (Area C1)
ART 1 - Art Forms (Area C1)
ART 20 - Drawing (Area C1)
ART 40 - Painting (Area C1)
ART 50 - Beginning Sculpture (Area C1)
ARTH 10 - The Ancient Medieval Worlds (Area C1)
ARTH 11 - The Early Modern World (Area C1)
CLAS 9 - Chicano Artistic Expression (Area C1)
DRAMA 22 - Oral Interpretation of Literature (Area C1)
DRAMA 62 - Theatre Today (Area C1)
DRAMA 75H - Theatre in Contemporary American Culture (Area C1)
ENGL 41 - Poetry Writing (Area C1)
ENGL 42H - Creative Writing (Area C1)
ENGL 43 - Fiction Writing (Area C1)
ENGL 44 - Creative Nonfiction Writing (Area C1)
MUSIC 9 - Introduction to Music (Area C1)
MUSIC 9 - Introduction to Music (Area C1)
MUSIC 60H - Music in Social Context (Area C1)
MUSIC 74 - Listener's Guide to Music (Area C1)
MUSIC 75 - History of Rock and Roll (Area C1)

Breadth - Humanities

ARAB 1A - Elementary Arabic A (Area C2)
ARAB 1B - Elementary Arabic B (Area C2)
ARM 1A - Elementary Armenian (Area C2)
ARM 1B - Elementary Armenian (Area C2)
ARM 2A - Intermediate Armenian (Area C2)
CDDS 90 - Deaf American Literature (Area C2)
CDDS 92 - American Sign Language II (Area C2)
CHIN 1A - Elementary Chinese 1A (Area C2)
CHIN 1B - Elementary Chinese (Area C2)
ENGL 20 - Introduction to Literature (Area C2)
ENGL 30 - Masterpieces (Area C2)
FREN 1B - Elementary French (Area C2)
FREN 2A - French for Communication (Area C2)
FREN 2B - French for Communication (Area C2)
GERM 1B - Elementary German (Area C2)
GERM 2A - Intermediate German (Area C2)
GERM 2B - Intermediate German (Area C2)
GRK 1A - Elementary Greek (Area C2)
GRK 1B - Elementary Greek (Area C2)
HMONG 1A - Basic Hmong (Area C2)
HMONG 1B - Basic Hmong (Area C2)
HUM 10 - Humanities from Antiquity to the Renaissance (Area C2)
HUM 10H - Intro Humanities of the Western World (Area C2)
HUM 11 - Humanities from the Baroque to the Modern (Area C2)
HUM 15 - Classical Myth and World Humanities (Area C2)
HUM 20 - Introduction to Hispanic Literature (Area C2)
ITAL 1A - Elementary Italian (Area C2)
ITAL 1B - Elementary Italian (Area C2)
ITAL 2A - Intermediate Italian (Area C2)
ITAL 2B - Intermediate Italian (Area C2)
JAPN 1A - Elementary Japanese (Area C2)
JAPN 1B - Elementary Japanese (Area C2)
LATIN 1A - Elementary Latin (Area C2)
LATIN 1AH - Honors Elementary Latin (Area C2)
LATIN 1B - Elementary Latin (Area C2)
LING 10 - Introduction to Language (Area C2)
PERS 1A - Elementary Modern Persian (Area C2)

PERS 1B - Elementary Modern Persian B (Area C2)
PHIL 1 - Introduction to Philosophy (Area C2)
PHIL 2 - Exploring Religious Meaning (Area C2)
PHIL 10 - Self, Religion, and Society (Area C2)
PHIL 20 - Moral Questions (Area C2)
PORT 1A - Elementary Portuguese (Area C2)
PORT 1B - Elementary Portuguese (Area C2)
SPAN 1B - Elementary Spanish (Area C2)
SPAN 2A - Spanish for Communication (Area C2)
SPAN 2B - Spanish for Communication (Area C2)
SPAN 3 - Reading and Writing (Area C2)
SPAN 4A - Spanish for the Bilingual Student (Area C2)
SPAN 4B - Spanish for the Bilingual Student (Area C2)

American History
HIST 11 - American History to 1877 (Area D1)
HIST 12 - American History from 1877 (Area D1)
HIST 15H - Trials of Century (Area D1)

American Government
PLSI 2 - American Government and Institutions (Area D2)
PLSI 2H - American Government and Instituition (Area D2)

Social Science
AFRS 10 - Introduction to Africana Studies (Area D3)
AFRS 15 - Slavery and the American Experience (Area D3)
AFRS 27 - Africana Cultures and Images (Area D3)
AGBS 1 - Introductory Agricultural Economics (Area D3)
AIS 50 - Contemporary Life of the American Indian (Area D3)
ANTH 2 - Introduction to Cultural Anthropology (Area D3)
ANTH 3 - Introduction to Prehistory and Physical Anthropology (Area D3)
ARMS 10 - Introduction to Armenian Studies (Area D3)
ASAM 15 - Introduction to Asian Americans (Area D3)
CDDS 98 - Introduction to Hard of Hearing and Deaf People (Area D3)
CFS 31 - The Family in America (Area D3)
CLAS 3 - Introduction to Chicano/Latino Studies (Area D3)
CLAS 5 - Chicano Culture (Area D3)
CRIM 10 - Crime, Criminology, and Justice (Area D3)
ECON 25 - Introduction to Economics (Area D3)
ECON 40 - Principles of Microeconomics (Area D3)
ECON 50 - Principles of Macroeconomics (Area D3)
GEOG 2 - Introduction to Cultural Geography (Area D3)
GEOG 4 - World Geography (Area D3)
HIST 20 - World History I (Area D3)
HIST 21 - World History II (Area D3)
IT 20 - Technology and Society (Area D3)
MCJ 1 - Mass Communication and Society (Area D3)
MES 10 - Introduction to Modern Middle East (Area D3)
PLSI 1 - Modern Politics (Area D3)
PLSI 71 - Introduction to Environmental Politics (Area D3)
PLSI 71H - Introduction to Environmental Politics (Area D3)
PSYCH 10 - Introduction to Psychology (Area D3)
PSYCH 62H - Introduction to Social and Cultural Psychology (Area D3)
SOC 1 - Principles of Sociology (Area D3)
SOC 1S - Principles of Sociology (Area D3)
WS 10 - Introduction to Women's Studies (Area D3)

Lifelong Understanding & Self Development
ART 13 - Design (Area E1)
ASCI 67 - Animals and Society (Area E1)
CFS 38 - Life Span Development (Area E1)
CFS 38H - Honors Lifespan Development (Area E1)
CFS 39 - Introduction to Child and Adolescent Development (Area E1)
CSM 15 - Evidence Based Decision Making (Area E1)
DANCE 16 - Introduction to Dance (Area E1)

DANCE 70 - Balance BodyMind (Area E1)
DRAMA 32 - Introduction to Acting (Area E1)
FIN 30 - Personal Financial Planning (Area E1)
GERON 10S - Journey of Adulthood: Planning a Meaningful Life (Area E1)
GERON 18 - Women and Aging (Area E1)
GERON 111 - Heritage and Aging (Area E1)
KINES 32 - Lifetime Fitness and Wellness (Area E1)
LEE 80T - Academic Reading (Area E1)
LING 30 - Language through the Lifespan (Area E1)
NUTR 53 - Nutrition and Health: Realities and Controversies (Area E1)
NUTR 53H - Nutrition and Health (Area E1)
PAX 110 - Peace Building (Area E1)
PH 90 - Contemporary Health Issues (Area E1)
PH 91 - Human Sexuality (Area E1)
PH 110 - Drugs, Society, and Health (Area E1)
PHIL 32H - Life,Death, and Afterlife (Area E1)
PSYCH 61 - Personal Adjustment (Area E1)
RA 80 - Lifelong Learning in the Natural Environment (Area E1)
UNIV 1 - An Introduction to Learning and the University (Area E1)
UNIV 50H - Information Literacy in a Digital Age (Area E1)
WS 18 - Women and Aging (Area E1)

INTEGRATION

Physical Universe & Its Life Forms

ANTH 161 - Bio/Behavioral Evolution of the Human Species (Area IB)
CHEM 170 - Chemistry in the Marketplace (Area IB)
CSCI 100 - Introduction to Computational Science (Area IB)
EES 112 - Planet Earth through Time (Area IB)
EES 167 - Oceans and Atmosphere and Climate (Area IB)
EES 168 - California's Earth System (Area IB)
GEOG 115 - Violent Weather/Climatic Hazards (Area IB)
GEOG 128 - Environmental Pollution (Area IB)
NSCI 115 - Environmental Earth and Life Science (Area IB)
NSCI 120 - Biotechnology and Its Impact on Society (Area IB)
NSCI 121 - Blood: Science, Art, and Folklore (Area IB)
NSCI 125 - Revenge of the Killer Microbes (Area IB)
PH 161 - Environment and Human Health (Area IB)
PHYS 100 - Concepts of Quantum Physics (Area IB)
PLANT 105 - Food, Society, and Environment (Area IB)
PSCI 131 - Concepts of Classical Physics from Babylon to Maxwell (Area IB)
PSCI 168 - Energy and the Environment (Area IB)

Arts & Humanities

AFRS 129 - African American Literary Classics (Area IC)
ARM 148 - Masterpieces of Armenian Culture (Area IC)
ART 102 - Ideas of Visual Culture: Art, Media, and the Computer (Area IC)
DANCE 171 - Philosophical Bases and Trends in Dance (Area IC)
DRAMA 163 - Dramatic Literature (Area IC)
DRAMA 188TZ - British Theatre (Area IC)
ENGL 101 - Masterpieces of World Literature (Area IC)
ENGL 102 - Masterpieces of English Literature (Area IC)
ENGL 102WZ - Masterpieces of English Literature (Area IC)
ENGL 103 - Masterpieces of American Literature (Area IC)
ENGL 112 - World Literature: Ancient (Area IC)
ENGL 113 - World Literature: Medieval and Renaissance (Area IC)
ENGL 114 - World Literature: Modern (Area IC)
ENGL 174 - Popular Fiction (Area IC)
ENGL 174Z - Popular Fiction - London in Literature (Area IC)
FREN 109 - French Literature, Culture, and Society from the Middle Ages to Today (Area IC)
FREN 149 - Voices of Africa (Area IC)
HUM 104 - Humanities in the Middle Ages and Renaissance (Area IC)
HUM 108 - Humanities in Classical Athens (Area IC)
HUM 110 - Humanities in Republican and Imperial Rome (Area IC)
HUM 118 - Folklore in Contemporary Life (Area IC)

IAS 108 - Interdisciplinary Arts Studies (Area IC)
LING 115 - Language, Culture, and Society (Area IC)
LING 130 - Language and Gender (Area IC)
LING 138 - History of the English Language (Area IC)
MUSIC 170A - Music of the Americas: Latin America (Area IC)
MUSIC 171 - Introduction to the World's Music (Area IC)
MUSIC 171Z - Introduction to the World's Music (Area IC)
MUSIC 187 - Pop Music: Jazz and Rock (Area IC)
MUSIC 187Z - Pop Music: Jazz and Rock (Area IC)
PHIL 120 - Contemporary Conflicts of Morals (Area IC)
PHIL 150 - Foundations of Knowledge (Area IC)
PHIL 151 - Cognitive Science: Mind (Area IC)
SPAN 125 - Hispanic Cultural Productions (taught in Spanish) (Area IC)
SPAN 129 - Mexican Culture (taught in Spanish) (Area IC)

Social, Political & Economic Institutions
AFRS 144 - Race Relations (Area ID)
AGBS 155 - Environmental and Natural Resource Policy (Area ID)
AIS 103 - Indians of California (Area ID)
ANTH 116W - Anthropology of Religion (Area ID)
ANTH 145 - Cultural Resources Management (Area ID)
CLAS 114 - Mexico and the Southwest 1810-1910 (Area ID)
CRIM 101 - Crime and Violence in America (Area ID)
CRIM 120 - Juvenile Delinquency (Area ID)
CRIM 153 - Psychology of Crime (Area ID)
ECON 146 - Economics of Crime (Area ID)
ECON 167 - Contemporary Socioeconomic Challenges (Area ID)
ECON 176 - Economics Themes in Film (Area ID)
ECON 183 - Political Economy of the Middle East (Area ID)
GEOG 173 - The American West (Area ID)
GERON 100 - Images of Aging in Contemporary Society (Area ID)
HIST 101 - Women in History (Area ID)
HONOR 102 - Revolutions in Natural and Social Sciences (Area ID)
KINES 111 - The Olympic Games (Area ID)
MCJ 178 - New Media Technologies (Area ID)
PSYCH 173 - Environmental Psychology (Area ID)
SOC 131 - Sociology of Sex and Gender (Area ID)
SOC 143 - Deviance and Control (Area ID)
SOC 163 - Urban Sociology (Area ID)
SSCI 110 - California Studies (Area ID)
WS 101 - Women in History (Area ID)

MULTICULTURAL/INTERNATIONAL

Multicultural/International
AFRS 150 - South Africa (Area M/I)
AFRS 164 - African Cultural Perspectives (Area M/I)
ANTH 105W - Applied Anthropology (Area M/I)
ANTH 120 - Ethnic Relations and Cultures (Area M/I)
ANTH 123 - Peoples and Cultures of Southeast Asia (Area M/I)
ANTH 125 - Tradition and Change in China and Japan (Area M/I)
ASAM 110 - Asian American Communities (Area M/I)
BA 104 - Global Business (Area M/I)
CDDS 139 - Deaf Culture (Area M/I)
CLAS 160 - Sex, Race, and Class in American Society (Area M/I)
CLAS 170 - Latin American Studies (Area M/I)
COMM 164 - Intercultural Communication (Area M/I)
ECON 181 - Political Economy of Latin America (Area M/I)
GEOG 167 - People and Places-A Global Perspective (Area M/I)
GERON 161 - Multiculture/Aging (Area M/I)
HIST 186 - American Immigration and Ethnic History (Area M/I)
HUM 105 - Cultures of the Portuguese-Speaking World (Area M/I)
HUM 140 - Tradition and Change in China and Japan (Area M/I)
INTD 177 - Global Challenges (Area M/I)
LING 147 - Bilingualism (Area M/I)

MCJ 175 - Multicultural Mass Communication and Media Stereotypes (Area M/I)
MCJ 176 - International Mass Communication (Area M/I)
MCJ 179 - Cineculture (Area M/I)
MKTG 100S - Marketing Concepts (Area M/I)
NURS 141 - Concepts of Community Health Nursing (Area M/I)
NURS 141LS - Practicum: Concepts of Community Health Nursing (Area M/I)
PH 104 - Global and Cultural Issues in Health (Area M/I)
PH 128S - Holistic Health and Alternative Medicine (Area M/I)
PHIL 131 - Comparative Religion (Area M/I)
PHIL 132 - Religion and the Margin (Area M/I)
PLSI 120 - International Politics (Area M/I)
PLSI 120Z - International Politics (Area M/I)
RA 130 - International Tourism: Multicultural Issues and Impacts (Area M/I)
SOC 111 - Sociology of Race and Ethnicity (Area M/I)
SOC 142 - Sociology of Popular Culture (Area M/I)
SSCI 180 - Diversity in the U.S. (Area M/I)
SWRK 136 - Cultural Diversity and Oppression (Area M/I)
WS 110 - Representations of Women (Area M/I)
WS 120 - Women of Color in the United States (Area M/I)
WS 135 - Women In Cross-Cultural Perspective (Area M/I)

General Education

Developed by both faculty and students, the university's General Education Program is an introduction to the breadth and depth of the dynamics of human experience. It provides students with a foundation in the liberal arts and sciences and prepares them for specialized study in a particular discipline or program.

The overall objective of General Education is to create a context wherein basic skills are developed and strengthened, scholarship and disciplined thinking emerge, awareness and reflection occur, and ultimately - the integration of knowledge begins.

In the 1999-2000 academic year, the university introduced a major revision of the General Education program that the faculty believes is improved in content and which facilitates transfer to the university. All students enrolling in the university as first-time freshmen beginning fall 1999 and after, and all transfer students entering fall 1999 or after who elect to adopt the 1999-2000 catalog will be required to complete this new General Education Program.
Foundation, Breadth, Integration, and Multicultural / International

The General Education Program is an integrated curriculum of courses organized into four groups:

FOUNDATION, the basic foundation of one's university education, consists of courses in fundamental skills and knowledge..

Purpose: An educated person must be able to read critically, communicate effectively, and think clearly.

BREADTH exposes students to a variety of disciplines within a structured framework that develops knowledge in four basic areas of human endeavor.

- Area B (Physical Science) – Purpose: To understand and actively explore fundamental principles in the Physical Sciences and the methods of developing and testing hypotheses used in the analysis of the physical universe.
- Area B (Life Science) – Purpose: To understand basic concepts of living things, the nature of scientific knowledge, and the relevance of biological knowledge to human affairs.
- Area C (Arts) – Purpose: To develop an appreciation and understanding of and to stimulate imagination and creativity through study and participation in art, dance, music, and theatre.
- Area C (Humanities) – Purpose: Through the study of the humanities, to understand, appreciate, and analyze the meaning of our civilization, its cultural background, and the nature and role of language. To study the humanities from a variety of historical perspectives and cultures by analyzing individual works.
- Area D (Social, Political, and Economic Institutions and Behavior, Historical Background) – Purpose: To understand and analyze the basic principles underlying human social behavior.
- Area E (Lifelong Understanding and Self-Development) – Purpose: To equip human beings for lifelong understanding and development of themselves as integrated physiological and psychological entities.

INTEGRATION ties together the Program by providing an integrative experience at the upper-division level in three of the four areas of breadth.

Purpose: The Integration component of General Education is included to provide instruction at the upper division level that integrates material from each of the BREADTH areas B, C, and D.

MULTICULTURAL/INTERNATIONAL completes the General Education Program with an upper-division experience as preparation for an international, multicultural world.

Purpose: The Multicultural/International component of General Education is included to prepare students to live in an international multicultural world.
Requirements

The General Education Program requires students to complete a minimum of 51 semester units. All requirements must be met with courses of at least three semester units. The requirements include: four courses in FOUNDATION, nine courses in BREADTH, and four upper-division courses - three INTEGRATION courses and one MULTICULTURAL/INTERNATIONAL course. These four upper-division courses should be taken no sooner than the term in which 60 units of college coursework are completed. A minimum of 9 units of course work for General Education must be taken in residence (see Residence Requirements) at California State University, Fresno.
Because the goal of General Education is to provide a solid foundation with a broad scope and the goal of the major is to provide depth in a specific discipline or program, the following stipulations apply:

- **Foundation** courses must be completed with a grade of C or better to satisfy the General Education requirement.
- A maximum of two General Education courses from one department or program may be applied to satisfy **Breadth** requirements. (However, a department or program may prohibit any General Education course from simultaneously satisfying its own departmental or programmatic requirements.)
- **Integration** and **Multicultural/International** courses must be taken outside the department of the student's major to satisfy G.E. requirements.

Writing in General Education Courses

The university's General Education Program requires that almost all courses in the program have substantial iterative writing assignments.

All Foundation courses except those in Quantitative Methods (B4) and all Breadth courses will require iterative writing assignments totaling at least 1,000 words.

All upper-division courses (IB, IC, ID, and MI) will require iterative writing assignments totaling at least 2,000 words.

Division of Graduate Studies

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Frank W. Thomas Building, Room 130
http://fresnostate.edu/academics/gradstudies/

Graduate Studies - Regulations

Students pursuing advanced degrees at California State University, Fresno are a distinctive and valued part of the university. One in five Fresno State students is enrolled at a more advanced level as a postbaccalaureate or graduate student. More than 3,000 such students are enrolled in studies leading to a graduate degree at either the master's or doctoral level, or to the attainment of an advanced credential or a certificate of advanced study.

There are many reasons, both academic and personal, that have drawn these individuals to California State University, Fresno. Some have come in recognition of the excellence of the university's graduate programs, many of which are nationally recognized by external accrediting agencies. Others have been attracted by a sterling group of graduate faculty members who take seriously the requirement to be teacher-scholars and have garnered many awards in teaching and research. Other students have come because of the availability of outstanding facilities that encourage student research and professional development. The natural laboratories of the adjacent Sierra Nevada and the geography of the Central Valley of California provide exciting dimensions for those interested in environmental and ecological research. Collaborative sites jointly operated with governmental agencies and other universities exist in areas such as biomedical research, marine sciences, engineering, agriculture, business, and education. With a campus focus on both applied and theoretical research, students can be more readily assured of an opportunity to match their interests with those of the faculty members.

The Madden Library holdings include one million volumes and nearly 2,600 periodicals and major collections in areas such as music, maps, governmental documents, rare books, and curriculum materials. Library services, such as the interlibrary loan program and electronic database searches, ensure library support for students.

The university also has a history of attracting scholars from many areas of the world. These scholars may join the faculty or present special lectures, and often engage in joint research and publication efforts with Fresno State faculty. Through these scholars, graduate students are exposed to a significant network of nationally recognized colleagues.
Administrative Organization

The Division of Graduate Studies includes all departments and academic units within the university that offer graduate courses and programs leading to advanced degrees. The chief administrative officer of the Division of Graduate Studies is the graduate dean, who has general responsibility for the development, planning, assessment, improvement, and administration of postbaccalaureate and graduate programs offered by the university. Within this charge, the division administers all graduate student record functions, including student academic progress and evaluations; develops opportunities for providing student fellowships, scholarships, and assistantships; and provides support for research and professional scholarship activities for faculty and graduate students.

Housed within the Division of Graduate Studies are the special admission, program, and degree specialists, and the dissertation/thesis consultant. They advise both domestic and international students about the requirements and regulations for completion of a graduate degree and other special circumstances that may arise. Staff members in the division provide general information to graduate students.

The responsibilities of the Division of Graduate Studies are complex and decentralized to include the eight academic colleges and schools of the university and the departments within them housing the graduate programs. Each program has a graduate program coordinator who often serves as the initial point of contact for entering graduate students. The faculty members in the department who constitute the graduate faculty group have initial responsibility for the quality and scheduling of courses (including special topics) and the preparation of course syllabi, examinations, projects, and theses.

As a member of the graduate faculty, the major professor/adviser for a student is responsible for guiding the student in selecting appropriate courses, research problems, and professional experiences. Moreover, the major professor/adviser is important as both a colleague and mentor in facilitating the intellectual development and maturation of the student within the discipline.

The chief consultative body responsible for formulating and recommending policies, standards, and procedures is the university's Graduate Committee. This committee is composed of eight faculty members elected by the faculty and the graduate dean.

The Graduate Student Body

The Division of Graduate Studies is proud of the diversity of its graduate student body. Graduate students come from a variety

of ethnic, racial, and age groups, and represent many nationalities and countries throughout the world. They present a mosaic of personal values, beliefs, and experiences that enrich the dialogue of campus conversations. Whether these students are recent graduates of bachelor's degree programs or are returning students, they constitute a dynamic group on campus. The diversity of the student body thus presents a very special opportunity for all part-time and full-time graduate students to establish a vast, collegial network.

For those students who make up the graduate student body, success in the pursuit of a graduate degree depends upon active cooperation with their faculty advisers and instructors. Graduate students are expected to develop the ability to critically seek out and analyze facts, sift evidence, master theories and advanced techniques of professional inquiry, and demonstrate these abilities orally and in writing. Moreover, they must risk giving their informed opinions and be ready to accept criticism and advice rendered by faculty mentors and student colleagues. The pursuit of an advanced degree also requires that participants demonstrate an essential degree of independence and self-motivation in acquiring knowledge in their field of study. The rewards for those who succeed are many, as evidenced by the rapidly growing number of individuals nationwide who earn a graduate degree. Currently, more than 611,000 master's degrees and 140,000 doctoral degrees are awarded annually in the United States.
Graduate Degrees and Programs

There is great variety in the nature and scope of the graduate programs, options, concentrations, and emphases available at California State University, Fresno. Those that are officially recognized and for which the university is authorized to confer a degree are listed below. Additional areas of specialization, although not officially recognized on transcripts or diplomas, may be obtained through selection of appropriate elective courses. For more, see master's degrees and doctorates.

GRADUATE DEGREES AND AUTHORIZED OPTIONS

Accountancy, Master of Science*

Animal Science, Master of Science

Art, Master of Arts

Biology, Master of Science

Biotechnology, Master of Biotechnology

Business Administration, Master of Business Administration ****

Chemistry, Master of Science

Civil Engineering, Master of Science**
Water Resources and Environmental Engineering

Communication, Master of Arts

Communicative Disorders, Master of Arts
*Deaf Education****, *Speech-Language Pathology*

Computer Science, Master of Science

Counseling, Master of Science
Marriage, Family, and Child Counseling,
School Counseling,
Student Affairs and College Counseling

Creative Writing, Master of Fine Arts

Criminology, Master of Science

Education, Master of Arts
(Counseling and Student Services, Curriculum and Instruction, Early Childhood Education,
Educational Leadership and Administration,
Multilingual and Multicultural Education,
Reading/Language Arts)

Engineering, Master of Science
Computer Engineering, Electrical Engineering, Mechanical Engineering

English, Master of Arts
Literature, Rhetoric and Writing Studies

Food and Nutritional Sciences, Master of Science*

Geology, Master of Science

History, Master of Arts**
Teaching

Industrial Technology, Master of Science

Interdisciplinary Studies, Master of Arts,
Master of Science

International Relations, Master of Arts*

Kinesiology, Master of Arts**
Exercise Science
Sport Administration
Sport Psychology

Linguistics, Master of Arts**
Teaching English as a Second Language

Marine Sciences, Master of Science

Mass Communication and Journalism, Master of Arts*

Mathematics, Master of Arts**
Teaching

Music, Master of Arts
Music Education, Performance

Nursing, Master of Science
Adult-Gero Clinical Nurse Specialist/Nurse Educator,*
Clinical Nurse Specialist/Nurse Educator,*
Pediatric Clinical Nurse Specialist/Nurse Educator,*
Primary Care/Nurse Practitioner

Physics, Master of Science

Plant Science, Master of Science

Psychology, Master of Arts**, Applied Behavior Analysis

Public Administration, Master of Public Administration

Public Health, Master of Public Health
Health Policy and Management, Health Promotion*

Rehabilitation Counseling, Master of Science

Social Work, Master of Social Work

Spanish, Master of Arts

Special Education, Master of Arts

Teaching, Master of Arts****

Viticulture and Enology, Master of Science*

Water Resource Management, Master of Science****

Educational Specialist Degree

School Psychology, Ed.S.

Doctoral Degrees

Educational Leadership, Ed.D.
Nursing, Joint D.N.P.***
Physical Therapy, D.P.T.

Certificates of Advanced Study

Adult-Gero Clinical Nurse Specialist*
Biotechnology
Community and Regional Planning
Composition
Criminal Justice Counseling Specialist*
Dietetics
Educational Technology
Geographic Information Systems (GIS)
Homeland Security*
Pediatric Clinical Nurse Specialist*
Psychiatric Mental Health Nurse Practitioner
Teaching American History
Teaching English to Speakers of Other Languages (TESOL)

See also *Certificate of Advanced Study*.

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* Admissions are currently suspended.
** In these programs, a student may earn a degree without also declaring an option.
*** This degree is jointly conferred with San Jose State University.
**** Online studies offered.

Financial Aid, Fellowships and Scholarships

In addition to the information found in the Financial Aid section of this catalog, the Division of Graduate Studies publishes a sourcebook, Financial Assistance for the Graduate Student, on funding opportunities for graduate students. This is available on our website at *www.fresnostate.edu/academics/gradstudies* at our e-Pubs link.

Teaching Associateships and Graduate Assistantships

A number of teaching associateships and graduate assistantships are available to graduate students who are enrolled in graduate degree programs and whose previous records show outstanding achievement in academic work, outstanding subject matter competence in their major fields, and the special qualities necessary to the duties assigned.

Eligibility for an initial associateship or assistantship appointment requires possession of a baccalaureate degree and admission to the graduate degree program that gives the nomination with at least conditional classified graduate status. Subsequent appointments require that students maintain a 3.0 GPA, be enrolled in coursework toward their graduate degree, and demonstrate satisfactory progress toward completion of their graduate degree.

Assistants work under the direction of an assigned faculty member and assist in such functions as the supervision of laboratories or other small groups, the evaluation of student work, the preparation of course materials, or the conduct of authorized research. Assistants may receive a stipend. For specific information, contact the chair of the major department.

Graduate Student Research and Creative Activities Support Awards*

Limited awards of up to $1,000 are available each semester on a competitive basis to students in any academic area in the form of grants for special merit and quality scholarship of doctoral/graduate student research and creative activities associated with a dissertation, thesis, or project.

*Application/nomination forms are available at *www.fresnostate.edu/academics/gradstudies* under the "Financial Aid" link, then "Financial Opportunities" through the Division of Graduate Studies.

Graduate Student Travel Grants*

Travel grants are available to graduate students who have had papers and/or posters accepted for presentation at major, professional conferences or society meetings.

*Application/nomination forms are available at *www.fresnostate.edu/academics/gradstudies* under the "Financial Aid" link, then "Financial Opportunities" through the Division of Graduate Studies.

California Graduate Equity Fellowship Program*

Fellowships of up to $2,000 are available for underrepresented graduate students who qualify. The California Graduate Equity Fellowship Program seeks to increase the diversity of students completing graduate degree programs at California State University, Fresno and encourages continuation to doctoral programs and consideration of university faculty careers. It provides fellowships for economically disadvantaged graduate students (especially those from groups that are underrepresented among graduate degree recipients in their areas of study) and promotes faculty mentoring and research opportunities. Filing deadlines are in the spring for funding in the following academic year.

*Application/nomination forms are available at *www.fresnostate.edu/academics/gradstudies* under the "Financial Aid" link, then "Financial Opportunities" through the Division of Graduate Studies.

Robert and Norma Craig Fellowship*

These fellowships, awarding student stipends of up to $1,000 each, provide benefits for both graduate students and faculty. Eligible projects will include such mentored activities as research, instructional assistance, or other faculty-assigned duties. Nominations are due at the announced fall deadline, and must be jointly developed by the faculty member and the graduate student(s).

*Application/nomination forms are available at *www.fresnostate.edu/academics/gradstudies* under the "Financial Aid" link, then "Financial Opportunities through the Division of Graduate Studies.

California Pre-Doctoral Program for Undergraduate and Graduate Students*

The California Pre-Doctoral Program is designed to increase the pool of potential faculty by supporting the doctoral aspirations of California State University students who have experienced economic and educational disadvantages. The program provides travel funds for qualified students to visit institutions that grant the doctorate and/or attend professional meetings with a faculty sponsor. Students in the program may also be considered to participate in a summer research program at a UC or CSU campus.

*Application/nomination forms are available at *www.fresnostate.edu/academics/gradstudies* under the "Financial Aid" link, then "Financial Opportunities" through the Division of Graduate Studies.

President's Graduate Scholars Scholarships*

Each year Fresno State awards entering graduate students President's Graduate Scholars scholarships of up to $3,500 each. President's Graduate Scholars may obtain a second year of funding if satisfactory progress is maintained. Nominees must be incoming first-semester graduate degree or doctoral students for the fall semester.

*Application/nomination forms are available at *www.fresnostate.edu/academics/gradstudies* under the "Financial Aid" link, then "Financial Opportunities" through the Division of Graduate Studies.

University Scholarships for Graduate Students

Scholarship applications and information for postbaccalaureate/graduate students for the current academic year will only be available and accepted online. Students may log on to *http://fresnostate.edu/studentaffairs/scholarships* and click on Scholarship Application.

The "priority application" period for "full consideration" of scholarship opportunities has been established as September 1 through February 28.

Definition of Full-Time Student

Depending on the use of the term, there are several definitions of full time. For the purpose of reporting enrollments, graduate students taking 9 or more units are considered full time and students taking less than 9 units are considered part time.

For the purpose of financial aid (loans, veteran's assistance, etc.), a full-time student takes 12 "equivalent units" wherein each graduate unit (200-level) attempted by a graduate student is considered as 1.5 units and each undergraduate unit (100-level or below) counts at face value. For example, a student enrolled for 8 units of 200-level courses would be considered a full-time student. Three-quarter time and half-time are defined to be 9 to 11.5 and 6 to 8.5 "equivalent units," respectively.

Requirement for full-time enrollment for international students. The United States Office of Homeland Security (OHS) requires international students on non-immigrant F-1 and J-1 visas to pursue full-time study in a specific program for each semester of enrollment. Full-time study includes 12 weighted academic units of approved prerequisite, corequisite, or graduate program courses. (Note: Graduate-level courses have a weighting factor of 1.5 per course unit.)

Maximum Study Load

Graduate courses require substantially more concentrated study than do undergraduate courses. A normal load is from 9 to 12 units, and the maximum allowable load is 16 units for full-time graduate degree students when one or more courses in the 200 series are included. Requests for exceptions to this policy must be addressed to the Graduate Division during the registration period on a Graduate Student Petition for Academic Overload. The form is available online at *www.fresnostate.edu/academics/gradstudies* under the "Forms" link, then "Enrollment/Registration." Students employed full time may take a maximum of 6 units.

Application for Graduate/Postbaccalaureate Admission

Students are encouraged to plan and apply for graduate admission as early as possible. Completed applications are considered as they are received and thus there are many benefits to applying early. For example, it is often the case that available financial awards such as teaching assistantships and other financial aid resources, which are limited in number, may be granted only to the early applicants. Be aware, too, that a decision on an incomplete application is likely to be delayed. In many instances this occurs when required supporting documents such as official transcripts, scores from standardized tests (GRE, GMAT, MAT), or materials the program requires are not received. Applicants are advised to ensure that these materials are requested and forwarded prior to or at the same time as the submission of their application. All documents submitted become the property of California State University, Fresno and will not be returned.

The Graduate Admissions Office (located in Joyal Administration Building, Room 121) may be consulted during the time applications are being considered at 559.278.4073. For information on the status of an application, students may access the university Student Center at MyFresnoState, my.fresnostate.edu. Prospective graduate, credential, and advanced certificate students apply to the university online at csumentor.edu using the Graduate and Postbaccalaureate Application. Students need to be aware that most graduate degree programs, certificates of advanced study, and credential programs require additional information prior to consideration for admission into a specific program. Students will be informed and directed to the appropriate place for submitting these additional admission materials within the csumentor.edu application process. Those interested in a second undergraduate degree should also apply through csumentor.edu using the Graduate Postbaccalaureate Application.

Limitation of Graduate Enrollment

Admission to postbaccalaureate/graduate studies must be restricted to the number of students for whom an effective education can be provided by staff, facilities, and funding available at California State University, Fresno. The university may limit postbaccalaureate/graduate enrollment on the basis of the academic field and the relative aptitude of the applicant, based on approved admissions criteria.

University Admission*

Graduate and postbaccalaureate applicants may apply for a degree objective, a credential, or certificate objective. Depending on the objective, the CSU will consider an application for admission as follows:

General Requirements - The minimum university requirements for admission to graduate and postbaccalaureate studies at a California State University campus are in accordance with university regulations as well as Title 5, chapter 1, subchapter 3 of the California Code of Regulations. Specifically, at the time of enrollment, a student shall (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) in the last 60 semester (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 postbaccalaureate studies may be considered for admission in one of the 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

Postbaccalaureate 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

Postbaccalaureate 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).

Note: Graduate degree students who have been granted conditionally classified admission to a graduate program are required to complete all conditions for achieving classified standing (full admission) to the program by the semester in which a maximum of one-third of the units to be used toward the graduate degree is completed. (Exception: Rehabilitation Counseling requires classification by the completion of 10 program units.) Failure to attain classified graduate standing in a timely manner as outlined in this catalog may result in the loss of units to be applied toward the degree since excess units may not be listed on the Petition of Advancement to Candidacy.

A graduate student is expected to attain classified graduate standing either at admission or during the first semester of studies. Candidates for classification are expected to possess a minimum 3.0 postbaccalaureate cumulative grade point average.

Doctoral students should consult the appropriate doctoral program guidelines for information regarding obtaining classified standing.

Graduate Classified Standing. This category is granted to those students who fully meet all admission requirements of the Division of Graduate Studies and the program. It enables the student to pursue a graduate degree and fulfill all of the professional, personal, scholastic, and other standards -- including qualifying examinations -- prescribed by the campus.

Only those applicants who show promise of success in and fitness for the profession will be admitted to Classified Graduate Standing, and only those who continue to demonstrate a satisfactory level of scholastic competence and fitness shall be eligible to continue in the graduate program. (See also Grade Requirements.)

*These and other CSU admissions 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.csumentor.edu* are good sources for the most up-to-date information.

Standardized Test Requirements

Applicants to graduate degree and advanced certificate programs may be required to submit appropriate admission test scores with the university application to Graduate/Postbaccalaureate Studies. Please see program admission information to determine if a standardized test is required. This information is also available at *http://www.fresnostate.edu/academics/gradstudies.*

Applications and information concerning the GRE as well as the MAT and GMAT are available through the Testing Services office in the Family Food Sciences Building, Room 110. GMAT information is available in the Craig School of Business Graduate Office in the Peters Building, Room 183.

It should be noted that an applicant's standardized test scores will not constitute the sole criterion according to which an admissions decision will be rendered. However, some departments, particularly in the sciences and engineering, may give more importance to standardized test scores than departments in other fields.

Change of Graduate Degree Objective

Postbaccalaureate/graduate students who intend to change their major or degree objective or add a second objective must complete and file an Add or Change Graduate Degree or Certificate of Advanced Study Objective, which includes a fee payable at the cashier's window in the Joyal Administration Building. These students must meet the admissions requirements of the new program. The application for Add or Change Graduate Degree or Certificate of Advanced Study Objective is available in the Division of Graduate Studies, Frank W. Thomas Building, Room 130, or on the website at *http://www.fresnostate.edu/academics/gradstudies*.

Second Graduate Degree

Students planning to engage in study toward a second graduate degree must obtain prior approval from the graduate dean. Students may not earn a second graduate degree in the same field. Coursework used to satisfy the requirements of one degree may not be used to satisfy the requirements of the second degree.

Double Major Objectives

Those graduate/postbaccalaureate students pursuing more than one objective (i.e., two graduate degrees) must notify the Division of Graduate Studies so that appropriate student standing may be noted with departments concerned.
Certificate of Advanced Study

A Certificate of Advanced Study may be earned in a limited number of approved, nondegree programs. Such programs provide useful coursework and professional experiences that emphasize the acquisition of advanced technical skills of a practical, applied nature. For a current list of such programs, consult the Division of Graduate Studies, 559.278.2448. Applicants to a Certificate of Advanced Study program must meet the specific admission requirements of the individual program and the university. These include admission to postbaccalaureate standing and the submission of relevant test scores, if required.

A Proposed Program for the Certificate of Advanced Study form must be on file in the Division of Graduate Studies office immediately following completion of the first semester/term of certificate coursework. The submission of the proposed program is important because it gives a student permission to proceed toward qualifying for the advanced certificate, and approval of the program is required for a student to remain in good standing. Proposed program forms are available in the Division of Graduate Studies Office, Frank W. Thomas Building, Room 130, or on the website at *www.fresnostate.edu/academics/gradstudies*, under the “Forms” link.

With prior approval, those pursuing study toward a graduate degree may also pursue study toward a Certificate of Advanced Study. Double-counting of units on the certificate and on the graduate program, though limited, is possible. Those whose sole objective is the earning of the Certificate of Advanced Study are ineligible to receive graduate assistantships, fellowships, and other awards designed for those pursuing a graduate degree. The Application for the Award of the Certificate of Advanced Study form must be on file in the Division of Graduate Studies within the first two weeks of the term in which all courses and requirements are expected to be completed. The applications for the awarding of the certificate are available in the Division of Graduate Studies, Frank W. Thomas Building, Room 130, or on the website at *www.fresnostate.edu/academics/gradstudies*, under the “Forms” link. Upon clearance of the advanced certificate, a notation that the certificate has been awarded will be posted to the student’s official transcript.

For more detailed information regarding advanced certificate program eligibility, course guidelines/limitations, required grades, etc., contact the Division of Graduate Studies or the appropriate certificate program coordinator for the Guidelines for the Certificate of Advanced Study (CAS) form.

Prohibition Against Double Counting of Coursework

No units used to fulfill the requirements of one degree may be used to fulfill the requirements of another degree. For example, 100-series courses used toward a bachelor’s degree may not be subsequently used toward a graduate degree.

Repetition of Courses

A postbaccalaureate student pursuing a graduate degree or certificate of advanced study may repeat a course for academic credit (subject to limitations in some degree curricula) regardless of what grade was originally earned in the course. However, such a student is not eligible to petition for grade substitution. All coursework taken is considered in the calculation of the student’s postbaccalaureate cumulative grade point average.

International Student Admissions

The Division of Graduate Studies seeks to bring students from all parts of the world to the campus. Since English is the language of instruction at the university, students should be prepared to write their theses, proejcts, examinations, and/or seminar papers in English. Applicants whose native language is not English must have acquired competence in the English language prior to enrolling in a graduate program or prerequisite courses in order to avoid any delay or difficulty in pursuing their studies.

Graduate English Competency

Graduate and Postbaccalaureate English Requirement. All graduate and postbaccalaureate 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. Applicants who do not possess a bachelor’s or graduate degree from a postsecondary institution where English is the principal language of instruction must pass the Test of English as a Foreign Language (TOEFL) or the International English Language Testing (IELTS). Such applicants must receive a minimum score of 213 on the TOEFL, or minimum score of 80 on the iBT TOEFL, or a minimum of 6.5 overall band scoore on the IELTS. Some graduate programs

may require a higher score.

It is highly recommended that TOEFL or IELTS scores, Graduate Record Examination General Test scores, or GMAT or MAT scores, application, and official academic documents reach the university International Admissions Office at least six months before the semester for which admission is desired. See program information for specific test scores that may be required.

The TOEFL and IELTS are administered at various centers throughout the world. For locations and dates, check the TOEFL website http://ets.org/toefl or the IELTS website *http://ielts.org*.

You may also contact the Office of Testing Services at *www.fresnostate.edu/testing*.

Applications for international postbaccalaureate/graduate admission are found online at *www.csumentor.edu*.

Questions about the international application procedures should be directed to the following:

International Student Services
and Programs
California State University, Fresno
5150 North Maple Avenue M/S JA56
Fresno, CA 93740-8026
U.S.A.
intladm@listserv.fresnostate.edu
559.278.2782

During the first semester at California State University, Fresno, international graduate students whose native language is not English may be required to enroll in special courses in English to help improve writing skills and to provide the greatest possibility of success in graduate studies.

Advancement to Candidacy: Eligibility

Advancement to candidacy gives a student permission to proceed toward qualifying for the degree and provides the student with a program of study that has been officially reviewed and approved by both the student's faculty and by the graduate dean. This important step confers on the student the status of candidate for the degree and represents a commitment both on the part of the student and the degree program to complete the degree within a specified time limit according to requirements published in a specific university catalog year. Advancement to candidacy is essential to the student in planning for registration in courses. The student should, therefore, meet with his/her graduate program coordinator/director soon after attaining classified graduate standing to discuss advancement to candidacy. Eligibility criteria for advancement to candidacy are as follows:

Deadline. Advancement to candidacy must be attained no later than the semester preceding the semester in which the student applies for the graduate degree to be granted and/or begins the culminating experience. Campus policy requires students to petition for advancement to candidacy as soon as they are eligible to do so. Normally this should occur within one semester of having attained classified graduate standing. Compliance with this policy is necessary for a student to remain in good standing.

Academic/Professional Standards. All students in graduate standing must demonstrate a satisfactory level of scholastic achievement as revealed by grades and performance on examinations, as well as professional and personal standards and ethical competence as determined by program faculty. This standard must be maintained in order for a student to be eligible to continue in a graduate program and be recommended for candidacy by the department.

Classified Graduate Standing. Classified graduate standing gives a student permission to work toward qualifying for advancement to candidacy. A student should be classified by the semester in which a maximum of one-third of the units to be used toward the graduate degree are completed. (Exception: Rehabilitation Counseling requires classification by the completion of 10 program units.) Not more than one-third of the program (including transfer and postbaccalaureate credit) completed before achieving full classified graduate standing at California State University, Fresno may be listed on the Petition of Advancement to Candidacy. Courses taken during the semester in which the student is classified may also be listed on the Petition of Advancement to Candidacy.

Prerequisites. Any prerequisites prescribed by the student's graduate program coordinator/director and specified in writing must be completed prior to advancement. Prerequisite coursework may not be listed on the Petition of Advancement to Candidacy for use toward the degree.

Graduate Record Examination (GRE) Subject Test. Satisfactory completion of the GRE Subject Test is required of students working toward the Master of Arts in Mathematics. Satisfactory completion of either the GRE Subject Test or the Major Field Test (MFT) is required of students working toward the Master of Science in Physics.

Departmental Qualifying Examination (DQE). Satisfactory completion of the DQE is required in art, civil engineering, kinesiol-

ogy, linguistics, Spanish, and viticulture and enology.

Foreign Language Requirement. Demonstration of competence, usually equivalent to that achieved through two years of collegiate study of one foreign language, is required in specified graduate degree programs in which upper-division and graduate courses demand such competence. Competence in the use of a foreign language is required for the Master of Arts in English, History (traditional track only), and Music (vocal performance and choral conducting emphases only). The foreign language requirement for the Master of Arts in International Relations is a prerequisite for graduation rather than advancement to candidacy. Ordinarily, the requirement calls for demonstration of the ability to read materials of the graduate program in one appropriate foreign language. Students who are conducting research in a foreign country for the Master of Science in Geology must be proficient in the language in which source materials are published. Students should consult their graduate adviser or the chair of the Modern and Classical Languages and Literatures Department for information about placement tests.

Grade Point Average. A minimum program grade point average of 3.0 in all courses listed on the advancement petition is required. (See also Grade Requirements.) Those enrolling in coursework not related to the graduate degree are encouraged to request CR/NC grading.

Units Completed. Graduate degree students are required to complete at least 9 units of the proposed graduate degree program while in graduate standing at California State University, Fresno, with a minimum 3.0 grade point average on all completed work appearing on the Petition of Advancement to Candidacy.

Graduate Writing Requirement. All graduate degree students must demonstrate their competence in written English prior to advancement to candidacy. Early completion of this requirement is recommended. The date the student met the writing skills requirement must be noted on the Petition of Advancement to Candidacy and verified by the graduate coordinator/director. See approved program requirements.

Submission of the Advancement Petition. Submission to the Division of Graduate Studies of the properly signed Petition of Advancement to Candidacy is required before advancement status may be achieved. Students are responsible for ensuring that their advisers have sufficient information other than grades and scores on which to make a recommendation for candidacy. Advancement petitions specific to each degree program can be downloaded and printed from the Division of Graduate Studies website at *http://www.fresnostate.edu/academics/gradstudies* under the “Forms” link. On the advancement petition, the student, in consultation with his or her adviser, lists a cohesive set of courses which, when approved, will constitute his or her degree program. Students are responsible for adhering to deadlines established by the Graduate Division for the submission of advancement petitions. Approximate deadlines are October 1 (for spring graduation) and March 1 (for summer or fall graduation). Petitions received after the deadline are considered late and will be processed as time allows. Students cannot be advanced to candidacy and graduate in the same semester.

Doctoral students should consult their appropriate program guidelines for information regarding advancement to candidacy.

Advancement to Candidacy: Policies for Graduate Degrees

The approved degree program for the graduate degree is a cohesive pattern of specific requirements for the program and additional courses selected to meet the student’s particular needs. It consists of at least 30 units that must be completed within five years, beginning with the earliest course taken toward the degree. Only graduate courses (200-series) and such upper-division courses (100-series) as are recommended by the colleges, schools, or departments and approved by the University Graduate Committee are acceptable for use toward a graduate degree. Other courses are counted in calculating the student’s study load but cannot be counted toward the unit requirement for the degree. Courses that were used to satisfy the requirements of a previous degree cannot be double-counted toward another degree. The approved program must be consistent with the following policies:

Residence Credit. At least 21 units of a 30-unit program must be residence credit (courses taken through regular enrollment at California State University, Fresno). No more than 9 units of transfer and/or California State University, Fresno Extension credit may be included in the 30-unit program, or no more than 18 units in the 60-unit program.

Transfer Credit. Transfer credit may be used toward a California State University, Fresno graduate degree only if the institution offering the work is regionally accredited (A-rated) and would accept it for a comparable graduate degree program. The off-campus institution must also have listed the units as postbaccalaureate graduate units on the student’s transcript. Credit at California State University, Fresno will be granted if it is judged by appropriate university authorities to be particularly relevant to the individual student’s program. The student must present appropriate documentation, including official transcripts of work completed and copies from the catalog of the institution where the transfer work was taken, as follows: the relevant course description(s); evidence that the course(s) may be used toward a graduate degree at that institution; the course numbering and grading systems; and information clarifying whether the institution used the semester or quarter system. If approved, a maximum of 9 transfer units (including California State University, Fresno Extension and/or Open University) may be used toward a 30-unit program. Effective with the spring 2013 semester, a maximum of 9 transfer units of coursework from an institution outside of the United States may be used toward a graduate degree at California State University, Fresno, provided that the credits were earned at an officially recognized degree-granting international institution. Approval of any international transfer credits toward a

graduate degree program must be granted by International Student Services and Programs personnel and the student's graduate program coordinator/director.

Extension Credit. Courses taken through Continuing and Global Education (Extension and/or Open University) are not normally used to fulfill the requirements toward a graduate degree. Students intending to take a course through the Division of Continuing and Global Education must request special permission from their graduate program coordinator/director to use the course toward their graduate degree. If approved, a maximum of 9 transfer (including California State University, Fresno Extension and/or Open University) units may be used toward a 30-unit program. Students may not enroll through Open University in order to bypass the university fee structure.

Postbaccalaureate/Graduate Credit. With approval of the graduate program coordinator, postbaccalaureate/graduate credit allowed for work taken prior to the granting of the baccalaureate degree as a last-semester senior may be applied toward a graduate degree. However, the amount of postbaccalaureate credit used toward the graduate degree may not exceed one-third of the student's entire approved program. (See Postbaccalaureate Credit section under Degree Requirements.)

Student Teaching Credit. Student teaching credit is not ordinarily used on graduate degree programs. In unusual circumstances, if student teaching is demonstrably appropriate to a program, up to 3 units of such work may be approved by the University Graduate Committee.

Credit by Examination. Credit by examination for coursework may be used to fulfill prerequisites, but may not be applied toward the graduate degree program.

CR/NC Grading. Graduate students may not elect to take a course for a CR grade to fulfill either prerequisite or major program requirements unless the course is only available for CR/NC grading. A maximum of 6 units of CR-graded coursework may be applied to a 30-unit graduate degree program and a maximum of 12 units of CR-graded coursework may be applied to a 60-unit program. Some programs allow no CR-graded courses to be counted toward fulfillment of their degree requirements.

Prohibited Coursework. Courses used to fulfill General Education curriculum (Capstone, Breadth, Integration or Multicultural/International), undergraduate writing "W" courses, lower-division courses, professional (300-level) courses, and courses used to fulfill the requirements for another degree may not be used in fulfillment of the program requirements for the graduate degree.

Outdated Courses. Courses older than five years may not be included on the Petition of Advancement to Candidacy and used to fulfill requirements toward the master's degree.

Independent Study Courses. A maximum of 6 (one-fifth of the total program units) independent study (190 or 290) units may be approved for use toward a 30-unit master's degree. (See Independent Study section under Academic Placement.)

Graduate-Level Courses. A minimum of 70 percent of the courses listed on the Petition of Advancement to Candidacy for use toward the graduate degree must be graduate-level courses numbered in the 200-series. Most programs require more than the minimum.

Substitutions. Substitutions for required program courses or for other departmental requirements must be approved by the student's graduate program coordinator/director and listed on the Petition of Advancement to Candidacy. Substitutions might require additional written justification.

Program Adjustments

It is the student's responsibility to complete the specific courses listed on his or her Petition of Advancement to Candidacy (master's program) or the Proposed Program for the Certificate of Advanced Study (advanced certificate program). Once a program has been approved by the University Graduate Committee, it may be changed only on the written request of the student and his or her graduate program adviser (if required) and coordinator/director, and with the approval of the dean, Division of Graduate Studies. Program Adjustment Request forms for degree and certificate programs are available in the Division of Graduate Studies, Frank W. Thomas Building, Room 130, or on the website at *www.fresnostate.edu/academics/gradstudies*, under the "Forms" link.

Doctoral students should consult the appropriate program for information regarding advancement to candidacy policies.

Culminating Experience

A culminating experience is required for each graduate degree. Acceptable culminating experiences include thesis (299), project (298), or comprehensive examination. Individual departments permit one or more culminating experiences described in this section. Students who have enrolled in thesis or project units will not be permitted to change to another culminating experience after the initial semester of such enrollment. Students must be advanced to candidacy before enrolling in project or thesis units, or before taking the comprehensive exam.

1. A thesis is the written product of the systematic study of a significant problem. It clearly identifies the problem, states the major assumptions, explains the significance of the undertaking, sets forth the sources for and methods of gathering information, analyzes the data, and offers a conclusion or recommendation. The finished product must evidence originality, critical and independent thinking, appropriate organization and format, clarity of purpose, and accurate and thorough documentation. Normally, an oral defense of the thesis will be required.
2. A project is a significant undertaking of a pursuit appropriate to the fine and applied arts or to professional fields. It must evidence originality and independent thinking, appropriate form and organization, and a rationale. It must be described and summarized in a written abstract that includes the project's significance, objectives, methodology, and a conclusion or recommendation. An oral defense of the project may be required.
3. A comprehensive examination is an assessment of the student's ability to integrate the knowledge of the area, show critical and independent thinking, and demonstrate mastery of the subject matter. The results of the examination must evidence appropriate organization, critical analysis, and accuracy of documentation. A record of the examination questions and responses shall be maintained.

Doctoral students should obtain information on the culminating experience(s) from the appropriate doctoral program.

Criteria for Thesis and Project

No academic distinction is made between a thesis and a project. Either one is equally acceptable as a means of fulfilling the requirements for the graduate degree. Specific departmental instructions or requirements should, however, be ascertained by the candidate before enrollment in courses 298 or 299. The instructor of record for thesis or project must issue a letter grade on the Graduate Degree Clearance form through the Division of Graduate Studies.

Whether a student is preparing a thesis or a project, it should be noted that quality of work accomplished is a major consideration in judging acceptability. The finished project/thesis must evidence originality, appropriate organization, clarity of purpose, critical analysis, and accuracy and completeness of documentation where needed.

Critical and independent thinking should characterize every project/thesis. Mere description, cataloging, compilation, and other superficial procedures are not adequate.

The quality of writing, format, and documentation must meet standards appropriate for publication in the scholarly journals of the field, or be consistent with the dictates of an authorized stylebook.

1. To be eligible to enroll for thesis or project, students must have (a) been advanced to candidacy for the graduate degree; (b) maintained a B (3.0) program grade point average; (c) completed at least 9 units of their approved program on the Fresno campus; (d) completed any course in research techniques required by their major department; (e) for the thesis, secured a committee (a chair and at least two other members); for the project, met individual departmental requirements; and (f) for the thesis, secured approval of their thesis plan from the division or department graduate committee and filed an official thesis committee assignment form with the Division of Graduate Studies.
2. Enrollment in thesis units may be processed any semester after the requirements listed in [1a] through [1f] have been met or special permission for exceptions has been granted. If, however, a student fails to enroll within one semester (excluding summer sessions) after his or her official acceptance by a thesis committee, the committee chair has the option of dissolving the committee, in which case a new committee must be appointed and new forms filed before registration can be processed. A student planning to register for thesis after a break in regular session attendance must be readmitted to the university. Parallel rules apply to project enrollment.
3. Students who plan to extend their project or thesis work over more than the semester in which they enroll in the total number of project or thesis units must continue to register for zero units in either 298C (for project students) or 299C (for thesis students) each subsequent semester until the awarding of the degree. Students may enroll twice in either 298C or 299C with department approval. Additional registrations are not encouraged, and must be approved by the Dean of Graduate Studies. (See Continuous Enrollment.)
4. If work in 298 or 299 is not completed at the end of the term of registration, but is progressing satisfactorily, an RP (Report in Progress) grade is recorded.
5. The student and the project or thesis chair should set a deadline for completion of the final submission. For thesis students, this date should be early enough that the chair and the other members of the committee can clear the thesis before the student must meet the thesis submission deadline established by the dean of the Division of Graduate Studies. The latter deadlines are approximately mid-October (fall), mid-March (spring), and mid-June (summer).
6. Before a thesis is officially accepted by the Graduate Division, it must meet Graduate Division criteria on matters of format, documentation, and quality of writing. The final submission, approved by the thesis committee members as acceptable in content and form, should be deposited electronically to the Dissertation/Thesis Office website, *www.fresnostate.edu/academics/gradstudies/thesis*, by the established deadline (see item 5 above). This deadline has been set as late as possible in the semester to accommodate the student. Students are urged to follow meticulously the Guidelines for Thesis Preparation.
7. The publication copy of the thesis, signed by the thesis committee and ready for binding, together with a receipt for the

binding fee, must be submitted to the Division of Graduate Studies before the last day assigned by the thesis consultant. If printed on acid-free laser paper and with payment of the required fee, the original copy may be bound with the other copies ordered for the student's personal use.

8. Doctoral students should obtain dissertation guidelines from the degree program office.

Thesis or Project Research Involving Human Subjects and Animal Subjects. Students conducting research involving human subjects should not begin use of human subjects until written approval has been received from the departmental Human Subjects Committee and, where review demands, the University Committee on Protection of Human Subjects (CPHS). Guidelines and forms for protocols can be obtained from the departmental office or the Office of the Vice President for Administration. Students should allow at least two weeks for a required CPHS review.

Students planning to conduct research involving live animals housed on campus must receive approval of the research from the Animal Care and Use Committee. Forms may be obtained from the office of the dean, College of Science and Mathematics.

Appeals and Petitions

Graduate degree students wishing to request substitutions or modifications in a department's degree requirements should initiate their request through the department's graduate committee. Requests for exceptions to established university policies governing graduate study may be addressed to the dean, Division of Graduate Studies and also to the Graduate Petitions Committee. Grade protests must be submitted to the Student Academic Petitions Committee through the director of the University Advising Center according to university policy. Information concerning grade protest procedures and dispute resolution is available in the Office of the Dean of Students.

Enrollment in Graduate-level (200-297) Courses. Enrollment in graduate-level (200-297) courses is limited to those who have been officially admitted to a graduate degree, advanced certificate, or credential program. However, there is a special program for last-semester undergraduate seniors who want to enroll in 200-level courses. All criteria listed on the Undergraduate Petition to Enroll in Graduate (200-level) Courses must be met. This petition, available from the Division of Graduate Studies, should be filed prior to the semester in which the student desires enrollment in 200-level course(s).

Doctoral students should consult with the appropriate program for policies on appeals and petitions.

Application for the Graduate Degree to be Granted

An application for the graduate degree to be granted (which includes the graduation fee payable at the Cashier's Window in Joyal Administration Building) must be filed within the first two weeks of the semester in which the work is to be completed. In addition, applicants must be enrolled. (See Continuous Enrollment.) During the summer, the application should be filed before the end of the third week of the first summer session. (See Academic Calendar.) Graduation application forms are available in the Division of Graduate Studies Office, Frank W. Thomas Building, Room 130, or on the website at *www.fresnostate.edu/academics/gradstudies* during the graduation application period. Prior to filing a request for the graduate degree to be granted, the student should check with the graduate adviser of the graduate program concerned in order to ensure that all program requirements have been, or will soon be, completed.

Once all requirements for the degree to be granted have been met, it is the student's responsibility to ensure that all necessary paperwork, including the Graduate Degree Clearance form, is submitted to the Division of Graduate Studies by the published deadlines. Diplomas for those completing degree requirements will be issued approximately three to four months after the end of the semester or final summer session.

Failure to complete requirements for the degree during the semester (or summer) of the application necessitates the filing of a new application, including a reapplication fee, for the term of actual completion. Such reapplication is subject to the same time schedule as the original application.

Doctoral students should consult with the appropriate program for policies on applying for the degree to be granted.

Continuous Enrollment

University policy requires graduate students to be continuously enrolled through regular enrollment at the university every fall and spring semester until the awarding of the degree. If students have applied for graduation during the summer, they must maintain continuous enrollment in that term as well. This policy does not apply to students who have been granted an official Planned Educational Leave Request. Please see sections below for the appropriate method of continuous enrollment.

Project Students. Project (298) students who have enrolled in the required number of 298 units, but have not completed their project, must maintain continuous enrollment by enrolling in 298C (zero units) each semester until the awarding of the degree. Students may enroll twice in 298C with department approval. Additional registrations are not encouraged, and must be approved by the Dean of Graduate Studies. Permission and class numbers for 298C must be obtained from the department.

Thesis Students. Thesis (299) students who have enrolled in the required number of 299 units, but have not completed their thesis, must maintain continuous enrollment by enrolling in 299C (zero units) each semester until the awarding of the degree. Students may enroll twice in 299C with department approval. Additional registrations are not encouraged, and must be approved by the Dean of Graduate Studies. Permission and class numbers for 299C must be obtained from the department.

Comprehensive Examination Students. Comprehensive examination students who have enrolled in all courses toward the degree must maintain continuous enrollment by enrolling in GS Continuation (zero units through Continuing and Global Education). After one semester of enrollment in GS Continuation, students must maintain enrollment thereafter by enrolling in GS 299C (zero units through regular enrollment) each semester until the awarding of the degree. Authorization for enrollment in both GS Continuation and GS 299C must be approved by the Division of Graduate Studies. Permission and class numbers for GS Continuation and GS 299C must be obtained from the Division of Graduate Studies Office.

Time Limitations and Validation: Graduate Degree

Exclusive of prerequisite coursework, a period of five years is allowed for the completion of all requirements for the graduate degree. This time limit is indicated for each student on the approved Petition of Advancement to Candidacy. A student whose program has been interrupted by military service should consult the Dean of Graduate Studies about provisions for military extensions. Outdated coursework will not be approved for inclusion on the Petition of Advancement to Candidacy at the time formal approval of the petition is granted. Once a student has been advanced to candidacy, courses completed more than five years before the date for completion of all requirements for the graduate degree cannot be used to meet total unit requirements except through validation as follows:

Out-of-date coursework may be validated only if such work has been approved previously on the Petition of Advancement to Candidacy. A maximum of one-third of required degree units may be validated by such means as are recommended by the department and approved by the graduate dean. Coursework from other institutions may not be validated. Courses with grades lower than B may not be validated.

The same time limitations and validation procedures noted above also apply to the completion of a Certificate of Advanced Study. The time limit for an advanced certificate is noted on the Proposed Program for the Certificate of Advanced Study form.

Doctoral students should consult with the appropriate program for policies on time limitations and related procedures.

Academic Standards for Graduate Degree Programs

All graduate students will be held to the scholarship standards listed under Academic Regulations. The following provisions also apply to graduate degree programs:

Conditionally Classified or Classified. Students admitted to graduate degree programs in conditionally classified or classified graduate standing are required to maintain a minimum grade point average (GPA) of B (3.0) in all postbaccalaureate work taken subsequent to admission to the program.

Advancement to Candidacy. To be eligible for advancement to candidacy, students must earn a minimum B average (3.0) in all coursework listed on the Petition of Advancement to Candidacy. No course with a grade below C may be listed on the advancement petition and apply toward the graduate degree.

Once students have advanced to candidacy, they must maintain a minimum 3.0 program GPA, which includes only coursework listed on the advancement petition.

298 or 299 Enrollment. To be eligible for enrollment in the project (298) or thesis (299), students must have been advanced to candidacy and must have maintained a minimum program GPA of 3.0.

Graduation. To be eligible for the granting of the graduate degree, students must have been advanced to candidacy and have maintained a minimum program GPA of 3.0. In addition, grades must be posted in all courses taken, including those that are not part of the student's approved program, beginning with the earliest semester listed on the Petition of Advancement to Candidacy. Students may not graduate with an I, RD, or RP in any course on their records, beginning with the earliest semester listed on the advancement petition.

Distinction. To be eligible to receive the graduate degree with distinction, students must have earned a minimum 3.9 GPA on all program coursework (courses listed on the advancement petition).

Doctoral students should consult the appropriate program for information on academic standards.

Administrative Academic Probation (AAP)

Students enrolled in graduate degree or certificate of advanced study programs may be placed on Administrative Academic

Probation (AAP) for the following reasons: failure to maintain the minimum GPA of 3.0 required by the California State Education Code, Title 5; repeated failure to make progress toward the graduate degree; or failure to comply with an academic requirement or regulation that is routine for all students or for a defined group of students.

Students are required to maintain a minimum 3.0 postbaccalaureate cumulative GPA prior to advancement to candidacy (or program approval for advanced certificate students), and a minimum 3.0 program GPA after advancement (or program approval). Students who do not maintain the required GPA will be placed on AAP.

Doctoral students should consult the appropriate program for the program policy on administrative academic probation.

Academic Disqualification

A postbaccalaureate student whose cumulative GPA falls below 2.0 at any time will be disqualified from the university.

Students may also be disqualified by the program for any of the following reasons: repeated withdrawal, failure to progress toward an educational objective, or noncompliance with an academic requirement. In addition, only those students who continue to show promise of success in and fitness for the profession, as determined by the graduate program faculty, will be permitted to continue in a graduate program.

Effective with the fall 2007 semester, students who are placed on AAP for any two semesters will be disqualified from the university.

Doctoral students should consult the appropriate program for the program policy on academic disqualification.

Graduate Interdisciplinary Studies

- Master of Arts in Interdisciplinary Studies (M.A.)
- Master of Science in Interdisciplinary Studies (M.S.)

The interdisciplinary studies program for the Master of Arts (M.A.) or Master of Science (M.S.) is available to qualified graduate students when there is a need for advanced study in subject matter that is interdisciplinary and that is not available through existing graduate programs. In such instances, proposals for an interdisciplinary program that may combine cohesive, interrelated coursework from two or more departments (at least two of which offer graduate courses [200-level], must be submitted for approval. Proposals that could be accommodated by an existing graduate degree or option at California State University, Fresno, as in the use of elective courses, are not approved.

The M.S. in Interdisciplinary Studies differs from the M.A. in Interdisciplinary Studies by requiring breadth of technical knowledge and attainment of specific professional competencies in scientific research methodologies and data-driven analysis. For detailed policy, requirements, and application, see the Division website at *www.fresnostate.edu/academics/gradstudies*.

Admission Eligibility

Those seeking admission to the M.A. or M.S. in Interdisciplinary Studies must adhere to university graduate admissions requirements, including submission of applications, official transcripts, and appropriate standardized test scores (e.g., GRE, TOEFL). Applicants must have a 3.0 GPA on previous graduate work and related prerequisites. Standards for admission to classified graduate standing as specified in this catalog for at least one of the principal departments must be met. All appropriate course prerequisites on the approved program must be completed. If eligible, students will be conditionally classified for admission until their proposed program of study is approved. Interdisciplinary Studies program applicants are initially advised in the Division of Graduate Studies. Applicants will not be considered for admission until they have consulted with the Division adviser.

General Degree Requirements

A minimum of 30 units is required. At least 70 percent (21 units) of the program must consist of graduate coursework (200-level courses). The proposed program must reflect the requirements of scholarly creativity and research appropriate to the graduate level and must exhibit overall coherence in a particular, recognized field of study. An acceptable thesis (2-6 units) that demonstrates interdisciplinary research is required. A creative project may be selected as an alternative to the thesis for appropriate M.A. programs. The faculty advisory committee may require an oral defense or presentation of the thesis/project, or a written final examination.

Although interdisciplinary studies provide an opportunity for exceptional students to engage in a program outside the framework of existing majors, **all academic standards and graduation requirements must be met**.

Procedures

Prior to or during the first term of study, students should seek the support of a preliminary faculty advisory committee to gain counsel and advice in forming an interdisciplinary graduate program. After consultation with the advisory committee, students

should complete the Proposal for Pursuing Interdisciplinary Studies Master's Degree Programs application, which includes a plan of study.

After approval by the sponsoring faculty and department, the application and supporting documents are formally presented to the graduate dean. The application will then be forwarded to the University Graduate Committee for final approval. A formal application and plan of study must be filed with the Division of Graduate Studies no later than mid-term of the first semester after admission to the program. A maximum of 10 units may be applied toward the graduate degree prior to official university approval of the plan of study, at which time the student becomes classified. Students who do not meet the deadline for submission of the proposed program of study clearly stated in the conditions of admission may be subject to academic disqualification from the program. Detailed instructions for proposing an interdisciplinary degree may be found on the Division website at *www.fresnostate.edu/academics/gradstudies/forms*.

Additional Requirements for the Master of Science. At least 15 units for the M.S. in Interdisciplinary Studies must be from one of the campus colleges offering a broad range of instructional programs in science or technology-based disciplines. Typically this disciplinary range is found in colleges with three or more such programs of study. These colleges include the following: Agricultural Sciences and Technology, Engineering, Health and Human Services, Science and Mathematics, and Social Sciences. Coursework must be taken in at least three different subject areas or fields of study with no more than 12 units from any one field and not less than 6 units in each of the three areas. Two of the three fields may be from one department if the subject area content and/or professional requirements within these two fields are clearly recognized as being uniquely different.

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. The law 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 challenge 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. The law generally requires the institution to receive a student's written consent before releasing personally identifiable data about the student. The institution has adopted a set of policies and procedures governing implementation of the statute and the regulations. 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 cost to be charged for reproducing copies of records; and (8) 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. may include the student's name, photograph, major field of study, enrollment status, degrees and awards received at the university, the most recent educational institution attended, participation in officially recognized University sports and student activities, and the weight and height of members of athletic teams. 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 information the student requests not be released. Written requests to restrict directory information should be sent to the Registrar's Office.

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 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).

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.

Taxpayers who claim Hope Scholarship or Lifetime Learning tax credit will be required to provide their name, address, and Taxpayer Identification Number to the campus.

Research on Human Subjects

California State University, Fresno has adopted provisions for the conduct of research that employs or influences humans. All research at the university must comply with these provisions. Students must familiarize themselves with the provisions by inquiring in the departmental offices or the office of the dean of their school.

CSU Immunization Requirements

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. **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. Full immunization against Hepatitis B consists of three timed doses of vaccine over a minimum 4 to 6 months period. **Meningococcal Disease Information**: Each incoming freshman who will be residing in on-campus housing will be required to return a form indicating that they have received information about meningococcal disease and the availability of the vaccine to prevent contracting the disease and indicating whether or not the student has chosen to receive the vaccination. The immuniza-

tion requirements are not admission requirements, but are required of students as conditions of enrollment in CSU.

Students who need further details or have special circumstances may consult the Campus Clinic, 559.278.2734.

E-mail Communication

The university has adopted a policy that requires all students to obtain a free Fresno State e-mail account. All official university notification will be sent to students via Fresno State e-mail accounts only. Examples of notices that will be sent via e-mail include Registration Notices, Invoice Statements, Add/Drop Deadlines, Disenrollment Notices for Nonpayment, Academic Disqualification and Financial Aid Awards. Students who do not have a free Fresno State e-mail account should log-on to *http://my.fresnostate.edu* and click on the "Get An Account Now" link to apply. Students are encouraged to check their e-mail accounts weekly. For questions or assistance with your Fresno State e-mail account, please contact the Help Desk at 559.278.5000.

Nondiscrimination Policy

Race, Color, Ethnicity, National Origin, Age, Genetic Information, Religion, and Veteran Status. The California State University does not discriminate on the basis of race, color, ethnicity, national origin, age, genetic information, religion, or veteran status 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. Kirsten Corey, Department of Human Resources, has been designated to coordinate the efforts of Fresno State to comply with all applicable federal and state laws prohibiting discrimination on these bases. Inquiries concerning compliance may be presented to this person at 5150 N. Maple Avenue, M/S JA41, Joyal Administration Building 211, Fresno, CA 93740, 559.278.3929. CSU Executive Order 1097 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.

Disability. The California State University does not discriminate on the basis of disability 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. Kirsten Corey, Department of Human Resources, has been designated to coordinate the efforts of Fresno State 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 5150 N. Maple Avenue, M/SJA 41, Joyal Administration Building, Rm 211, Fresno, CA 93740, 559.278.3929. CSU Executive Order 1097 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.

Sex/Gender/Gender Identity/Gender Expression/Sexual Orientation. The California State University does not discriminate on the basis of sex, gender, gender identity, gender expression, or sexual orientation 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. Erin Boele, campus interim Title IX coordinator, has been designated to coordinate the efforts of Fresno State to comply with all applicable federal and state laws prohibiting discrimination on these bases. Inquiries concerning compliance may be presented to this person at 5152 N. Maple Avenue, M/S RH 82, Fresno, CA 93740, by calling 559.278.2345 (option 5). The California State University is committed to providing equal opportunities to male and female CSU students in all campus programs, including intercollegiate athletics.

Title IX of the Education Amendments of 1972 protects all people regardless of their gender, gender identity or gender expression from sex discrimination, which includes sexual harassment and violence:

Sexual discrimination means an adverse act taken against an individual 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 §66250 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 violence, sexual advances, requests for sexual favors, indecent exposure and other verbal, nonverbal or physical unwelcome conduct of a sexual nature, where such 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 individual, and is in fact considered by the individual, as limiting the individual's ability to participate in or benefit from the services, activities or opportunities offered by the University. Sexual harassment includes submission to, or rejection of, where the conduct is explicitly or implicitly used as the basis for any decision affecting an individual's academic status or progress, or access to benefits and services, honors, programs, or activities available at or through the University. Sexual harassment also includes gender-based harassment, which may include acts of verbal, non- verbal or physical aggression, intimidation or hostility based on sex or sex-stereotyping, even if those acts do not involve conduct of a sexual nature. 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. University policy 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.

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 constitutes 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 consent.

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. (1) 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. (2) 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. (3) 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. (4) A person with a medical or mental disability may also lack the capacity to give consent. (5) 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. (6) 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: [a] The person was asleep or unconscious; [b] 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; [c] The person was unable to communicate due to a mental or physical condition. (7) 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: [a] The respondent's belief in affirmative consent arose from the intoxication or recklessness of the respondent; [b] The respondent did not take reasonable steps, in the circumstances known to the respondent at the time, to ascertain whether the person affirmatively consented.

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. (1) 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, coun-

seling, 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 policy. (2) 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: (1) 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; (2) Reasonable person means a reasonable person under similar circumstances and with the same protected status as the complainant; (2) Substantial emotional distress means significant mental suffering or anguish that may, but does not necessarily, require medical or other professional treatment or counseling.

See further information in Fresno State's sexual violence prevention and education statement, which includes facts and myths about sexual violence at *http://www.fresnostate.edu/titleix/students*.

Whom to Contact If You Have Complaints, Questions, or Concerns. Title IX requires the university to designate a Title IX Coordinator to monitor and oversee overall Title IX compliance. Your campus Title IX Coordinator is available to explain and discuss your right to file a criminal complaint (for example, in cases of sexual misconduct); the university's complaint process, including the investigation process; how confidentiality is handled; available resources, both on and off campus; and other related matters. If you are in the midst of an emergency, please call the police immediately by dialing 9-1-1.

Campus Title IX Coordinator:
Janice Parten
5150 N. Maple Avenue, M/S J/A 41
Joyal Administration Room 211
Fresno, CA 93740
jparten@csufresno.edu
Office Hours: 8 a.m. -5 p.m.

University Police
Lt. Lupe Canales-Shrum
2311 E. Barstow Avenue
Fresno, CA 93740
lupec@csufresno.edu
559.278.8400

U.S. 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 *http://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 sex discrimination complaints, including sexual harassment and violence, as well as provide training, education and preventive

measures related to sex discrimination. CSU Executive Order 1097 (www.calstate.edu/eo/EO-1097-rev-10-5-16.html) 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 sexual 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 sex discrimination/harassment/misconduct, prevent its recurrence, and remedy its effects.

Safety of the Campus Community Is Primary. The University's primary concern is the safety of its campus community members. The use of alcohol or drugs never makes the victim at fault for sexual discrimination, harassment or misconduct; therefore, victims should not be deterred from reporting incidents of sexual misconduct out of a concern that they might be disciplined for related violations of drug, alcohol or other university policies. Except in extreme circumstances, victims of sexual misconduct shall not be subject to discipline for related violations of the Student Conduct Code.

Information Regarding Campus, Criminal and Civil Consequences of Committing Acts of SexualViolence. 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 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 sexual 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 (collectively sexual misconduct) 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 Communications. *Physicians, psychotherapists, professional, licensed counselors, licensed clinical social workers, and clergy* - Those 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) 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 (including those who act in that role under their supervision, along with non-professional counselors or advocates who 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 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 violence incident. If applicable, these professionals will explain this limited exception to victims.

Reporting to University or Local Police. If a victim reports to local or University Police about sexual misconduct, the police are required to notify victims that their names will become a matter of public record unless confidentiality is requested. If a victim requests that his/her identity be kept confidential, his/her name will not become a matter of public record and the police will not report the victim's identity to anyone else at the University, including the Title IX Coordinator. University Police will, however, report the facts of the incident itself to the Title IX Coordinator being sure not to reveal to the Title IX Coordinator victim names/identities or compromise their own criminal investigation. The University is required by the federal Clery Act to report certain types of crimes (including certain sex offenses) in statistical reports. However, while the University will report the type of incident in the annual crime statistics report known as the Annual Security Report, victim names/identities will not be revealed.

Reporting to the Title IX Coordinator and Other University Employees. Most University employees have a duty to report sexual misconduct incidents when they are on notice of it. When a victim tells the Title IX Coordinator or another University employee about a sexual misconduct incident, 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 sexual misconduct directly to the campus Title IX coordinator.* As detailed above, 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 sexual violence incidents 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.

To the extent possible, information reported to the Title IX Coordinator or other University employees will be shared only with individuals responsible for handling the University's response to the incident. The University will protect the privacy of individuals involved in a sexual misconduct incident except as otherwise required by law or University policy. A sexual misconduct report may result in the gathering of extremely sensitive information about individuals in the campus community. While such information is considered confidential, University policy regarding access to public records and disclosure of personal information may require disclosure of certain information concerning a report of sexual misconduct. In such cases, efforts will be made to redact the records, as appropriate, in order to protect the victim's identity and privacy and the privacy of other involved individuals. Except as detailed in the section on Privileged and Confidential Communications above, no University employee, including the Title IX Coordinator, should disclose the victim's identity to the police without the victim's consent or unless the victim has also reported the incident to the police.

If a victim requests of the Title IX Coordinator or another University employee that his/her identity remain completely confidential, the Title IX Coordinator will explain that the University cannot always honor that request and guarantee complete confidentiality. If a victim wishes to remain confidential or request that no investigation be conducted or disciplinary action taken, the University must weigh that request against the University's obligation to provide a safe, non-discriminatory environment for all students, employees, and third parties, including the victim. Under those circumstances, the Title IX Coordinator will determine whether the victim's request for complete confidentiality and/or no investigation can be honored under the facts and circumstances of the

particular case, including whether the University has a legal obligation to report the incident, conduct an investigation or take other appropriate steps. Without information about a victim's identity, the University's ability to meaningfully investigate the incident and pursue disciplinary action against the perpetrator may be severely limited. See Executive Order 1095 for further details around confidential reporting, and other related matters (*www.calstate.edu/EO/EO-1095.pdf*).

Sexual Violence Prevention
http://www.fresnostate.edu/hr/documents/SexualViolencePrevention.pdf

Sexual Violence - Risk Reduction Tips
http://www.fresnostate.edu/hr/documents/SexualViolence-RiskReductionTips.pdf

What is Dating Violence or Domestic Violence
http://www.fresnostate.edu/hr/documents/WhatisDatingViolenceorDomesticViolence.pdf

Rape and Sexual Assault
http://www.fresnostate.edu/hr/documents/RapeandSexualAssault.pdf

Are You Being Stalked?
http://www.fresnostate.edu/hr/documents/AreYouBeingStalked.pdf

Additional Resources
http://www.fresnostate.edu/hr/documents/AdditionalResources.pdf

Fresno State's sexual violence prevention and education statement, which includes facts and myths about sexual violence, at *http://www.fresnostate.edu/titleix/student*s.

U.S. Department of Education, regional office:
Office for Civil Rights
50 Beale Street, Suite 7200
San Francisco, CA 94105
415.486.5555
TDD 877.521.2172

U.S. Department of Education, national office:
Office for Civil Rights
800.872.5327

California Coalition Against Sexual Assault (*http://calcasa.org/*)
1215 K. Street, Suite 1850
Sacramento, CA 95814
916.446.2520

Know Your Rights about Title IX
http://www2.ed.gov/about/offices/list/ocr/docs/title-ix-rights-201104.html

- Domestic and Family Violence, Office of Justice Programs, United States Department of Justice
- National Institute of Justice: Intimate Partner Violence, Office of Justice Programs, United States Department of Justice
- National Domestic Violence Hotline: 1.800.799.SAFE (7233)
- Office of Violence against Women, United States Department of Justice
- Centers for Disease Control and Prevention: Intimate Partner Violence
- Defending Childhood, United States Department of Justice

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 of these requirements is available from the Financial Aid Office 559.278.2182.

Student Body Fee

Procedure for 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 body association fee and a student body center fee, may be established. A student body 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 body 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 body association fees support a variety of cultural and recreational programs, childcare centers, and special student support programs. A student body 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 body 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 or the Financial Management/University Controller at 559.278.2764.

Student Conduct

Title 5, California Code of Regulations, § 41301. Standards for Student Conduct.

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.

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 are the grounds upon which student discipline can be based:

1. Dishonesty, including the following: (i) Cheating, plagiarism, or other forms of academic dishonesty that are intended to gain unfair academic advantage. (ii) Furnishing false information to a University official, faculty member, or campus office.(iii) Forgery, alteration, or misuse of a University document, key, or identification instrument. (iv) Misrepresenting one's self 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 col-

lege, 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 the following: (i) Unauthorized entry into a file, for any purpose. (ii) Unauthorized transfer of a file. (iii) Use of another’s identification or password. (iv) Use of computing facilities, campus network, or other resources to interfere with the work of another member of the University community. (v) Use of computing facilities and resources to send obscene or intimidating and abusive messages. (vi) Use of computing facilities and resources to interfere with normal University operations. (vii) Use of computing facilities and resources in violation of copyright laws. (viii) 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 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 the following: (i) Falsification, distortion, or misrepresentation of information related to a student discipline matter. (ii) Disruption or interference with the orderly progress of a student discipline proceeding. (iii) Initiation of a student discipline proceeding in bad faith. (iv) Attempting to discourage another from participating in the student discipline matter. (v) Attempting to influence the impartiality of any participant in a student discipline matter. (vi) Verbal or physical harassment or intimidation of any participant in a student discipline matter. (vii) 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.

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.

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.

Civil and Criminal Penalties for Violation of Federal Copyright Laws. Anyone who is found to be liable for copyright infringement may be ordered to pay either actual damages suffered as a result of the infringement along with any profits of the infringer attributable to the infringement that are not already taken into account in computing the actual damages, or “statutory” damages between $750 and $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. §504). Courts also have discretion to award costs and attorneys’ fees to the prevailing party (see 17 U.S.C. §505). Willful copyright infringement can also result in criminal penalties, including imprisonment of up to five years and fines of up to $250,000 per offense. Criminal penalties may vary depending on the nature of the offense and whether the infringer has previously been convicted of criminal copyright infringement under 18 U.S.C. §2319 (see 17 U.S.C. §506 and 18 U.S.C.

§2319).

Disposition of Fees

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.

Cheating and Plagiarism

Cheating. Cheating is the actual or attempted practice of fraudulent or deceptive acts for the purpose of improving a grade or obtaining course credit. Typically, such acts occur in relation to examinations. It is the intent of this definition that the term cheating not be limited to examinations situations only, but that it include any and all actions by a student that are intended to gain an unearned academic advantage by fraudulent or deceptive means.

Plagiarism. Plagiarism is a specific form of cheating that consists of the misuse of the published and/or unpublished works of others by misrepresenting the material so used as one's own work. Grade substitution shall not be applicable to courses for which the original grade was the result of a finding of academic dishonesty.

Civil and Criminal Penalties for Violation of Federal Copyright Laws

Anyone who is found to be liable for copyright infringement may be ordered to pay either actual damages or "statutory" damages between $750 and $30,000 per work infringed. In the case of a "willful" infringement, a court may award up to $150,000 per work infringed. Courts also have discretion to award costs and attorneys' fees to the prevailing party. (See 17 U.S.C. §§504 and 505.) Willful copyright infringement can also result in criminal penalties, including imprisonment of up to five years and fines of up to $250,000 per offense. (See 17 U.S.C. §506 and 18 U.S.C. §2319.)

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 15 weeks for one semester or trimester hour of credit, or 10 to 12 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.

Career Placement Policy

The Career Services Office 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.

Changes on Rules and Policies

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 might 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 campus or the California State University. The relationship of students to the campus and the California State University is one governed by statute, rules, and policy adopted by the Legislature, the Trustees, the Chancellor, the Presidents and their duly authorized designees.

Safety Checklist

In case of an emergency, students can dial “911” from campus pay phones for assistance. Blue light/yellow light emergency phones provide a direct line to the police dispatcher. Practice safety measures: be aware of who is nearby, never open the door without checking who is there, have car keys in hand and check inside the car before entering, use well-traveled routes well-lighted areas, and keep outside doors locked. During hours of darkness, the University Police Department will provide an escort on campus or to a nearby residence upon request. For more information, see the Class Schedule.

Service Learning Policy

Education at California State University, Fresno includes the opportunity to serve the people of California. This is partially accomplished by the link of academic study to community service. Service-learning is a method by which students learn and develop through active participation in organized service, which is conducted in and meets the needs of the community. This service is integrated into and enhances the academic curriculum and provides students with structured opportunities for critical reflection on their service experience. It also enhances students’ appreciation of themselves and societal and civic issues, as well as encourages students’ commitment to be active citizens throughout their lives.

Reservation to Deny Admission

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.

Smoking Policy

The university is a smoke-free campus except for officially posted designated smoking areas. In addition, the use of smokeless tobacco in any form shall not be permitted in any classroom or other enclosed building.The use of smokeless tobacco is strongly discouraged outdoors. More information and a current map of designated smoking areas are available online at www.fresnostate.edu/smoking.

Student Complaint Procedure

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 Vice President for Student Affairs, Frank Lamas, 559.278.2541. Dr. Lamas 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 Chancellor’s Office. This procedure should not be construed to limit any right that you may have to take civil or criminal legal action to resolve your complaint.

Preprofessional Preparation

Preprofessional programs are available for students who plan to transfer to other institutions for the completion of professional curricula in such fields as law, medicine, veterinary medicine, pharmacy, dentistry, optometry, architecture, theology, librarianship, chiropractic therapy, osteopathic medicine, and podiatric medicine. Some of these programs are described here.

Students planning to complete a preprofessional program and degree at California State University, Fresno must complete a major offered at this university. They should include their preprofessional area plus their university major on all registration forms; for example, premedical-chemistry, premedical-biology, prelaw-history, prelaw-political science. There are no preprofessional majors per se. Instead, preprofessional students work toward various university degrees and while doing so, incorporate into their college programs courses required for entry into professional schools.

Careful program planning is important in order to select proper classes and complete requirements in a timely way. Regular advising is essential since professional schools change their requirements occasionally. Preprofessional students should contact their respective major and preprofessional advisers before enrolling in classes each semester to stay abreast of changes.

Students considering a preprofessional program and degree in a major within the College of Science and Mathematics may contact the Advising and Resources Center (ARC) at 559.278.4150, Science I, Room 136, www.fresnostate.edu/csm/arc, for more information.

A current list of preprofessional advisers is available in the Advising and Resources Center, Advising and Resources Center. For more information, contact ARC at 559.278.4150, or fax 559.278.5200.

Preclinical laboratory sciences. Students interested in a medical career in clinical laboratory science (CLS) can satisfy their pre-CLS requirements at California State University, Fresno. Successful completion of the following is required: CHEM 1A/1AL-B/1BL, CHEM 105, CHEM 128A-B, CHEM 129A, CHEM 150, BIOL 1A, 1B/1BL, BIOL 120, BIOL 121, BIOL 157 and 157L, BIOL 164, and PHYS 2A-B. Several other upper-level BIOL and CHEM courses are highly recommended; for details, consult a pre-CLS adviser and consult education coordinators at hospitals with one-year CLS training programs.

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559.278.8756; FAX: 559.278.3963
e-mail: *fred_schreiber@csufresno.edu*

Predental. The minimum training for dentistry is a seven-year course - the first three years (90 units) of predental training in a college or university and the remaining four years (dental training) at a school of dentistry.

However, most students are not accepted by dental schools until four years of college are completed. Due to the large number of applicants, students who do not have better than a 3.5 GPA should earn a bachelor's degree before applying to a dental school. Majors that are most compatible with required classes are in the sciences, particularly biology and chemistry. However, as long as the required preprofessional courses are completed, any major is acceptable.

The minimum predental program required by accredited dental schools is one year each of English, general chemistry, physics, and biology, plus one semester (and often one year) of organic chemistry. Check with each dental school for specific additional requirements like psychology. The Dental Admission Test (DAT) is required. Many dental schools also require a personal interview; some schools administer additional tests. For other information, contact a predental adviser and consult dental school catalogs or the American Dental Education Association at www.adea.org.

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Dr. Laurent Dejean
Chemistry Department
559.278.2008; FAX: 559.278.4402
e-mail: *ldejean@csufresno.edu*

Prehealth careers. Advisement is available for students interested in preparing for health careers in occupational therapy, chiropractic medicine, radiological technology, related areas, or as a physician's assistant. While these programs are not offered at California State University, Fresno, most, if not all, prerequisites are. Students should seek academic and career advisement early in their academic programs.

Advising and Resources Center
Science I, Room 136
2555 E. San Ramon Ave., M/S SB68
Fresno, CA 93740
Phone: 559.278.4150
www.fresnostate.edu/csm/arc/pre-professional/

For preoccupational therapy and other prehealth careers, see the Interdisciplinary Health and Rehabilitation Sciences (IHRS) major, under the Physical Therapy Department, or contact the IHRS undergraduate adviser, **Dr. Cheryl Hickey, 559.278.3030**. Students seeking information on other undergraduate and graduate allied health programs, please contact the College of Health and Human Services Advising and Career Development Center:

Advising and Career Development Center
College of Health and Human Services
McLane Hall, Room 194
559.278.5027
FAX: 559.278.6360
www.fresnostate.edu/chhs/acdc/

See more at www.fresnostate.edu/csm/arc/pre-professional/.

Prelegal. Most fully accredited law schools require a bachelor's degree for admission. Since a prelegal program providing a broad cultural background is recommended by the law schools, any baccalaureate major, depending on the student's interest, may be chosen from the university offerings. (See Degrees and Programs.) Law schools suggest courses, but not necessarily a major, in the following: written and oral English, American and English constitutional history, world history, accounting, business administration, elementary logic, mathematics, statistics, economics, political science, philosophy, science and foreign language. A score on the Law School Admission Test (LSAT) is required before students can be accepted into law school. It is recommended that the LSAT be taken no later than December of the student's senior year. In addition, most law schools require a personal statement and letters of recommendation that address academic skills and preparation for the study of law. For further information consult a prelaw adviser and law school catalogs.

For a list of prelaw advisers, contact the University Advising Center in Joyal Administration, Room 224.
559.278.1787
FAX: 559.278.2323

Prelibrarianship/Library Science. The field of library science offers many career opportunities to people of different academic backgrounds, interests, and skill sets. Library science is the profession that collects, organizes, preserves, and provides access to the print and digital records of our society. Librarians work with a wide variety of people and materials (books, music, media, databases, websites, maps, archives and more). Professional opportunities include service in academic, public, and school libraries as well as libraries and information centers in corporations, medical/research centers, law firms, and museums. Librarians also work in web development, information systems, knowledge management, and publishing. Technological proficiency, as well as an interest in lifelong learning and staying current with emerging technological trends, is essential. The required education for an entry-level librarian position is a master's degree in library and information science (MLIS or MLS). Entrance requirements for these programs vary.

For additional information about library schools, their requirements and programs, and library career opportunities, contact the library science adviser:

Amanda Dinscore, Associate Dean
Henry Madden Library
559.278.7672
FAX: 559.278.6952
e-mail: *adinscore@csufresno.edu*

Premedical. Requirements for admission to medical school vary somewhat from one medical school to another and change from time to time, but a well-balanced liberal education is usually specified. Any major will do; choose a major according to your interests. Some aptitude and university training in science and English are essential in medicine. The minimum requirements in these subjects specified by most medical schools can be satisfied by specific courses in biology (BIOL 1A-1B/1BL), chemistry (CHEM 1A/1AL-1B/1BL, 128A-B, 129A and often 129B), physics (PHYS 2A-B), and two semesters of English. A course in bio-

chemistry is often required or strongly recommended. Courses in physiology, genetics, molecular biology, immunology, and cell biology may be helpful in preparation for the Medical College Admission Test (MCAT). Also, some facility with mathematical concepts is usually expected; one semester of calculus and one semester of statistics will meet the requirements for most medical schools. Because of competition for admission to medical schools, a grade point average of about 3.6 is highly desirable. The MCAT is required before students can be accepted into medical school. It is recommended that the MCAT be taken and application for medical school be made at least one year before anticipated matriculation into medical school.

Students considering a career in medicine should review the information at www.fresnostate.edu/premed. For consultation on a course of study and on becoming a competitive medical school applicant, contact a premedical adviser.

Dr. Larry Riley, Biology Department
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Preoptometry. California State University, Fresno provides courses for the completion of preprofessional requirements of an optometry program. Most professional schools require junior standing and coursework which includes two years of biology and chemistry as well as one year of mathematics, physics and English, and one semester of psychology and statistics with above-average scholarship. The Optometry Admission Testing Program (OAT) exam is required before application can be made to optometry school. Application should be made one year in advance of anticipated enrollment.

For further information, see optometry school catalogs and consult the preoptometry adviser.

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Prepharmacy. California State University, Fresno provides prepharmacy coursework to prepare a student for admission into a four-year pharmacy program. All new and transfer students should indicate an interest in pre-pharmacy on application, admittance, and registration papers. Admission to most pharmacy schools now requires a B+ average or better in a minimum of 60 semester units, including one year each of general chemistry, organic chemistry, physics, calculus, biology, and English composition. Certain schools may have additional specified requirements. Although some students gain admission to pharmacy school after two or three years of undergraduate study, most students are not accepted until they have completed four years of college. Students, especially those without a high cumulative grade point average, should plan to graduate with a bachelor's degree before entering a pharmacy program. Majors that are most compatible with required classes are in the sciences, particularly biology and chemistry. However, as long as the required preprofessional courses are completed, any major is acceptable. For further information, see a prepharmacy adviser and consult pharmacy school Web sites (www.aacp.org).

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Dr. Paul Crosbie
Biology Department
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e-mail: *pcrosbie@csufresno.edu*

Dr. Prudence Lowe
Computer Science Department
559.278.7074; FAX: 559.278.4197
e-mail: *plowe@csufresno.edu*

Dr. Santanu Maitra, Chemistry Department
559.278.2961; FAX: 559.278.4402
e-mail: *smaitra@csufresno.edu*

Preveterinary. Students preparing for the veterinary profession can satisfy their preveterinary curriculum requirements at California State University, Fresno. A minimum of 60 semester units of required courses must be taken prior to acceptance into a veterinary school program. Most students combine the required science courses with General Education and major requirements as they work toward a bachelor's degree in either animal sciences or biology. In addition to performance in required classes, prospective veterinary students are evaluated by their performance on the general portion of the Graduate Records Examination which is to be taken within five years of veterinary school application.

All students interested in veterinary medicine are encouraged to take ASCI 68, Preveterinary Orientation (taught each fall in the Department of Animal Sciences and Agricultural Education), for updated information regarding admission requirements and policies. Courses recommended by the Department of Animal Sciences and Agricultural Education for its majors preparing for veterinary school include ASCI 135, 155, 165; BIOL 1A, 1B, 1BL, 20, 102, 104, 162 and 162L; CHEM 1A, 1AL, 1B, 1BL, 128A-B, 129A, 150; and PHYS 2A, 2B. Preveterinary students completing a degree in biology should take the following courses recommended by the Department of Biology: BIOL 1A, 1B, 1BL; CHEM 1A, 1AL, 1B, 1BL; PHYS 2A, 2B; CHEM 128A-B, CHEM 129A-B; CHEM 150; BIOL 102, 104; and BIOL 162 and 162L, or BIOL 163. In addition, a statistics class, two writing classes, and a speech class are required by most veterinary schools.

The Jordan College of Agricultural Sciences and Technology is equipped to provide valuable experience with large animals through the labs and projects at the university farm laboratory. Admission to veterinary school in California requires a minimum of about 4.5 week equivalents (180 hours) of relevant veterinary experience in activities that specifically give the applicant an appreciation and understanding of the profession of veterinary medicine. For further information, contact the chair of the Animal Sciences Department, the campus veterinarian, and/or the adviser in the Biology Department.

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Registration Process

Program Planning and Registration

Freshmen should plan their programs early, beginning, when practical, with the selection of a major. Degree requirements in each major are listed under the appropriate department. Major information sheets are available for most of our majors. If you are undecided about a major, indicate Undeclared on the appropriate forms until a definite decision is reached. For general information, see Degrees and Credentials.

Regular advising is key to the successful and timely completion of a degree. Depending on the major department's procedure, an academic adviser is assigned to each student, or selected by the student. The University Advising Center (Joyal Administration Building, Room 224) advises undeclared majors and can advise all students on General Education and non-major related degree requirements. At a minimum, all undergraduate students are expected to review their "roadmap" to graduation with an adviser from their major department by the end of the term in which they complete 75 units. Some departments require advising earlier and more often.

Undergraduate students entering the university without a major are strongly encouraged to declare a major before the end of the term in which 45 units are completed toward a degree. Students must declare a major no later than the term in which 60 units are completed. Undergraduate transfer students with 60 or more units must declare a major upon entry or before course registration begins for their second semester at the university. Students may contact the University Advising Center for further information (Joyal Administration Building, Room 224, or call 278.1787).

It is recommended that all students meet with a faculty adviser once each semester before registering for classes. A faculty adviser assists the student in planning an academic program, but the primary responsibility for meeting all graduation requirements is the student's.

Recommended Preparation

Freshmen. Overall excellence of performance in high school subjects and evidence of academic potential provide the basis for admission at California State University, Fresno.

Since certain academic majors require high school preparation in definite subjects, the student should consult the requirements indicated in the field of his or her choice.

In university majors, such as engineering, natural science, mathematics, social science and humanities, a maximum number of high school credits should be obtained in appropriate preparatory subjects.

Transfer Students. Students intending to transfer to California State University, Fresno should plan their programs while attending other colleges to meet our General Education and major degree requirements. Students transferring from a California community college should complete as many of the CSU General Education requirements of that college as possible while keeping in mind that a maximum of 70 transferable units is allowed from two-year institutions (community/junior colleges). For more information, visit the California Articulation Website. A General Education Certification (requested only from California public community/junior colleges and California State University campuses) should be sent to California State University, Fresno along with the final transcripts. Earning an A.A. or A.S. degree does not necessarily mean one has fulfilled CSU admission and/or General Education requirements.

After admission to California State University, Fresno, transfer students with a declared major, entering with 40 or more units will receive a copy of their advanced standing evaluation, indicating how previous college units have been applied toward degree requirements at California State University, Fresno. Questions about one's evaluation should be directed to the student's adviser or the Degree Advising Office. It is recommended that transfer students bring with them an unofficial copy of all previous college transcripts and their CSU General Education Certification when attending New Student Orientation - Dog Days to ensure accurate advising.

Registration

Registration is open to new and returning students who have been admitted and to eligible continuing students in good standing. A continuing student is eligible to register for two subsequent semesters if he/she was enrolled by the eleventh day of instruction and had paid registration fees for the previous semester. Therefore, a continuing student can "stop out" for one semester and still maintain registration eligibility and priority without the need to reapply for admission or without the need to request and educational leave of absence. Students must make progress toward fulfillment of degree requirements to remain in good standing. Students who enroll and withdraw and do not complete coursework for two or more consecutive semesters may lose their continuing student status. Former California State University, Fresno students returning after an absence of two or more semesters must apply for readmission, subject to university enrollment limitations and filing deadlines, and they are required to pay the $55 application fee when applying. The Academic Calendar lists dates of registration.

Registration is complete only when all class selection through registration is finalized and all fees are paid. See the Academic Calendar for all deadline dates.

Registration appointment date and time for all students is determined by the number of academic units completed with limited exceptions. After a priority group is processed, then assignments are made based on the highest number of completed units.

Registration in courses offered by some colleges/schools or departments may be restricted to students officially enrolled in certain majors and/or class levels. It is essential that each student's current major be correctly recorded in the university's records. Failure to do so may result in enrollment difficulties. It is the student's responsibility to be sure his or her major is correct. Undergraduate major changes can be made at the Admissions/Records service windows, Joyal Administration Building, North Lobby; postbaccalaureate and graduate changes at the Division of Graduate Studies Office.

Class Schedule. The Class Schedule is available online each semester with registration procedures, courses offered, class hours and locations, and other important deadlines and updated policy changes as applicable. The schedule is available at my.fresnostate.edu.

Full-time/Part-time Students. Students taking at least 75 percent of the normal academic load are considered full-time students. Since the normal academic load is 15 semester hours, students carrying 12 or more semester hours are full-time students. For purposes of financial aid, graduate (200-level) courses are weighted for graduate students. Each graduate unit attempted by a graduate student is considered as 1.5 units.

Full-time (12 or more units)
Three-quarter time (9 to 11.5 units)
Half-time (6 to 8.5 units)

Veterans Certification. The Registrars Office acts as liaison to the Veterans Administration, the State Department of Veterans Affairs, and other related agencies for veterans, dependents, or reservists eligible to receive educational benefits. A student may obtain information and assistance regarding certification of benefits, V.A. Work Study, advance pay, and processing of tutorial assistance paperwork by visiting the Admissions and Records Office, North Lobby, Joyal Administration Building, Room 121, or by calling 559.278.7030.

Concurrent Registration at a Non-CSU College or University. While enrolled at California State University, Fresno, students may enroll for additional courses at another institution outside the CSU system. The courseload in the combined enrollment program may not exceed the maximum unit load restrictions for California State University, Fresno.

Concurrent Registration at Another CSU Campus. A continuing undergraduate student who has completed a minimum of one semester of 12 units on the Fresno campus and is in good standing with a grade point average of 2.0 or better in all work completed at Fresno State; or a graduate student who has been and is in an authorized graduate program in good standing may enroll concurrently at another CSU campus without any additional fees. Complete information is available in the Office of the Registrar.

Visitor Registration at Another CSU Campus. A continuing undergraduate student who has completed a minimum of one semester of 12 units and has attained a grade point average of 2.0 or better in all work completed at Fresno State, or a continuing graduate student who has completed one semester and is admitted to an authorized graduate program, may register and pay fees at another CSU campus for one semester without applying for admission to that campus. Complete information is available in the Office of the Registrar.

Excess Unit/Enrollment Restrictions Undergraduate. Undergraduate students are cautioned against registering for more than 18 units without consulting with an adviser, since more than 18 units is generally considered to be an academic overload. A limit of 16 units applies to graduate students. See the Class Schedule for details.

To register for 19 units, an undergraduate student must have an overall grade point average of 2.5; for 20 to 22 units, a student must have an overall grade point average of 3.0. Exceptions to these limits must be approved by the chair of the student's major department. An absolute limit of 22 units (excluding credit by examination units) is enforced and may be waived only with the approval of the dean of the college/school of the student's major and the dean of Undergraduate Studies.

An academic department may restrict enrollment by requiring students to drop a class if the student has been disqualified from the major or the student has not achieved a C average in the major or has not met the stated course prerequisites. This is especially true in academic areas that are impacted or are in high demand.

Enrollment in upper-division courses is normally restricted to students with junior, senior, or graduate standing or who have the

necessary prerequisites. Exceptions are subject to the approval of the instructor and department chair. Only students who have been fully approved for admission to credential programs may enroll in certain education courses and qualify for a school service credential on the basis of the university's recommendation.

Credit in any course is also subject to all restrictions that may appear in our *General Catalog*.

Excess Units/Enrollment Restrictions Postbaccalaureate/Graduate. To enroll in 17 or more units, master's degree students must demonstrate a cumulative GPA of 3.0 or better; credential students must demonstrate a minimum GPA equivalent to the admission standards of their individual credential program. However, if the credential program requires enrollment in graduate-level (200-series) coursework, the students must demonstrate a 3.0 GPA or better. Second baccalaureate/second undergraduate major/nonobjective students may enroll in 19 units if they possess a GPA of 2.5; 3.0 for 20-22 units. Graduate-level (200-series) courses are unavailable to second baccalaureate/major and nonobjective students.

Change of Major. Each undergraduate student who wishes to change his or her major must do so at the Admissions/Records service windows, Joyal Administration Building, North Lobby, to initiate the procedure. New graduate and postbaccalaureate students should report to the Graduate Admissions Office and continuing graduate and postbaccalaureate students should report to the Division of Graduate Studies Office.

Adding/Dropping Courses. After initial registration, a student may continue to add classes up through the tenth day of instruction without permission. After the tenth day of instruction and through the 20th day of instruction, all adds require permission from the instructor or the department. After the official census date (20th day of instruction) adding is no longer allowed.

A student may **drop a course** without permission up through the 15th day of instruction. From the 16th day to the 19th day of instruction, dropping a course requires the signatures of the instructor and the chair of the department on a Drop/Withdrawal Form, but no record is registered in the transcript. After the 20th day of instruction, a student may drop a course for a serious and compelling reason that makes it impossible for the student to complete course requirements. A *serious and compelling reason* is defined as an unexpected condition that is not present prior to enrollment in the course that unexpectedly arises and interferes with a student's ability to attend class meetings and/or complete course requirements. The reason must be acceptable to and verified by the instructor of record and the department chair in which the course is offered. The condition must be stated in writing on the appropriate form. The student must provide documentation that substantiates the condition. Failing or performing poorly in a class is not an acceptable serious and compelling reason within the university policy, nor is dissatisfaction with the subject matter, class or instructor.

During the final three weeks of instruction, dropping an individual course is not permitted unless special approval is given by the dean of Undergraduate Studies in cases such as accident or illness where the cause of the drop is due to circumstances beyond the student's control. If the student has completed a significant portion of the required coursework, incomplete grades are often assigned.

Complete Withdrawal. A student may totally (completely) withdraw from all courses up through the 15th day of instruction without any restriction or penalty. From 16th day to 20th day of instruction, complete withdrawal needs instructor and department chair approval on a Drop/Withdrawal Form. Complete withdrawals after the fourth week of instruction, and up to the last three weeks of instruction, are only approved for a documented serious and compelling reason. Permission to withdraw during this time shall be granted only with the approval of each individual instructor(s) and the department chair(s) of the department in which each course is offered. Undergraduate students will not be allowed to withdraw from more than a total of 18 semester units during their undergraduate career at Fresno State. Complete withdrawal during the last three weeks of instruction is not permitted. Exceptions are only allowed where the cause of the withdrawal is due to circumstances clearly beyond the student's control and the assignment of incomplete grades in all classes is not practical. Students are responsible for obtaining the approval of the instructors of each of their courses, the department chairs for the department in which the courses are offered, and the Dean of Undergraduate Studies or the Dean of Graduate Studies, as appropriate. The 18 units limit, described above, does not apply when the withdrawal is approved during the last three weeks of the semester.

If a student withdraws through the first four weeks of instruction, only the date of withdrawal is posted on the permanent record. If the student withdraws after the first four weeks, a W is posted for each class as well as the official date of withdrawal. For purposes of subsequent registration and catalog determination, students are considered as having been enrolled for that semester.

A student who withdraws from the university after the tenth day of instruction and who is in good academic standing (not disqualified) is eligible to enroll the following two semesters without reapplying for admission. A student not enrolled for two or more consecutive semesters must reapply and pay the application fee. Contact the Degree Advising Office regarding possible consequences if you remain away from California State University, Fresno more than one calendar year.

Consult the Admissions and Records Web site at *www.fresnostate.edu/are* for specific withdrawal instructions, procedures and deadlines.

Request for Record Adjustment. The university recognizes that on rare occasions students will experience exceptional situations that prohibit them from completing some procedures in a timely manner. A student may petition for a record adjustment if a documented hardship occurred during the term for which the adjustment is requested, or in instances where the student will suffer a significant academic hardship if the request is not granted. Contact the Admissions and Records Office for further information.

Nonattendance. During the first week of classes, it is the responsibility of students to attend each class meeting of courses in which they are enrolled. Students absent from any class meeting during this period are responsible for personally contacting their instructor by the next class meeting to request being retained in the class.

In addition, as a courtesy to other students attempting to add and as a courtesy to the faculty, students who decide to drop a class should do so immediately. Students must not assume that instructors will exercise their option to submit an Administrative Withdrawal. In short, it still is the responsibility of the student to withdraw properly from any class he/she does not intend to complete. Failure to withdraw will result in the assignment of the appropriate failing grade, WU or NC.

Further, in order to permit students on waiting lists to enroll in a class, instructors may administratively withdraw from their classes students who are absent from any class session during the first week of classes and do not personally notify the instructors by the next class meeting of their intent to remain in the course.

Repetition of Courses. An undergraduate student can repeat only 28 total units during their undergraduate career. Of those 28 units, 16 units can be used toward grade substitution and 12 units can be used toward grade averaging. Grade substitution is the circumstance in which the new grade replaces the former grade (see policy on grade substitution). Grade substitution is not applicable to courses for which the original grade was the result of a finding of academic dishonesty. Grade averaging is when the repeat grade shall not replace the original grade; instead both grades shall be calculated into the student's overall grade point average. Undergraduate students can only repeat courses for which the original grade earned is lower than a C.

Service-Learning

Jan and Bud Richter Center for Community Engagement and Service-Learning

Frank W. Thomas Building 107
559.278.7079
Chris Fiorentino, Director
http://www.fresnostate.edu/Richter Center

California State University, Fresno has a rich history of engaging students in service to the community. As part of an overall educational experience, community service learning can have a profound impact on a student's personal, professional, and academic development. During the 2015-2016 academic year, the university provided almost 1.2 million hours of service to the community.

Mission
The Jan and Bud Richter Center for Community Engagement and Service-Learning is responsible for coordinating the university's community engagement and service-learning efforts. We are dedicated to improving the education and development of our students and helping create a better community through service and learning.

Community Engagement
Fresno State is committed to being a premiere engaged university. This is reflected in the many ways our university demonstrates, through mutually beneficial partnerships, the alignment between the university's teaching, research, and professional service agenda and the interests of our region. Examples of community engagement activities include, but are not limited to, community service and volunteerism; service-learning; applied research; efforts that engage the campus community in the democratic process; faculty and staff professional service to the community; and projects that address the historical, cultural, and/or informational needs of the community.

Service-Learning
Service-learning is proven to enhance students' academic success, career development, and personal skills. This is accomplished thrrough active participation in meaningful service linked to academic study through structured reflection. The service may include improvement of community resources, direct service to people in need, applied research, community outreach and education, or policy analysis and advocacy. There are approximately 200 such courses offered each year at Fresno State. Approved service-learning courses are listed in the catalog and the Class Schedule with an "S" designation. Additional details can be found at www.csufresno.edu/facultysl

To promote the value of service activities and enhance the subsequent learning experience, the university also offers two community service-learning courses for academic credit.
COMS 1. Community Service-Learning
COMS 101. Community Service Internship

Who Should Get Involved in Service?
We hope you will! If you enjoy the rewards of helping someone in need or are concerned with social issues, the Richter Center can find a place for you to share your talents with others. In return, you will experience real-life situations that can help you be successful in all your endeavors.

Who Benefits?
Everyone! Research has shown that students who are involved in community service activities during their undergraduate years significantly enhance many aspects of their personal, professional, and academic development. Programs and citizens of our community dramatically benefit from the service work of students. Community service and service-learning provide an opportunity for everyone to gain important benefits.

Undeclared Majors

The Undeclared Student. Entering students whose major is undeclared (or undecided) often want to investigate their options and explore their career choices.
Advising

The university is here to help in a number of ways. The University Advising Center, with counselors trained to address the special needs of undecided students, is central to the process of moving the undecided student toward an appropriate major and academic goal. Equally central is the Career Development Center with its myriad of career-related resources. Undeclared (or undecided) students should regard the services of both these offices as vital to their future success and should plan to visit at least once each semester. Academic departments, individual faculty members, and others should be sought out in order to expand understanding of the world of work, future trends, and professional opportunities.

Contact the University Advising Center (Joyal Administration Building, Room 224, 559.278.1787) to set an appointment. The Advising Center is the major department for all Undeclared students and those students who are uncertain if the major they have currently declared is the one they want to continue to pursue.
Postbaccalaureate/Graduate

Students who are undeclared must have the approval of the dean of Graduate Studies to be readmitted to the university.

Upper Division Writing Requirement

All undergraduate and second baccalaureate degree candidates must demonstrate competency in writing skills at the upper-division (junior-senior) level as a requirement for graduation. After completing 60 units and English Composition (ENGL 5A, 5B or 10) or its equivalent with a C or better, students may meet this requirement in one of two ways:
either

1. Pass the Upper-Division Writing Examination (UDWE) composed of two essays. This examination is given five times each year, including once before the beginning of each semester. Students are permitted to take the examination a maximum of two times. Upon successful completion of the UDWE, undergraduate students may request 1 unit of credit (ENGL 100W), which will be posted to their transcripts the semester following the date the UDWE was passed. For details, call Testing Services, 559. 278.2457.

or

2. Obtain a C, CR, or letter grade of C or better in an approved upper-division writing course at this university. Approved writing courses can be identified in the catalog and Class Schedule by the letter W (e.g., ENGL 160W, BA 105W) and are listed below.

It is imperative that the UDWS requirement be met within two semesters after completing 60 units. The UDWS requirement cannot be fulfilled by a class or test taken outside of The California State University system and cannot be satisfied at a CSU campus at which the student has not matriculated.

List of courses

AFRS 104W – Writing About American Inequality (3 units)
ANTH 105W – Applied Anthropology (also satisfies GE–M/I units) (3 units)
ANTH 116W – Anthropology of Religion (also satisfies GE–ID units) (3 units)
BA 105W – Business Communication (3 units)
CLAS 102W – Contemporary Chicana/Latina Writing and Culture (3 units)
ECON 102W – Explorations in Economic Literature (3 units)
EES 135W – Dinosaurs (3 units)
ENGL 115W – Literature of the New Testament (3 units)
ENGL 117W – Writing from Children's Literature (3 units)
ENGL 160W – Writing Workshop (4 units)
HIST 100W* – Historical Research and Writing (3 units)
IT 198W – Technical Writing (3 units)
LING 110W* – Advanced Composition for Foreign Students (3 units)
LING 111W – Academic Writing Workshop (3 units)
MCJ 102W* – Reporting (3 units)
PHIL 133W – Literature of the New Testament (3 units)
PLANT 110W – Dimensions in Agriculture (3 units)
SOC 130W – Contemporary Social Issues (3 units)

*Enrollment may be restricted or have additional prerequisites. Check the course description in the catalog or *my.fresnostate.edu*.

The University's Colleges and Schools

Departments and Programs

Department of Accountancy

Shu Lin, Chair
Peters Business Building, Room 284
559.278.2852
FAX: 559.278.4911
www.fresnostate.edu/craig/depts-programs/acct/

Degrees and Programs Offered

B.S. in Business Administration - Accountancy Option

The Department of Accountancy offers an option in accounting within the Bachelor of Science in the Business Administration and a Master of Science in Accountancy. The undergraduate qualifies students for, and the master's program further prepares students for, the Certified Public Accountant (CPA), Certificate in Management Accounting (CMA), or Certified Internal Auditor (CIA) exams.

Aerospace Studies

Lt. Col. Kenneth N. Bourque, Chair
North Gym, Room 158
559.278.2593
FAX: 559.278.5245
www.fresnostate.edu/afrotc/

Degrees and Programs Offered

Minor in Aerospace Studies

The Air Force Reserve Officer Training Corps ROTC Program is a college-based program open to men and women.

Air Force ROTC offers students that graduate from the program the opportunity to serve in a tremendously rewarding leadership position as a second lieutenant in the U.S. Air Force. Non-scholarship students may participate in the program for one to two years without signing a contract with the Air Force. In either case, ROTC years of service will provide young men and women leadership and management experience that will serve them well as an Air Force officer or a civilian in the private sector.

Several routes for an Air Force commission are available to college students in Air Force ROTC. Entering students may enroll in the four-year program, while students with at least three years remaining in college may apply for a compressed option. For instance, students who enter the program with 3 or 3.5 years remaining to graduation can commission on time provided they accomplish program requirements. Contact the detachment faculty and staff for more information on these various options.

The Air Force ROTC education program provides professional preparation for future Air Force officers. It is designed to develop men and women who can apply their education to their initial active duty assignments as Air Force commissioned officers. In order to receive a commission, an Air Force ROTC cadet must complete all requirements for a degree in accordance with university guidelines as well as complete certain courses specified by the Air Force

Air Force ROTC courses are taken for academic credit as part of a student's electives. The last two years of the program must be completed at California State University, Fresno. The first two years of the program may be completed if a student is enrolled in one of the local junior colleges and plans to transfer to the university at the beginning of his or her junior year. In the Aerospace Studies program, ROTC books, supplies, and uniforms are furnished at no cost to the student.

Air Force ROTC scholarships are available to qualified applicants. Each scholarship provides full tuition, laboratory and incidental fees, and a $450 semester allowance for curriculum-required textbooks. In addition, scholarship cadets receive a nontaxable $300-$500 subsistence each month during the school year.

Other scholarship programs are available to fill critical Air Force requirements. Additional money through express programs is available. Contact the unit admissions officer for the latest information.

Africana Studies Program

De Anna Reese, Coordinator
Science I Building, Room 182
559.278.2832
FAX: 559.278.7268
www.fresnostate.edu/aais

Degrees and Programs Offered

B.A. in Africana Studies
Minor in Africana Studies

The Africana Studies program (AFRS) at California State University, Fresno offers an interdisciplinary curriculum that illuminates the connectedness of the human experience and provides culturally-appropriate knowledge and skills. This helps students understand the experiences of African peoples all over the world and other ethnic groups in the United States. The program also involves its faculty and students in research, experiential learning, career counseling, computer technology, curriculum development, conference participation, and extended day, evening, and weekend courses.

The program offers interdisciplinary courses leading to the Bachelor of Arts in Africana Studies as well as minors in Africana Studies and Ethnic Studies. Students with a B.A. in Africana Studies can pursue a master's or doctoral degree in the humanities, social sciences, or health sciences. Students can also seek other pro-

fessional degrees in such areas as business, human resources, teacher education, and law. The program teaches appreciation for the heritage of African peoples and their contributions to the shaping of the fabric of American life and history.

Africana Studies emphasizes the study of the history and culture of African Americans as they relate to the experiences of Africans on the continent and other peoples of African descent in the Diaspora. The major in Africana Studies provides an epistemological basis for understanding issues that pertain to the experiences of African peoples and other minority ethnic groups in the American society. The curriculum promotes an awareness of the African heritage of African Americans and others throughout the Americas. Opportunities are provided for students to engage in study abroad and service-learning in Africa and the Caribbean to stimulate intellectual interest in, and linkage to, contemporary Africa and the African Diaspora while enhancing global understanding of the varied social realities of the human experience.

Department of Agricultural Business

Annette E. Levi, Chair
Leon S. Peters Building, Room 302
559.278.2949
FAX: 559.278.6536
www.fresnostate.edu/jcast

Degrees and Programs Offered

B.S. in Agricultural Business
Minor in Agricultural Business Minor

Join the leader in science, technology, and management. The award-winning Agricultural Business Program at California State University, Fresno is a pacesetter — having been recognized by the Agribusiness Education Project, sponsored by the U.S. Department of Agriculture and comprised of agricultural industry leaders and higher education scholars from around the country.

The agricultural business curriculum is a comprehensive and integrative program of economic principles and business application with a problem-solving orientation and a practical experience emphasis.

Degree Programs

The Bachelor of Science in Agricultural Business combines core undergraduate courses in agricultural business (AGBS) with basic business management and agricultural science foundation courses. This undergraduate major allows you to emphasize a career specialty, such as agribusiness management, agricultural finance, agricultural marketing, farm management, or food industry management.

Certified Minor Programs. A Minor in Agricultural Business is available for students majoring in agricultural sciences, business, and other fields.

Complementary Fields of Study. Agricultural business students wishing to enhance their major with a technical field should consider a minor in such closely allied disciplines as animal science, family and consumer sciences, food and nutritional sciences, and plant science. A supplementary Minor in General Business is available through the Craig School of Business.

Ag One Grants for academic fees and books are available. Call 559.278.2061 for scholarship information and application.

The Master of Business Administration (MBA) has an elective area in agricultural business combining graduate courses in agricultural business (AGBS) with core courses from business. This degree program, AACSB-accredited, is administered by the Sid Craig School of Business. It is designed for individuals seeking to advance their career by enhancing their business management and economic analysis skills with an emphasis on agricultural sector applications. Contact the graduate business adviser at 559.278.2107. This area not currently accepting applications.

Instructional Facilities

Modern Computing Facilities. Labs are used to teach students computerized farm accounting systems, agricultural enterprise spreadsheets, agribusiness simulations, commodity trading, and to expose them to planning and decision-making aids as part of their professional expertise.

Center for Agricultural Business (CAB)

Organized to promote the economic efficiency, profitability, and competitiveness of California agriculture, CAB uses faculty expertise and student assistance to address problems and opportunities in farm management, agribusiness finance, commodity marketing, agricultural trade, natural resources, and labor management. Seminars are held periodically on topics of concern to farmers and agribusiness managers. An annual Agribusiness Management Conference is co-sponsored with industry to explore current issues and report the economic outlook of the state's agricultural sector.

Professional Preparation

Students establish credibility with prospective employers by participating in the following occupationally related activities.

- **Agricultural Business Club**. Students plan field trips, invite industry speakers to meetings, organize the annual alumni dinner, hold a newcomer picnic, support a campus job fair, and sponsor career preparation workshops.
- **Industry internships**. Opportunities exist for many career positions through management training programs with agricultural business firms and support institutions. The department coordinates internships on a competitive basis and grants academic credit in the major for this supervised experience (AGBS 194).
- **University Agricultural Laboratory Project**.Students gain farming experience through participation in the faculty supervised, student project program and concurrent enrollment in an Enterprise Management course (PLANT, ASCI 196). Such a course is highly recommended and can be used in the major.

Department of Animal Sciences and Agricultural Education

Randy C. Perry, Chair
Ag Mechanics Building, Room 106D, M/S AS 75
559.278.2971
www.fresnostate.edu/jcast/asae

Degrees and Programs Offered

B.S. in Agricultural Education - Agricultural Communications Option
B.S. in Agricultural Education - Teacher Preparation Option
B.S. in Animal Science - Production Management Op-

tion-Livestock Business Mgt Specialization
B.S. in Animal Science - Production Management Option-Dairy Science Specialization
B.S. in Animal Science - Production Management Option-Equine Science Specialization
B.S. in Animal Science - Production Management Option-Meat Technology Specialization
B.S. in Animal Science - Science Option-Basic Animal Science Specialization
B.S. in Animal Science - Science Option-Pre Veterinary Specialization
CRED in Agriculture Specialist Credential
Minor in Animal Sciences
M.S. in Agricultural Sciences
PREB in Pre Veterinary Prerequisites

Animal Sciences and Agricultural Education

Prepare for the future in agricultural sciences, technology, and management with a degree in animal sciences or agricultural education. The Department of Animal Sciences and Agricultural Education offers options in agricultural communications, teacher preparation, science, and production management. The science option has career specialization in the areas of preprofessional (basic) animal science and preveterinary medicine. The production management option offers career specialization in the areas of dairy science, equine science, meat technology and livestock business management. Courses integrate animal evaluation, behavior, disease, environmental management, genetics, health, marketing, muscle biology, nutrition, physiology, production, and reproduction.

The agricultural education major is designed to equip students for careers as agricultural communication specialists or secondary agriculture teachers. Specializations may be developed in agricultural business, animal sciences, plant sciences, or mechanized agriculture.

Instructional Facilities

Instruction in the animal science disciplines is enhanced through practical application at the various farm laboratory units on-campus. The Beef, Dairy, Horse, Meats, Poultry, Sheep, and Swine units are maintained by our faculty and students to support this educational purpose and provide a unique, hands-on learning experience for our students. In addition, veterinary and physiology laboratories are utilized to complement on-campus education. A 4,300-acre livestock and range management facility and another 800 acres of rangeland in the Sierra foothills are available.

Department of Anthropology

James J. Mullooly, Chair
Peters Business Building, Room 385
559.278.7574
FAX: 559.278.7234
www.fresnostate.edu/anthropology/

Degrees and Programs Offered

B.A. in Anthropology
Minor in American Indian Studies
Minor in Anthropology
Minor in Asian American Studies
Minor in Southeast Asian Studies

Anthropology is concerned with everything that is human, in all parts of the world, both present and past. It is unique among the social sciences in its scope. Most disciplines focus only on modern civilization or concentrate on single aspects of life, such as government or the economy. Anthropology is interested in all human societies and views life as a complexly integrated whole that is more than the sum of its parts. It is the human experience as a whole that anthropology seeks to understand.

The breadth of anthropology is reflected in its four subfields. **Physical anthropology** studies biological evolution and how heredity conditions the ways we conduct life. **Cultural anthropology**, by studying the enormous diversity of lifeways in contemporary cultures throughout the world, attempts to explain both differences and similarities in the way different peoples carry out the process of living. **Archaeology** explores the human past far beyond the range of written records, using specialized techniques to probe human prehistory. **Linguistic anthropology** investigates the nature of language and the critical role it has played in developing our unique intellectual capabilities and behavior. The central concept in anthropology is "culture," and it is this vital idea which binds the subfields into an integrated discipline.

Our program has three goals:

- to provide students with a clear conception of human variability and its implications, enabling them to understand and deal with lifestyles other than those of "mainstream America;"
- to provide students with the broad intellectual skills that are essential to the widest range of professional careers;and
- to prepare students to use anthropological concepts in both applied and research careers.

Both the anthropology major and minor offer a varied but well-structured exposure to all four subfields of the discipline. The major consists of two parts. The core curriculum introduces both data and theory in a logical sequence of courses from basic to advanced and includes an introduction to anthropological fieldwork. The four degree tracks are intended to prepare students for specific careers in the following areas: education, cultural resources management, social services, or post-secondary teaching. The minor is a briefer but balanced survey of the discipline, designed to complement any major whose graduates need to understand and deal with people from different cultural backgrounds.

Special Resources and Facilities

Directed by professors LaJeunesse and Pryor, the Anthropology Department provides data collection, analysis, and student training in both archaeological and ethnographic studies. Advanced students may also pursue specialized training and research into the chemical composition of archaeological materials in our chemistry laboratory, which is under the supervision of Professor LaJeunesse. C. Kristina Roper manages our contract archaeology program, which provides students with practical experience in public archaeology.

Armenian Studies Program

Barlow Der Mugrdechian, Coordinator
Peters Business Building, Room 384
559.278.2669
FAX: 559.278.2129
www.fresnostate.edu/armenianstudies

Degrees and Programs Offered

Minor in Armenian Studies

The Armenian Studies Program offers courses on Armenian history, Armenian language and literature, art and architecture, film, William Saroyan, the Genocide, and contemporary issues. Courses in Armenian history are also offered under the Department of History.

The Minor in Armenian Studies prepares students for teaching careers in one of the 25 Armenian schools in the United States, for administrative positions in Armenian cultural, social, and benevolent organizations, for study and volunteer work in the Armenian Republic, or for graduate work in Armenian doctoral programs at UCLA, UC Berkeley, Harvard, Columbia, Tufts, the University of Michigan, or Oxford University.

The Haig and Isabel Berberian Chair of Armenian Studies. The Berberian Endowed Chair provides financial support for a distinguished Armenologist. The endowment honoring the Berberians was established by a major gift from their son-in-law and daughter, Dr. Arnold H. and Dianne Gazarian. Other friends have made significant contributions to this endowment.

The Henry S. Khanzadian Kazan Visiting Professorship in Armenian Studies. This specially designed endowment allows the Armenian Studies Program to invite, for one semester each year, an internationally recognized scholar in contemporary Armenian affairs. The distinguished professor will teach a course related to modern Armenian history, including the Genocide of 1915 and the formation of the Armenian Republic. In addition, the scholar will present three public lectures on a single topic; these will be published as a volume in the Kazan Armenian Studies series.

The M. Victoria Karagozian Kazan Endowment Fund for the Armenian Studies Program. Thanks to a generous donation by Henry and Victoria Kazan, the university has received a special endowment to support Armenian Studies Program activities and to provide financial resources for research, publications, and conferences related to Armenian studies.

The Armenian Series. The Armenian Series was established under the auspices of The Press at California State University, Fresno. Books with an Armenian theme are published in the The Armenian Series.

Pete P. Peters Endowment. In 1998, Mr. Pete Peters, a long-time supporter of Armenian Studies, offered the university a substantial endowment. Proceeds from the endowment will be used for student scholarships.

The Leon S. Peters Foundation has generously supported the Armenian Studies Program by funding its Lecture Series, providing student scholarships, and providing general support for the program.

The Thomas A. Kooyumjian Family Foundation has provided general support for the Armenian Studies Program and support for special programs. It has also provided for students scholarships.

The Harry and Mary Topoozian Armenian Studies Merit Scholarship Fund was established by a gift from Mr. Harry Topoozian. An Outstanding Achievement Scholarship will be awarded to a student who has excelled in scholarship, leadership, and community service. Any student enrolled in Armenian Studies courses is eligible.

The Armenian Studies Program Dickran Kouymjian Writing Award. In 1997 the Armenian Studies Program Advisory Board decided to establish an endowment fund for excellence in writing from the proceeds of the 20th Anniversary Banquet honoring Professor Kouymjian. Each year a prize will be given for the best student essay, term paper, or literary work in any discipline on a topic related to Armenia or the Armenians.

The Norma and Bob Der Mugrdechian Armenian Studies Endowed Scholarship has been established to provide scholarships for students who are studying, or have declared a major, in the area of Armenian Studies.

Scholarships

Students working toward a minor or simply enrolling in Armenian courses are eligible for scholarships administered by the program. These include the Armenian Professional Society of San Francisco Scholarship; the Nerces and Ruth Azadian Memorial Scholarship; the Kirkor and Mary Bedoian Memorial Scholarship; the Bertha and John Garabedian Charitable Foundation Scholarship Fund; the Peter Mourad Hagopian Memorial Scholarship; Albert and Isabelle Kabrielian Scholarship for Armenian Studies; the Armen Kandarian Memorial Scholarship; the Koren and Alice Odian Kasparian Scholarship; the Charlie Keyan Endowed Scholarship; the Yervant, Rose, and Hovannes Levonian Educational Grant; the John and Lucille Melkonian Scholarship; the John Ohanian Scholarship; the Charles K. and Pansy Pategian Zlokovich Scholarship; the Walter Sepetjian Memorial Scholarship; the Genevieve Tatoian Scholarship; the Telfeyan Evangelical Fund, Inc. Scholarship; and the Triple-X Los Angeles Scholarship.

Annual renewals are assured for students who continue to enroll in Armenian studies courses. In addition to these, full tuition scholarships and research-assistant grants are also available.

The Armenian Studies Program supports the Armenian Students Organization, the student and program newspaper Hye Sharzhoom, and the Armenian Studies Program Lecture Series.

Thanks to an exchange agreement between Fresno State and Yerevan State University, qualified students can study up to one year in Armenia while registering and paying tuition in Fresno.

Department of Art and Design

Martin Valencia, Chair
Conley Art Building, Room 105
559.278.2516
www.fresnostate.edu/artanddesign

Degrees and Programs Offered

B.A. in Art
B.A. in Interior Design
B.A. in Art - Graphic Design Option
B.F.A. in Graphic Design
CRED in Single Subject Credentiåal - Art
M.A. in Art
Minor in Art

The Department of Art and Design offers many exciting and creative opportunities for students to nurture and expand their artistic and design senses. Entering the 21st century, the department provides a broad range of experiences that prepare its graduates for art- and design-related career opportunities and artistic endeavors. Students study and produce works that include state-of-the-art computer applications, conceptual art, graphic design, and interior design. The department has fine arts as its core and foundation, while offering areas of study that allow for occupational preparation in a variety of areas. The award-winning faculty is committed to the idea that a foundation in the crafts of art and

design is an essential prerequisite to the production of works that show sophistication both conceptually and visually.

Studio Art

Students produce works that encompass a wide range of visual expression, from figurative, abstract, narrative, and mixed media, to leading edge conceptual and installation works. Experimentation is encouraged.

The history of art presents a platform for students to examine, identify, and appreciate the visual arts from prehistory to the present. Art history students acquire an understanding of great art works while developing critical thinking skills.

Graphic Design

Through a combination of traditional drawing and rendering techniques and state-of-the-art computer applications, the graphic design option and B.F.A. prepare students for careers in the graphics and advertising fields, including graphic design, advertising, publishing, film, and web design.

Courses explore the many aspects of design, typography, illustration, computer graphics, Internet design, the history of graphic design, and the professional practices commonplace in the field.

Interior Design

The B.A. in Interior Design allows students many unique opportunities in the field of design. The interior design major is accredited by the Council for Interior Design Accreditation, formerly FIDER. Students use advanced computer-aided-design (CAD) and animation programs as well as traditional methods in developing sophisticated design solutions for a variety of architectural projects. Interior design students gain an excellent foundation in subjects such as color theory, space planning, presentation techniques, rendering, drawing, building systems and codes, and material and design for special populations. (Internship opportunities are available.)

The facilities

The facilities of the department not only include the requisite studios, state-of-the-art computer labs, and support facilities, but also include an art gallery and a lecture hall in an award-winning contemporary art building complex.

Department of Biology

Paul Crosbie, Interim Chair
Science Building, Room 106
559.278.2001
FAX: 559.278.3963
www.fresnostate.edu/biology

Degrees and Programs Offered

B.S. in Biology
CERT in Biotechnology, Certificate of Adv. Study
CRED in Professional Clear Foundation Level General Science
CRED in Single Subject Credential - Biological Science
MBT in Biotechnology, M.Bt.
Minor in Biology
M.S. in Marine Science
M.S. in Biology

The Department of Biology offers a diversified undergraduate program that matches the breadth and excitement of modern biology and prepares students for the hundreds of career opportunities that use biology as a foundation. The Bachelor of Science degree is awarded to those students who successfully complete the biology core and additional requirements and electives.

The biology major we offer has three programmatic goals:

1. To provide students with a solid foundation in all aspects of modern biology and also the intellectual skills that will serve as the basis for a lifetime of future achievement.
2. To provide students with the specialized educational opportunities that will allow them to compete successfully for careers in the biological sciences or for advanced studies in major doctoral programs.
3. To provide preprofessional students with the knowledge needed for advanced study in the many fields that build upon a biological foundation.

Our undergraduate biology major is excellent preparation for graduate programs in medicine, dentistry, pharmacy, veterinary medicine, optometry, doctoral programs, and many others.

The department offers a Master of Science in biology for qualified students who wish to explore some part of biology in greater depth. It can be integrated with a postbaccalaureate certificate in biotechnology.

Facilities

The department is housed in a well-equipped, modern science building. Among the specialized equipment and technologies available for students are DNA sequencers; Polymerase Chain Reaction (PCR) thermocyclers; apparati for conducting molecular and immunological analysis of nucleic acids and proteins; genetic recombination, including use of electroporation and gene guns; a bioinformatics computing laboratory; a proteomics work station; cell and tissue culture facilities; fermenters and bioreactors; fluorescence, confocal and 4-D microscopes; ultracentrifugation; radioactive materials methodologies; and metabolic studies on all types of life forms. Excellent greenhouse and animal care facilities, as well as media/reagent production complexes, support the instructional and research programs.

Fresno's proximity to both the Sierra Nevada and the Pacific coast provides a natural laboratory with numerous field trip opportunities that are rarely equaled at other institutions. High Sierra, Mediterranean, desert, foothill, coastal, and forest environments are all within a three-hour drive of the campus. The department maintains a wealth of field equipment to observe and collect wild organisms. A self-contained pond ecosystem offers a unique, on-campus study resource. The department also maintains extensive collections of museum specimens of insects, vertebrates and a herbarium. The department is a member of a consortium that manages and operates the Moss Landing Marine Laboratory (MLML). Students can study and conduct research at MLML, located on the Monterey Bay.

Business

Craig School of Business
Robert Harper, Dean
Peters Business Building, Room 183
559.278.2107
www.fresnostate.edu/craig/

Degrees and Programs Offered

Minor in Graduate Business Prep
PREB in Pre-Business

The mission of the Craig School of Business (CSB) is to prepare a diverse student population for careers in the regional, national, and global business environments, and to serve the Central California business community as a resource center.

Accreditation

The B.S. in Business Administration has been continuously accredited since 1959 by the premiere accrediting agency, AACSB - International, the Association to Advance Collegiate Schools of Business. The B.S. was the third accredited business program in California, following UC Berkeley and UCLA and is one of only 551 accredited business programs in the U.S. The Craig M.B.A. was accredited in 1974.

Advising

CSB operates an advising center, Undergraduate Student Services, located in Peters Building, Room 185. Business students are encouraged to have annual advising sessions to assist in evaluations and graduation requirements. Flow charts available at *http://www.craig.fresnostate.edu/uss_flowcharts.aspx* for each of the 12 options to help students plan their academic program and to ensure that courses are taken in correct sequence.

A mentoring program matches students with a faculty member in their field who will assist with career or graduate study information.

Business Interdisciplinary

Craig School of Business Advising Center
Robert Harper, Dean
Peters Building, Room 185
559.278.4943

Degrees and Programs Offered

B.S. in Business Administration - Special Option

Department of Chemistry

Joy Goto, Interim Chair
Science Building, Room 380
559.278.2103
www.fresnostate.edu/chemistry

Degrees and Programs Offered

B.A. in Chemistry
B.S. in Chemistry
B.S. in Biochemistry
CRED in Single Subject Credential - Chemistry
Minor in Chemistry
M.S. in Chemistry

The Chemistry Department provides (1) undergraduate training in chemistry for students planning professional careers in chemistry, biochemistry and allied professions, and for those contemplating graduate work for advanced degrees; (2) undergraduate training in chemistry for those planning careers in professions such as medicine, chiropractic, dentistry, pharmacy, etc.; (3) participation in the preparation of teachers of chemistry and the other physical sciences in the teaching credential programs; (4) teaching of the basic chemical sciences required by students majoring in related fields such as physics, biology, nursing, engineering, geology, agriculture, home economics, and criminology; (5) stimulation of interest in and understanding of the achievements and contributions of chemistry to our civilization for non-science students, as a part of General Education; and (6) graduate instruction in chemistry for the Master of Science degree for students who intend to enter the chemical industry, pursue further advanced study, or who wish to improve their qualifications as teachers in secondary schools and community colleges. The multi-disciplinary forensic science degree program prepares students for continued success by integrating instruction with active forensic research, collaboration with local crime laboratories, and real world experiences.

The Bachelor of Science degree program in Chemistry is accredited by the American Chemical Society. Students who satisfactorily complete the program are recommended by the department for certification as graduate chemists by the American Chemical Society. Students completing the Bachelor of Arts degree may be recommended for certification by completing additional requirements of the American Chemical Society.

Facilities

All upper-division and graduate chemistry laboratories and support areas are housed in our science building. Eight four-station graduate laboratories are well equipped, with access to modern instrumentation. Instrumentation in the department includes: Varian EM 360 and Gemini 200 FT NMR spectrometers, GC-MS, atomic absorption spectrometers, Fourier Transform IR (FTIR), liquid scintillation counter, Lambda 6, Shimadzu, HP Diode-Array, spectrophotometers, spectrofluorometer, radiation equipment, liquid chromatographs, high speed refrigerated centrifuges, gas chromatographs, and Unix workstations for advanced computational chemistry. The university library includes many journal subscriptions in chemistry plus numerous texts and related books.

Department of Chicano and Latin American Studies

Maria-Aparecida Lopes, Chair
Social Science Building, Room 116
559.278.2848
www.fresnostate.edu/socialsciences/clas

Degrees and Programs Offered

B.A. in Chicano Studies
B.A. in Latin American Studies
Minor in Chicano/Latino Studies
Minor in Latin American Studies

Chicano and Latin American Studies (CLAS) is an interdisciplinary department that has been successful in presenting a highly informed, active, and challenging view of the Chicano/Latino experience in the United States and in U.S./Latin American relations. Chicano and Latin American Studies provides an opportunity for a pluralistic exchange of ideas in an interdisciplinary academic setting, where faculty, students, and visiting Chicano and Latin American scholars can share experiences and create a dynamic, intellectual environment.

The Chicano and Latin American Studies Department is designed

to meet the following objectives:

1. to promote an awareness of the historical and cultural roots of Chicanos/Latinos in the United States
2. to enhance an understanding of Latin America
3. to cultivate an appreciation of ethnic and national differences among all people
4. to critically analyze the Chicano and the Latin American experience in terms of significant issues, theories, current problems, and solutions, and
5. to provide students with a set of important professional skills to be utilized as they interact creatively and constructively with Chicano/Latino communities and multicultural society at large.

The department emphasizes an interdisciplinary approach to the study of family life, history, politics, culture, and the arts of Chicano and Latin American communities. The courses reflect an integrated approach in providing students with greater knowledge and understanding of the social reality and diversity of Chicanos and Latin Americans.

Department of Child, Family, and Consumer Sciences

Katie Dyer, Chair
Family and Food Sciences Building, Room 111
559.278.2283
www.fresnostate.edu/jcast/cfcs

Degrees and Programs Offered

B.A. in Family & Consumer Sciences - Fashion Merchandising Emphasis
B.A. in Family & Consumer Sciences - Family Sciences Emphasis
B.S. in Child Development
Minor in Child and Family Science
Minor in Fashion Merchandising
PREB in Pre-Child and Family Science

The Child, Family, and Consumer Sciences Department is dedicated to improving the quality of life for children and families through education, research, and service. The department offers two degree programs toward this end: (1) a Bachelor of Arts in Family and Consumer Sciences and (2) a Bachelor of Science in Child Development.

All majors must consult with a department academic adviser to determine the degree path most appropriate to their career or personal goals.

The CFCS Department is housed in the Family and Food Sciences (FFS) Building on the west side of campus. The department maintains laboratory facilities that support our academic programs. These include clothing and textile labs; a child and family observation lab; and two child care labs serving infants, toddlers, and preschool children, where students study child behavior and development under the supervision of faculty and laboratory teaching staff.

Bachelor of Arts in Family and Consumer Sciences

Fashion Merchandising Emphasis. The Fashion Merchandising program focuses on preparing students for a wide variety of careers related to marketing, management, buying, and selling of fashion goods. It combines product and industry knowledge with business, communication, and computer skills. Job opportunities include buyers, merchandisers, store managers, product developers, and fashion consultants, as well as other positions in today's competitive and global environment. The curriculum is built upon the Mega Goals for Four-Year programs developed by the International Textile and Apparel Association (ITAA) and recommendations from fashion industry experts.

Family Sciences Emphasis. Courses correspond with suggested content areas outlined by the National Council on Family Relations (NCFR). Areas include the following: internal dynamics of families, interpersonal relationships, human growth and development, families in society, parent education and guidance, family resource management, family law and public policy, and family life education. Graduates pursue opportunities in parent education, family life education, adolescent counseling, military family support, child and family service agencies.

Bachelor of Science in Child Development

Child Development. The Child Development program provides breadth and depth in the child and family sciences. It provides an excellent foundation for careers or graduate studies in social science, human services, education, child and family health, family law, counseling, or college teaching. It also provides excellent preparation to those who have, or will have, families.

Civil and Geomatics Engineering

Dr. R. Munjy, Chair
Engineering East Building, Room 178A
559.278.4828
www.fresnostate.edu/engineering/

Degrees and Programs Offered

B.S. in Civil Engineering
B.S. in Geomatics Engineering
M.S. in Civil Engineering
M.S. in Civil Engineering-Water Resources & Environmental Engineering Option

Civil Engineering

Dr. C. Choo, Program Coordinator

Civil engineering includes the research, development, planning, design, construction, and maintenance associated with urban development, water supply, structures, energy generation and transmission, water treatment and disposal, and transportation systems. The civil engineer deals with the function and safety of such public facilities as buildings, bridges, dams, pipelines, powerplants, highways, and harbors, and is concerned with the protection of the public against natural hazards of earthquakes, floods, landslides, and fires.

The graduate curriculum leading to an M.S. in Civil Engineering provides specialized training in the fields of structural engineering and applied mechanics, soil mechanics and foundation engineering, environmental engineering, water resources engineering, highway engineering, and geomatics engineering.

Mission of Civil Engineering

The mission of the Civil Engineering Program is to provide the educational environment necessary for civil engineering students to develop their personal potential to the greatest

extent possible and to enrich the students' lives in a culturally diverse environment. Civil engineering also provides the high quality education required for the students to fully develop their professional qualities and skills to serve society.

The Civil Engineering Program's Educational Objectives

- The graduates of the civil engineering program should be well-rounded to function effectively both as professional civil engineers and as responsible and informed citizens.
- The graduates of the civil engineering program should practice the profession of civil engineering proficiently with a well-balanced preparation in engineering fundamentals and practical applications in any of the following four areas of civil engineering: environmental, geotechnical, structural, or transportation.
- The graduates of the civil engineering program should use the technical tools and skills required for effective professional practice and should continue learning in their professional lives to remain abreast of new developments and advances.
- The graduates of the civil engineering program should function effectively in multicultural and multidisciplinary groups in their practice of the civil engineering profession. They should be able to communicate effectively with engineering peers, other professionals, and with the public in general.
- The graduates of the civil engineering program should practice their profession with an understanding of the social and political implications of their professional engineering work and do so guided by the ASCE Code of Ethics.

Geomatics Engineering

Dr. R. Munjy, Program Coordinator

Geomatics engineers manage the global spatial infrastructure. This effort includes real property boundary determination, digital mapping, Geographic Information Systems (GIS), Global Positioning Systems (GPS), remote sensing, photogrammetric mapping, applications programming, project management, and construction layout activities. Students use a wide selection of specialized equipment while acquiring a solid theoretical background. Integration of geomatics engineering design concepts spans a sequence of courses throughout the curriculum. Intensive design coursework during the senior year provides a culminating focus. Coursework containing design components includes the following: Computer-Aided Mapping (GME 66) first year; Route and Construction Surveying (GME 40) second year; Stereophotogrammetry (GME 123) and Digital Mapping (GME 126) third year; Subdivision Design (GME 159) and two upper-level technical design courses - Senior Project (GME 180) and Project Design (GME 181) - senior year.

Mission of Geomatics Engineering

The mission of the Geomatics Engineering Program is to provide an educational experience that enriches the lives of students. The program teaches necessary discipline related knowledge and skills to prepare students for their profession. Students learn how to protect the health and welfare of the public while expanding their base of knowledge through research and scholarship.

Educational Objectives of the Instructional Program

1. The graduates of the Geomatics Engineering (GME) program should demonstrate competency in one or more of the following GME competency areas: boundary/land surveying, photogrammetry, geodesy, GIS, and digital mapping.
2. The graduates of the GME program should demonstrate continued capacity for employment in one or more GME specialty area.
3. The graduates of the GME program shall demonstrate capacity for graduate education.
4. The graduates of the GME program shall demonstrate continued membership in professional organizations.
5. The graduates of the GME program shall demonstrate a continuing commitment to lifelong learning.
6. The graduates of the GME program shall demonstrate a continuing commitment to serving and protecting the health and welfare of the public.
7. The graduates of the GME program shall demonstrate an ability to pass professional licensing or certification examinations after achieving requisite professional experience.

Department of Communication

Douglas M. Fraleigh, Chair
Speech Arts Building, Room 15
559.278.2826
FAX: 559.278.4113
www.fresnostate.edu/communication

Degrees and Programs Offered

B.A. in Communication
M.A. in Communication
Minor in Communication

Our aim is to prepare students to understand and provide leadership in a competitive communication-oriented society. We offer a balance of humanistic and scientific instruction in communication skills people need to function effectively in teaching, business, law, nonprofit organizations, public service and administration, public relations, government, and management. Outside the workplace, these skills will also enhance students' ability to be active in civic engagement and community service.

Our program requires a comprehensive understanding of the breadth and depth of our discipline, as well as its major theoretical frameworks and research methodologies. Both the major and minor are grounded in the fundamental communication contexts including public, interpersonal, group, organizational, instructional, and intercultural communication. Additionally applied contexts in business communication, gerontology communication, technology, and leadership are available. Students investigate problems in diverse cultural settings, which make the San Joaquin Valley - with its tremendous ethnic diversity - an ideal location for study.

The Communication Skills for Professionals Certificate program recognizes development in such areas as presentational speaking, problem solving and decision making, leadership, and interpersonal communication.

Our program offers a variety of exciting activities to enrich students' educational experience. We have an active student organization, the Professional Communication Association, and a debate team that participates in competitive intercollegiate tournaments and hosts public debates on campus. Our annual Peach Blossom

Festival brings more than 5,000 elementary-age students to campus to present prose and poetry.

We offer you personalized advising. Our major builds on a sound core of foundation courses and is completed by courses selected to meet your needs and career objectives. Our major requirements are flexible and easily integrated into a host of minors.

Department of Communicative Sciences and Deaf Studies

Steven Skelton, Ph.D., Chair
5310 N. Campus Drive M/S PH 80
559-278-2423 (V)
559-278-5187 (Fax)
www.fresnostate.edu/cdds

Degrees and Programs Offered

B.A. in Communicative Disorders - Audiology Option
B.A. in Communicative Disorders - Speech Pathology Option
B.A. in Communicative Disorders - Interpreting Option
B.A. in Communicative Disorders - Deaf Education Option
B.A. in Communicative Disorders - Deaf Studies Option
CRED in Special Education Mod/Sev Disab Internship
CRED in Education Specialist Deaf & Hard of Hearing - Clear Credential
CRED in Education Specialist Deaf and Hard of Hearing - Preliminary Credential
CRED in Speech-Language Pathology Services - Preliminary, Credential
M.A. in Communicative Disorders - Deaf Education Option
M.A. in Communicative Disorders - Speech-Language Pathology Option
Minor in Communicative Disorders

Communicative Sciences and Deaf Studies

Audiology, speech-language pathology, deaf education and interpreting are concerned with many issues related to speech, hearing, and language. Professionals in these fields are devoted to providing diagnostic, rehabilitative, and educational services to children and adults with communicative challenges.

Bachelor of Arts

The Bachelor of Arts degree in Communicative Disorders provides the students with a liberal arts foundation integrated with courses designed to provide a basic understanding of speech, language, and hearing development and communicative problems. Students pursuing deaf studies have two options: deaf education and interpreting. Students majoring in deaf education and speech-language pathology can continue their options in our graduate program.

Master of Arts

Education beyond the bachelor's degree is necessary for completion of the academic, credential, and licensure requirements leading to professional employment. Two professional option areas are available to the student:

Deaf Education

Our deaf education program gives you a broad background in bilingual-bicultural education, total communication, and cued speech philosophies along with speech, language, auditory training, deaf culture, and American Sign Language. This program includes all of the essential elements of a good education for deaf and hard-of-hearing children. The program is nationally accredited by the Council of Education of the Deaf (CED).

Speech-Language Pathology

Our speech and language pathology program provides you with a broad professional background in normal speech and language develop-ment, language disorders, swallowing disorders, voice disorders, articulation disorders, and fluency disorders. The program is nationally accredited by the Council for Academic Accreditation in Audiology and Speech-Language Pathology (CAA).

The undergraduate curriculum plus a master's degree in communicative disorders prepares you for one or more of the following: state licensure as a speech-language pathologist, national certification in speech-language pathology by the American Speech-Language-Hearing Association, provisional certification in deaf education by the Council on Education of the Deaf, Levels I and II Education Specialist Credential: Deaf and Hard of Hearing, and the Speech-Language Pathology Services Credential.

Certificate in Conversational American Sign Language

A program of study leading to a Certificate in Conversational American Sign Language has become popular to many students pursuing professional fields and other majors on campus. The demand for health and human services professionals who can communicate effectively with deaf and hard-of-hearing children, youth, and adults has made sign language skills necessary.

Communicative Disorders Minor

A Minor in Communicative Disorders is also available for students in various education and health professions (nursing, health science, physical therapy, counseling, elementary and secondary education, special education, child development, linguistics, criminology, etc.) who are interested in expanding their understanding of children and adults with communicative disorders.

Facilities

As a student, you are given the opportunity to work in a well-equipped speech and hearing clinic. You can also gain practical experience in a variety of school, private practice, and hospital settings. Library facilities contain specialized collections including student access to local medical libraries. In the Anna Michelson Memorial Instructional Media Center, you have access to a wide range of therapy production materials such as films, video, clinical equipment, and professional journals.

University Speech and Hearing Clinic

The department operates an ongoing clinic that provides diagnostic, therapeutic, and counseling services to clients of all ages with a variety of different communication problems or disorders.

The clinic provides supervised clinical practice for students who are preparing to be professional speech-language pathologists and educators of deaf and hard-of-hearing children. As a valuable community resource, the clinic serves thousands of clients each year from the Fresno metropolitan area.

Department of Computer Science

Ming Li, Chair
Science II Building, Room C255
559.278.4373
www.fresnostate.edu/csm/csci

Degrees and Programs Offered

B.S. in Computer Science
Minor in Computer Science
M.S. in Computer Science

Computer science is applied reasoning using both art and science: It requires the ability to communicate ideas through a combination of language and powerful technology. It is concerned with the interaction of humans and computers, as well as the application of computers to a myriad of specialized problems.

Program Description

The goal of the Department of Computer Science is to offer programs to a diverse audience: (1) students interested primarily in computing, (2) students interested primarily in applying computing to some other field of study, and (3) students who wish to include computing as part of their general education.

Facilities

Students and faculty have access to a networked environment of UNIX workstations (Sun Microsystems and Linux systems) and microcomputer laboratories of PCs. These systems are connected to campus and international networks.

Department of Construction Management

Brad Hyatt, Chair
Engineering East Building, Room 192
559.278.6056
www.fresnostate.edu/engineering

Degrees and Programs Offered

B.S. in Construction Management
Minor in Construction Management

The Bachelor of Science in Construction Management is accredited by the American Council for Construction Education, the professional accreditation organization of the construction industry.

Students in construction management (CM) are exposed to a wide variety of topics, ranging from courses in management and administration of construction companies, projects, people, and equipment to courses focusing on specific techniques for project planning and control work improvement and estimating. The Construction Management program also provides opportunities to develop a strong background in computer applications in construction. Computer skills combined with a solid management and technical background are major assets of the construction management graduate.

Opportunities for construction management graduates are excellent. Examples of positions held by construction management graduates are project manager, construction manager, project administrator, estimator, scheduler, architectural representative, project superintendent, and construction administrator. Students should consider this challenging, satisfying, and high-paying profession.

Mission of Construction Management

The mission of the Construction Management Program is to develop character, build leaders, and sustain learning.
Educational Objectives of the Instructional Program

- Provide students with the ability to recognize and independently diagnose construction related problems accurately, develop creative alternatives, and implement practical and effective solutions.
- Provide students with the ability to plan, schedule, and control work activities; motivate and provide accurate and timely constructive alternatives; and implement practical and effective solutions.
- Provide students with the ability to apply construction related techniques, skills, and tools to construction materials as necessary for a managed construction project.
- Provide students with the ability to understand technical issues related to the fields of architecture, engineering, business and construction accounting, and finance. Work effectively and efficiently with personnel from these disciplines to properly apply related fundamentals, techniques, and procedures.
- Provide students with the ability to apply basic construction related design theory within the areas of structural, mechanical, electrical, thermodynamics, civil, and soil mechanics.

Department of Counselor Education and Rehabilitation

Sarah Lam, Chair
Education Building, Room 350
559.278.0340

Kyle Weir, Coordinator, Counselor Education
Education Building, Room 350
559.278.0169

Jenelle Pitt, Coordinator,
Rehabilitation and Mental Health Counseling
Education Building, Room 350
559.278.0304
www.fresnostate.edu/kremen/departments/cer.html

Degrees and Programs Offered

CERT in Criminology, Certificate of Adv. Study
CRED in Pupil Personnel Services - Child Welfare Counseling, Credential
CRED in Pupil Personnel Services - School Counseling Credential
CRED in Pupil Personnel Services - Social Work, Credential
CRED in Pupil Personnel Services - School Psychologist
M.A. in Education-Counseling and Student Services
M.S. in Counseling - Marriage, Family, & Child Counseling Option
M.S. in Clinical Rehabilitation and Mental Health Counseling
M.S. in Counseling - School Counseling Option
M.S. in Counseling - Student Affairs & College Counseling Option

Department Description

The Department of Counselor Education and Rehabilitation offers programs and master's degrees in the areas of Counseling and

Rehabilitation and Mental Health Counseling. The programs utilize the services and facilities of community agencies and school districts within the university service area.

Craig M.B.A. Program

Craig Graduate Programs
Tom Burns, Manager
Peters Business Building, Room 183
559.278.2107
www.fresnostate.edu/craig/grad-business

Degrees and Programs Offered

MB.A. in Business Administration, M.B.A.

The Master of Business Administration (M.B.A.) degree program is designed to provide professional education for managers of business, agriculture, education, government, and nonprofit organizations. The M.B.A. program offers elective area courses in special areas of professional practice, such as entrepreneurship, finance, general management, human resource management, international business, management information systems, and marketing. We are committed to developing one of the top applied M.B.A. Programs in the nation. As a result, your studies are complemented by numerous opportunities to solve real world business problems through internships and team consulting projects.

Department of Criminology

Emma Hughes, Chair
Science II Building, Room 159
559.278.2305
FAX: 559.278.7265
www.fresnostate.edu/criminology

Degrees and Programs Offered

B.S. in Criminology - Victimology Option
B.S. in Criminology - Corrections Option
B.S. in Criminology - Law Enforcement Option - Continuing & Global Education
B.S. in Criminology - Law Enforcement Option
B.S. in Criminology - Forensic Behavioral Sciences
CERT in Homeland Security, Certificate of Adv Study - Continuing & Global Education
Minor in Criminology
M.S. in Criminology - Continuing & Global Education
M.S. in Criminology

The Department of Criminology provides undergraduate and graduate education in criminology for students planning professional careers in the criminal justice field. The program is diversified and integrated, reflecting the wide range of job opportunities in the field, including direct service and administration in law enforcement, corrections, victimology/victim services, juvenile justice, and forensic behavioral sciences. The department offers the Bachelor of Science, Master of Science, and a minor. The department will not accept a student with a GPA less than 2.0 as an undergraduate major.

Undergraduate Program

Criminology courses at the undergraduate level include integration of theoretical and applied materials of an interdisciplinary nature. The undergraduate curriculum is designed to prepare students for beginning professional work in criminal justice and to provide preparation for graduate work.

The corrections option is designed for students interested in careers in probation, parole, correctional institutions, and other affiliated forms of work. The law enforcement option is designed for students interested in careers with federal, state, and local law enforcement agencies, or law enforcement careers within the private sector. The victimology option is designed for students interested in careers in domestic violence programs, rape counseling programs, victim/witness programs, or other victim-related programs at the local, state, or federal level; these programs can either be criminal justice based or community based. The Forensic Behavioral Sciences option prepares students interested in traditional criminal justice careers. However, it is also designed for students who are interested in the application of other behavioral sciences - such as psychology, anthropology, and linguistics - to the criminal justice system. An internship course is required in corrections, law enforcement, and victimology options.

Graduate Program

The Master of Science degree in Criminology is a 30-unit, flexible program which provides a solid core in the field of criminology while permitting students to pursue specialized areas of interest. The master's program is designed to prepare students for service and responsible administrative and professional positions in agencies in the criminal justice system. The master's program also prepares students for a wide variety of occupations including in-service education; administrative education and management; community college teaching; predoctoral studies; and research.

Off-Campus Degree Program

The department offers its B.S. via compressed video at the university satellite campuses located at College of the Sequoias in Visalia, California and West Hills College in Lemoore, California. This degree is also offered at law enforcement facilities in the city of Fresno.

Joint Center on Violence and Victim Studies

The Joint Center on Violence and Victim Studies (JCVVS), an inter-university consortium of California State University, Fresno, Washburn University, and the University of New Haven, addresses issues of violence and victimization. The Center offers professional development, consultation, education, training, and research and analysis to students and working professionals locally and nationally.

Department of Curriculum and Instruction

Jacques S. Benninga, Chair
Education Building, Room 250
559.278.0240

Carol Fry Bohlin, Coordinator for M.A. in Education - Curriculum & Instruction Option
Education Building, Room 234
559.278.0237
carolb@csufresno.edu

Website

www.fresnostate.edu/kremen/graduate/ma-education.html

Roy M. Bohlin, Coordinator for the Certificate of Advanced Study in Educational Technology (CASET)
Education Building, Room 241
559.278.0245
royb@csufresno.edu

Walter Ullrich, Coordinator for M.A. in Education - Teaching
Education Building, Room 455
559.278.0356
wullrich@csufresno.edu

Website
www.fresnostate.edu/kremen/graduate/ma-teaching.html

Degrees and Programs Offered

CERT in Educational Technology - Advanced Certificate
CRED in Elementary School Teaching Credential (Multiple Subject Credential Program)
CRED in Multiple Subject - Preliminary BAP Emphasis: Hmong, Credential
CRED in Multiple Subject - Preliminary ECE BAP Emphasis: Hmong, Credential
CRED in Multiple Subject - Preliminary BAP Emphasis: Spanish, Credential
CRED in Multiple Subject - Preliminary ECE BAP Emphasis: Spanish
M.A. in Education - Curriculum & Instruction Option
M.A. in Education - Teaching

The mission of the Department of Curriculum and Instruction is the preparation and continuing education of K-12 educators, particularly teachers. Coursework and field experiences are designed to prepare teachers who are reflective thinkers, problem solvers, and decision makers to meet the challenges of teaching in a rapidly changing world characterized by social, economic, and cultural/linguistic diversity.
Supervised field experiences along with instructional planning and evaluation techniques provide the foundation for productive and responsive teaching.

CalStateTEACH. See Teaching Elementary School CalStateTEACH for program description.

Department of Earth and Environment Sciences

Peter Van de Water, Chair
Science II Building, Room 114
559.278.3086
www.fresnostate.edu/csm/ees/

Degrees and Programs Offered

B.S. in Geology
B.S. in Environmental Sciences
CERT in Geographic Information Systems, Certificate of Adv Study - Continuing & Global Education
CRED in Single Subject Credential - Geological Science
Minor in Geology
M.S. in Geology
M.S. in Water Resource Management - Continuing & Global Education

The Department of Earth and Environmental Sciences at California State University, Fresno offers courses leading to the Bachelor of Science and Master of Science in Geology -- as well as the Bachelor of Arts in Natural Sciences and the Minor in Geology -- which are especially well-suited for primary and secondary teachers.

Coursework and research emphasize field and laboratory investigations of geologic and environmental problems. Our field orientation takes advantage of the university's proximity to the Sierra Nevadas, the California Coast Ranges, coastal California, and the desert provinces. This unique location gives faculty and students access to an unparalleled outdoor laboratory, all within short trips from the university.

The department's close relationship with state agencies and the private sector enables many students to pursue internships or part-time employment in geologic and environmental work while they complete their degrees.

The Bachelor of Science in Geology prepares students for employment in petroleum geology, mineral exploration, land-use planning, environmental assessment, hydrology, and engineering geology, or for teaching earth science or physical science at the secondary level. The Master of Science program provides a graduate degree for students who want to work in industry or government on the professional level, for students who want to teach earth science in junior college, or for students who wish to pursue further graduate study.

Our applied geology option specializes in engineering geology, hydrogeology, or exploration geology fields, which have the strongest employment potential.

The Bachelor of Science in Environmental Sciences offers an interdisciplinary approach to the natural sciences with an emphasis on biology, chemistry, and geology. This degree is designed for students interested in areas such as pollution abatement, water resources, ecosystem protection, restoration, or management.

Students may also participate in coursework and research in marine geology and oceanography offered through Moss Landing Marine Laboratories in Monterey Bay. Consult the chairs of the Earth and Environmental Sciences and Biology departments. See Moss Landing Marine Laboratories, Biology Department.

Department of Economics

Antonio Avalos, Chair
Peters Business Building, Room 385
559.278.3916
www.fresnostate.edu/economics/

Degrees and Programs Offered

B.A. in Economics
Minor in Economics
Minor in International Political Economy Minor

Economics is the social science that studies the way in which societies are organized to produce the goods and services that sustain and enhance the life processes of the community. As a fundamental scientific discipline, economics employs systematic analysis in the study of the production and distribution of income within and among nations. Since all social policy issues in modern societies have an economic dimension, the study of economics offers the student an opportunity to investigate the most important and exciting problems of political economy facing the world today.

Such topics as inflation, unemployment, business cycles, international trade and finance, and development have long been within the province of economics. More recently, the economic way of thinking has been extended to other areas. Economic theories have been used to explain crime rates, birth rates, class conflict, pollution, marriage decisions, migration, and many other topics involving human behavior.

Economics majors acquire skills in critical and analytical thinking that contribute to an individual's intellectual independence and self-confidence in the problem-solving processes. In addition, economics majors confront the necessity of developing a broad view of the options facing humankind in organizing the production and distribution of income. The literature of economics presents widely diverse systems of political economic philosophy. The department offers a well-developed and balanced curriculum.

The program in economics is designed to give the student maximum flexibility. A typical economics major might take courses in intermediate macroeconomic theory and statistics while also learning about global corporations in the third world, or the regional economy, or pursue an independent study project on the foundations of supply-side economics. The economics major is designed to permit the student to pursue a broad liberal arts undergraduate degree, integrating the study of economics with other social sciences, humanities, natural sciences, and business administration.

Education Interdepartmental Programs and Courses

Paul L. Beare, Dean
Education Building, Room 210
559.278.0210
www.fresnostate.edu/kremen

Degrees and Programs Offered

B.A. in Liberal Studies

The interdepartmental programs include the Master of Arts program in Education Curriculum and Instruction and the Victim
Services Certificate of Special Study Program. See Kremen School of Education and Human Development Programs.
Educational Leadership

Department of Educational Leadership

Linda Hauser, Chair
Education Building, Room 350
559.278.0350
www.fresnostate.edu/era

Dr. Linda Hauser, Program Coordinator for M.A. in Education Option: Educational Leadership and Administration
Education Building, Room 350
559.278.0350

Dr. Susana Hernandez, Facilitator for Higher Education, Administration, and Leadership Pathway
Education Building, Room 365
559.278.0320

Degrees and Programs Offered

CRED in Administrative Services - Preliminary Credential
CRED in Admin Serv Cert of Eligibility
CRED in Administrative Services - Internship Credential
M.A. in Education - Educational Leadership & Administration Option

Program Description

The Department of Educational Leadership offers a Master of Arts degree in Education (MAE) with an option in Educational Leadership and Administration. Students may pursue one of two distinct pathways towards P-12 leadership or Higher Education, Administration, and Leadership.
Note: Students in the P-12 leadership pathway complete a program of study leading to the Master of Arts degree in Education and a Preliminary Administrative Services Credential.

Educational Leadership Doctoral Program

Doctoral Program in Educational Leadership (Ed.D.)
Kenneth Magdaleno, Director
Education Building, Room 310
559.278.0427
FAX: 559.278.0457
www.fresnostate.edu/dpelfs/

Degrees and Programs Offered

Educational Leadership PK-12, Ed.D.
Educational Leadership CC, Ed.D.
Doctor of Educational Leadership P-12-CI, ED.D.
Doctor of Educational Leadership CC-CI, ED.D.
The purpose of the Doctoral Program in Educational Leadership is to enhance the talents and skills of individuals who plan to devote their lives to the implementation of educational practices informed by research. Offered by California State University, Fresno, the Ed.D. program provides students with a broad view of educational problems and a strong background in social science theory. In addition, the program prepares students to conduct and interpret inquiries on which sound educational policy and practice can be anchored.
Students in the program benefit from the teaching and research expertise of established scholars and practitioners. The faculty hail from a number of academic disciplines: educational administration, education, anthropology, sociology, business, psychology, linguistics, and economics as well as from surrounding school districts.
All courses are taught in Fresno and are held during the late afternoons, evenings, and/or the weekends to accommodate full-time working professionals.

Department of Electrical and Computer Engineering

Reza Raeisi, Chair
East Engineering Building, Room 254A
559.278.6038
www.fresnostate.edu/engineering/elec-computer/

Degrees and Programs Offered

B.S. in Electrical Engineering
B.S. in Computer Engineering
Minor in Electrical Engineering
Minor in Computer Engineering
M.S. in Engineering - Electrical Engineering Option

M.S. in Engineering - Computer Engineering Option

The Electrical Engineering Program is accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology (ABET).

Electrical engineers design and develop electronic circuits, equipment and systems in the areas of electromagnetics (antennas; radar, radio, and television systems), communications (telephone systems, satellite communications; laser and optical fiber communications; aircraft and missile guidance systems), computers and digital systems (computers, microprocessors, and microcomputers; artificial intelligence), physical electronics and optics (transistors; integrated circuits; optical display devices; lasers; optical fibers), power systems and energy conversion (electric power generation; analysis and synthesis of power transmission and distribution protection systems design; on-line power control protection systems design), and control systems (computer control, robotics, automated manufacturing, intelligent sensors). Hands-on experiences are emphasized and gained through laboratory work and design projects.

Computer Engineering

The Computer Engineering Program is accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology (ABET). Computer engineering is a discipline which allows the student to obtain expertise in the design, programming, and applications of computers. It prepares the graduate for professional practice or graduate studies. The program combines the following:

a. A strong emphasis on electrical engineering (primarily electronic circuits and systems)
b. A broad basis in mathematics, physical science, and general engineering
c. Fundamentals of computer science including programming methodology, software engineering, and operating systems
d. Introductory and advanced concepts in the design of computers and computer systems

A rich set of technical area courses is available to allow students to broaden their knowledge within any of several computer engineering areas.

Mission and Educational Objectives

The mission of the Department of Electrical and Computer Engineering is to fulfill the needs of the region and state by providing an undergraduate and graduate technical education in electrical engineering and computer engineering to a diverse group of students. Additionally, the department strives to continually update its rigorous programs of study in order to qualify its graduates for positions in industry located in the region and beyond while providing sufficient programmatic breadth and depth to assure a successful practice in the profession. Furthermore, students are grounded in the rigorous scientific and theoretical foundations of the discipline, in order not only to enable graduates to enter and be successful in any advanced level educational program of their choosing, but also to be able to build upon this strong foundation and extend it to new depths.

The Electrical and Computer Engineering programs award degrees to students who within three to five years of graduation, through work experience and/or graduate education in the engineering field, will be expected to have gown technically and be productive in their respective workplaces, to be capable of addressing technical problems of increasing complexity, to communicate and function effectively in an interdisciplinary team environment at a level commensurate with their career development, and to demonstrate ability for independent learning and continued professional as well as ethical development.

The mission of the department complements and is enhanced by a graduate program leading to the M.S. in Engineering. For more information, see Master of Science in Engineering Program.

The faculty members possess depth and breadth in their specialty areas and are active in bringing these experiences and skills to the classroom. The identifiable strengths of the academic program are the laboratory and hands-on experience for students, the proper attention given to the scientific and mathematical foundation of electrical engineering and computer engineering, and the rigor of upper-division courses coupled with design and culminating senior projects. The technical and liberal arts components of the curriculum provide the students with the opportunity for gaining self-development, technical competence, and awareness of economic and ethical responsibilities. The technical curriculum includes (l) basic engineering science, (2) core electrical and computer engineering subjects, and (3) a junior-/senior-level choice for more depth in communications and analog systems, power systems and controls, or digital systems and computers.

The department requires mandatory advising to help students make sound academic decisions.

Organizations

Student chapters of the Institute of Electrical and Electronic Engineers (IEEE) and Eta Kappa Nu (the national honor society for electrical engineers) are active in the department. The Lyles College of Engineering, in addition, has chapters of Tau Beta Pi, the Society of Women Engineers, the Society of Hispanic Engineers, and the National Society of Black Engineers.

Co-op Program

The department participates in the Valley Industry Partnership Program which allows students to integrate planned industrial experiences into their academic programs. Students interested in this program should contact the chair of the Department of Electrical and Computer Engineering and the college's co-op coordinator.

Mandatory Advising

Students must complete mandatory advising with a faculty member at least once during each academic year. Students who fail to do so by the established deadline (usually around the end of April) will be prevented from participating in the STAR registration process prior to the start of classes.

Department of English

Lisa Weston, Chair
Peters Business Building, Room 382
559.278.2553
FAX: 559.278.7143
www.fresnostate.edu/english/

Degrees and Programs Offered

B.A. in English - English Major Option
B.A. in English - English Education Option
CERT in Composition, Certificate of Adv. Study

CRED in Single Subject Credential - English
M.A. in English - Literature Option
M.A. in English-Literature & Composition Theory Option
M.A. in English-Rhetoric and Writing Studies Option
MFA in Creative Writing, M.F.A.
Minor in English
Minor in Creative Writing

English is a general major or minor designed to give proficiency in skills that traditionally have been among the most highly prized by society: an ability to read with comprehension and critical judgment; to communicate accurately and clearly both orally and in writing; to grasp difficult ideas and think logically; to do research and organize materials; to make ethical and moral judgments from an historical and humanistic framework; and to appreciate literature and the arts.

The core of the English major consists of four basic kinds of courses in the upper division: literary history courses, literary genre courses, literacy seminars, and writing courses. The masterpiece courses apply to the minor and may meet General Education requirements. The department also offers courses in mythology and folklore, methods of research, film, and women's studies.

The Subject Matter Program for teaching credential candidates contains a number of specific prerequisites and special required courses, some of which are outside the Department of English. For specific program requirements, consult with the credential adviser each semester.

Please note: The Composition Theory Option has been suspended as of May 2015.

Department of Finance and Business Law

K. C. Chen, Chair
Peters Business Building, Room 285
559.278.2341
FAX: 559.278.4911
www.fresnostate.edu/craig/depts-programs/fbl

Degrees and Programs Offered

B.S. in Business Administration - Finance Option
B.S. in Business Administration - International Business Option
B.S. in Business Administration - Real Estate & Urban Land Economics Option
B.S. in Business Administration - Accelerated Option - Continuing & Global Education
CRED in Single Subject Credential - Business Preliminary

The Department of Finance and Business Law offers three options (areas of emphasis) within the Bachelor of Science in the Business Administration degree program.

The **Finance Option** stresses the financial structure of businesses through a common set of courses and specialized courses directed at various applications. It is designed to provide students with the basic skills required to plan, supervise, and control the financial activities of business organizations. These include understanding the trade-off between risk and return, the time value of money, and the magnifying effect of leverage. Students also gain the skills related to evaluating the financial needs of a business, obtaining the funds required by the firm, and using these funds in such a way that the company's goals are met.

Career opportunities in finance include, but are not limited to, the following: (1) corporate finance - financial analyst, financial planning, project finance; (2) portfolio management - security analyst, stock broker, investment banker, portfolio manager; and (3) banking and financial institutions - commercial and residential loan officers, trust officer, marketing officer.

The **International Business Option** introduces students to the fastest growing part of business today. The information and communications revolution - and declining travel costs - have made all businesses aware of global markets. The option stresses the role of global communications and the growth of entrepreneurial opportunities in worldwide markets, with special attention to California and the markets of the Pacific Rim.

The **Real Estate and Urban Land Economics Option** provides the background for a wide range of career opportunities in addition to residential and commercial real estate sales. These areas include development, lending, banking, appraising, escrow, property management, and construction. Usually students who enroll in the real estate option will complete all courses necessary to take the California Brokers License Examination.

Department of Food Science and Nutrition

Steven Pao, Chair
Family and Food Sciences Building,
Room 111, M/S FF17
559.278.2164
www.fresnostate.edu/jcast/fsn/

Degrees and Programs Offered

B.S. in Food & Nutritional Sciences - Dietetics & Food Administration Option
B.S. in Food & Nutritional Sciences - Food Science Option
B.S. in Food & Nutritional Sciences - Culinology Option
CERT in Dietetics, Certificate of Adv. Study
Minor in Food & Nutritional Sciences

Join the leader in science, technology, and management. Students majoring within the Department of Food Science and Nutrition are prepared for a wide range of professions in the food industry — the largest single industry in the United States. California State University, Fresno is centered in the greatest food production and processing area in the world.

Some of the largest and best dairy and food companies cooperate with the university to provide students with a view of commercial realities in this industry. There is strong demand for dietitians and nutritionists by the health care and food service industries.

Instructional Facilities

The department facilities include the Dairy Processing Plant, Food Processing Research Laboratory, the Food Preparation and Product Development Laboratories, Food Science Analytical Laboratory, Food Sensory Laboratory, and the Computer Laboratory. These facilities are used by students and faculty to provide a practical education founded on science and technology.

Department of Geography and City and Regional Planning

Segun O. Ogunjemiyo, Chair
Science Building, Room 182
559.278.2797

www.fresnostate.edu/socialsciences/geography

Degrees and Programs Offered

B.A. in Geography
B.A. in Geography - City and Regional Planning Option
CERT in Community and Regional Planning, Certificate of Adv Study - Continuing & Global Education
Minor in Geography
Minor in Meteorology
Minor in Urban Studies

The world of the 21st century is a place where there are very complex interactions between an increasingly fragile environment and the people who make up the many varied and diverse cultures on it. Geographers are uniquely trained to "see the big picture" so that they can more fully understand these complex interactions of the environment and the many cultures of humankind.

The Geography Department offers a Bachelor of Arts degree in geography, a minor in geography, a minor in meteorology, and an interdisciplinary minor in urban studies. The geography course offerings support undergraduate preparation for careers in environmental study, teaching, weather, regional and urban planning, and preparation for graduate work.

Central to geographic inquiry is a concern with the human occupancy of the earth, the character of the human environment, and the interrelationships that link humans and the physical world. In sum, geography seeks to provide a broad understanding of the world, its people, and its problems. Geography seeks to provide applied specializations and technical skills that can address economic, social, and environmental problems at scales that range from local to global by employing a spatial framework for organizational purposes analogous to the chronological framework employed in history.

Geography integrates much information from the natural and social sciences and because of the diversity of subject matter from which it obtains data, offers a broad, liberal education applicable to many fields of employment.

The department offers a variety of courses that allow students to address different objectives. First, we provide, for both majors and non-majors alike, a greater understanding of the world as an element of a liberal education which has become an increasingly important component of a complete university education. Second, we provide courses that assure a depth of knowledge in subject matter and technique for majors and minors in geography. Third, we serve those students in related disciplines who wish to strengthen programs of study through a selection of courses in geography.

Although there are no options in the degree program, students may select courses that focus on various areas of study.

Examples of such focused study areas could include the following:

- **Geographic Studies**: Coursework for the student interested in the world and its spatial patterns. Traditional study which may lead to graduate work and a career in higher education, or with local, state, and federal agencies utilizing geographic analysis, including the use of geographic information systems (GIS).
- **Environmental Studies**: Coursework to develop competence in environmental techniques with particular emphasis on such topics as meteorology, pollution, environmental impact analysis, geographic information systems (GIS), and human-environment relationships may lead to graduate work in geography, or employment in various state and federal agencies dealing with environmental problems.
- **Urban and Regional Planning**: Coursework for the student interested in the study of how to create communities that balance new development and essential services, environmental protection and innovative change and which may lead to graduate work and a career with local or state agencies. Courses could cover a wide range of subjects including planning, environmental studies, legal issues, and geographic information systems (GIS).

Students must regularly consult with their academic adviser. Such consultation will facilitate course selection and enable the student to develop a program consistent with individual interests and needs.

Facilities

A laboratory facility is available for student use. The Urban Planning and Environmental Research Laboratory is a 32-station, state-of-the-art, computer laboratory used for instruction and research in urban planning, geographic information systems (GIS), environmental studies, remote sensing, and a variety of other applications.

Gerontology Program

Helen Miltiades, Director
Professional and Human Services, Room 107A
559.278.7253
www.fresnostate.edu/chhs/social-work/degrees-programs/gerontology/

Degrees and Programs Offered

Minor in Gerontology

Gerontology is the study of aging. Our nation's steadily increasing older population is creating a unique demand for well educated individuals to serve as competent professionals in the field of aging.

The Gerontology Program offers a minor and a certificate in gerontology, both designed to prepare students to address unmet and urgent needs of elders. Special majors can also be arranged for the student. The Gerontology Program attracts undergraduate students from all academic areas, reentry students, graduate students within social science and health professions, service providers, and elders seeking greater understanding of this stage of life.

Courses are designed to present comprehensive biological, psychological, cultural and sociological theories related to the lifelong aging process. The influence of heritage, culture, and creativity are emphasized, as are services and resources; housing and environment; disabilities and rehabilitation; federal, state, and local agencies; and social polices and programs for elders. Students have the opportunity to develop empathy for older adults as they communicate and interact with elders through community service, internships, and service learning.

Department of History

Ethan Kytle, Interim Chair
Social Science Building, Room 101
559.278.2153
www.fresnostate.edu/socialsciences/historydept/

Degrees and Programs Offered

B.A. in History
CERT in American History, Certificate of Adv. Study
M.A. in History
M.A. in History - Teaching Option
Minor in History

History

History is the study of humanity's recorded past. It encompasses all aspects of human behavior, social organization, and cultural development. The arts and the sciences, the development of technology, and changing economic forces are as much a part of history as is politics or social conflict.

Students of history are engaged in a journey through time in which they can witness and compare the development of a variety of cultures and the interrelations between people in many different circumstances. Through the study of past events, history provides a great storehouse of experience by which the theories of the other social sciences can be tested. And through its analysis of the development of institutions and cultures, it provides one of our best tools for understanding social phenomena.

History is also one of the broadest and most universal of the humanities. Just as the personalities of individuals are shaped through the totality of their past experiences, so cultures and institutions also develop in time. The study of history can help students understand themselves and their culture better and develop a more tolerant and humane spirit toward others. In this way, as in so many others, a knowledge of the past can help all of us meet the problems of today with greater understanding and compassion.

Program

The History Department offers a major and minor in history for the Bachelor of Arts degree, a graduate program leading to the Master of Arts, and courses for use in the teaching credential program. It participates in the interdisciplinary programs and minors in Armenian studies, Asian studies, classical studies, Latin American studies, Russian area studies, and women's studies. History courses may also be used as electives toward graduation in most other majors, and the History Department encourages students to take minors and second majors in other fields as well.

The History Department is a chartered member of Phi Alpha Theta National History Honor Society. Our chapter is Alpha Kappa Beta.

Humanities

College of Arts and Humanities
Kristi Eastin, Coordinator
Music Building, Room 186A
559.278.3056
www.fresnostate.edu/artshum

Degrees and Programs Offered

Minor in Humanities Interdisciplinary Minor

Application Criteria

Students with a 3.5 cumulative GPA in the last 60 units are eligible to apply. Application for the Honors Program includes the following: a current copy of transcript, a written personal statement, a substantial sample of the student's writing and/or creative work, and a letter of recommendation/nomination from a Fresno State faculty member willing to serve as mentor/adviser to the student for the honors thesis/project. The student must successfully complete and earn a grade of A in the Arts and Humanities Honors Seminar (AH 100H) to continue in the program.

Applications are accepted in September for the following spring semester.

Department of Industrial Technology

Dr. Athanasios Alexandrou, Chair
Industrial Technology Building, Room 212, M/S IT 9
Phone: 559.278.2145
FAX: 559.278.5081
www.fresnostate.edu/jcast/indtech

Degrees and Programs Offered

B.S. in Industrial Technology
B.S. in Industrial Technology - Agricultural Systems Management Option
Minor in Industrial Technology
Minor in Precision Agriculture Technology Minor
M.S. in Industrial Technology

The Industrial Technology program at California State University, Fresno is geared towards preparing students for managerial and leadership roles in the industry. The program equips students with the necessary skills to use and manage state-of-the-art technologies in the fields of agricultural information systems, manufacturing, processing and packaging, quality systems and transportation. A blend of lectures, online instruction and hands-on lab activities together with engaged faculty and staff provides students with an environment that nurtures critical thinking and encourages innovation. The undergraduate curriculum includes technical concentrations in the areas of automotive technologies, food processing, and packaging, manufacturing quality and spatial technology which build on the strong foundations of our technology and management core courses.

The major focus of IT is to prepare individuals for technical and industrial management positions. Examples of positions held by IT graduates include plant engineer, fleet service representative, manufacturing engineer, operations supervisor, production planning analyst, production scheduling coordinator, and quality systems supervisor.

Average salaries for Fresno State IT graduates are commensurate with those offered to business managers and engineers in the Central Valley as well as in the greater Bay Area and Los Angeles areas. IT graduates typically enjoy career growth in both management and technological pathways.

The program also provides students the opportunity to interact with industry professionals and practitioners through activities organized by various professional societies such as the American Society of Automotive Engineers (SAE); American Society of Quality (ASQ); Association of Technology, Management, and Applied Engineering (ATMAE); American Society of Agricultural and Biological Engineers (ASABE); and Institute of Food Technologists (IFT). Major student clubs are Advanced Technology Enterprises (ATE); Epsilon Pi Tau (EPT); and American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE). Through participation in one or more of these groups, students learn more about their profession and interact with working professionals in their field. Internships are also available to provide on-the-job experience to interested students.

The Master of Science in Industrial Technology program offers an individually tailored program with a blend of theory and practice that provides an enriching learning experience and prepares tomorrow's professionals for exciting and rewarding careers. The graduate program includes a set of core courses and electives besides a culminating experience in the form of a project or thesis.

Mission Statement

The mission of the department is to prepare individuals for technical and management careers in business, industry, agriculture, and government for the improvement of regional and global economy.

Instructional Facilities

The Industrial Technology Department continues to receive equipment and financial support from a number of California-based industries. Facilities supported include the computer-aided design (CAD) lab, digital and analog electronics lab, hydraulics lab, process control/programmable logic controller lab, materials and fuels testing lab, robotics/computer numerical control (CNC)/computer integrated manufacturing (CIM) lab, motors and controls lab, and computer network lab.

Department of Information Systems and Decision Sciences

Donald N. Stengel, Chair
Peters Business Building, Room 287
559.278.2823
FAX: 559.278.5648
www.fresnostate.edu/craig/depts-programs/isds

Degrees and Programs Offered

B.S. in Business Administration - Computer Information Systems Option

The Option

The Department of Information Systems and Decision Sciences employs full-time and part-time faculty with extensive expertise in statistics, systems analysis and design, computer programing, networking, telecommunications, geographic information systems, business communication, database systems, expert systems and Web page design. These faculty come from all over the world and have Ph.D. degrees from major American and foreign universities.

Computer and information systems are at the forefront of most courses offered in the department. Every course deals with the development and use of information technology (IT) by managers in support of their decision-making roles. Those interested in specializing in the Information Systems (IS) option can choose from a broad set of courses designed to prepare them for challenging, productive, and well-paying jobs in one of the fastest growing career paths. The IS graduate is qualified for literally hundreds of different jobs being performed by IT professionals. Graduates of this department have found successful employment at prestigious firms such as Andersen Consulting, Hewlett-Packard, Siemens, and Gallo.

The Computer Information Systems Option provides students with the knowledge, skills, and modern tools in the area of IT. Students will learn about the strategic role of IS in business decision making. They will also learn how to design systems to solve management problems in all functional areas of business. Included in the curriculum are courses in data communication, network administration, database systems, geographic information systems, end-user computing, expert systems, Web page design, programming, and systems analysis and design.

Statistical and Computer Laboratories

Students who study in the Information Systems and Decision Sciences Department receive classroom instruction, listen to guest speakers, and enjoy field trips. They are also exposed to modern computer laboratories for the quantitative, computer, and business communication classes throughout the semester. The computer laboratories provide the student with the valuable opportunity of hands-on computer experience for such classes as computer programming and statistical analysis.

Department of Kinesiology

Scott Sailor, Chair
South Gym, Room 112
559.278.2016
www.fresnostate.edu/kinesiology

Degrees and Programs Offered

B.S. in Kinesiology - Exercise Science Option
B.S. in Kinesiology - Physical Education Option
B.S. in Athletic Training
B.S. in Kinesiology - Physical Education Blended Option
B.S. in Kinesiology - Sport Administration
CRED in Single Subject Credential - Physical Education
M.A. in Kinesiology - Exercise Science Option
M.A. in Kinesiology - Sport Psychology Option
M.A. in Kinesiology
M.A. in Kinesiology - Sport Administration Option
Minor in Sports Coaching
PREB in Pre-Athletic Training

The term kinesiology means "the study of movement," and the academic discipline of kinesiology comprises the subdisciplines of exercise physiology, biomechanics, sport and exercise psychology, athletic training and sports medicine, sports administration, physical education, and fitness and health promotion. The overall objective of the programs in kinesiology is to improve the lives of students by providing insight, education, and practical experience in exercise, sport, and physical activity. Programs in kinesiology open doors to relevant and rewarding professional careers.

The Department of Kinesiology is composed of a cohesive, creative, and dynamic group of well-educated faculty with a wealth of practical and professional experience. Students are engaged in educational and clinical research programs and practical experiences which incorporate leading-edge technology and best practices. The curriculum and associated instruction provide a solid foundation for future learning and professional growth. The program incorporates many opportunities for professional certification through prestigious national organizations and governing bodies. Students become experts in exercise, fitness, performance, and wellness.

The **Athletic Training Major** is designed for students with professional goals in athletic training. The program is accredited by the Commission on Accreditation of Athletic Training Education (CAATE). Students completing the program may be eligible to sit for the Board of Certification exam to become a Certified Athletic Trainer (ATC). The program has high academic and performance

standards that include completion of a three-year competency-based clinical education program. California residents are given preference over out-of-state and international students in this and other impacted programs.

The **Exercise Science Option** provides a comprehensive foundation in the biological, physical, and technological sciences which fully prepares students for graduate study and professional careers in fitness, wellness, health promotion, human performance, and preventive and rehabilitative sciences. Flexible and personalized educational and career development strategies are hallmarks of this program. Exercise science faculty provide instruction and advising that is based upon extensive practical and professional experience.

The **Physical Education Teacher Education (PETE) Option** offers National and State standards-based curricular emphasis in physical education pedagogy, movement development and analysis, teaching strategies, and application of physical activities designed for students with professional goals to teach physical education. The PETE program is a blended program that allows teacher candidates to complete specified unit requirements in General Education, the Physical Education Option, and a Single Subject Credential in four years. Upon completion of the PETE program, teacher candidates will have access to teaching careers in the K-12 school setting. The PETE program is an accredited, blended program that adheres to the standards outlined by the California Commission on Teacher Credentialing (CCTC) and National Association for Sport and Physical Education (NASPE).

The undergraduate **Sport Administration Option** prepares students for entry level careers in the sport industry and graduate studies in Sport Administration. Students learn a combination of skills related to sport and undergo a strategic career analysis, evaluate their marketability within the sport industry, learn how to differentiate themselves from the competition, network with leading sport personnel and organizations, and develop a career plan and resume -- all while gaining essential hands-on sport industry experience.

Obtaining a **Master of Arts** is a very effective strategy for career advancement. At the master's level, the Department of Kinesiology offers options in Exercise Science, Sports Administration, and Sport Psychology, and curricular emphases in physical education. There are 12 graduate faculty members in the department. The exercise science and sport psychology labs are fully equipped with research-standard technology. Graduates of this program have achieved remarkable success in professional careers as well as in doctoral programs in prestigious universities.

A degree in kinesiology can lead to very bright career prospects in health care, sports and athletics, education, and other professional avocations.

Activity Classes

The activity program is dynamic, diverse, rewarding, and fun. The focus is on quality experiences in fitness, skill, and personal development. Activity courses are offered in aquatics, dance, individual activities, and team sports. These courses are open to all students, and as many as 8 units of activity classes can be counted toward graduation (12 units for kinesiology majors).

Facilities

The facilities include a gymnasium; 12 tennis courts; a mat/gymnastics facility; a weight/cardio room; two multipurpose/dance rooms; an all-weather track; multi-purpose fields for softball, soccer, football, ultimate Frisbee, and golf; a putting green and associated sand bunkers; a swimming complex; and outdoor basketball courts. Modern, well-equipped instructional and research labs in exercise physiology, biomechanics, sports and exercise psychology, and athletic training are central components of the department.

Department of Linguistics

Brian Agbayani, Chair
Peters Business Building, Room 383
559.278.2441
www.fresnostate.edu/linguistics

Degrees and Programs Offered

B.A. in Linguistics - Teaching English as a Second Language Option
B.A. in Linguistics - Computational Linguistics Option
B.A. in Linguistics - General Linguistics Option
B.A. in Linguistics - Interdisciplinary Language Studies Option
B.S. in Cognitive Science
CERT in TESOL, Certificate of Adv. Study
M.A. in Linguistics
M.A. in Linguistics - Teaching English as a Second Language Option
Minor in Linguistics
Minor in Computational Linguistics
Minor in Chinese
Minor in Hmong
Minor in Teaching English As A Second Language
Minor in Cognitive Science
Minor in Japanese

Language is an essential part of our life. Nothing characterizes humanity more than the ability to use language. Linguists analyze sounds, words, sentences, and texts. Linguists also make valuable contributions to practical fields such as K-12 teaching, second and foreign language teaching, language planning, translation, computer science, forensic linguistics, and language disorders.

Computational applications of linguistics, such as speech synthesis, speech recognition, and machine-assisted translation, have also become increasingly important.

Our undergraduate and graduate programs develop intellectual skills that are essential to professional careers or advanced degrees. Our courses provide analytical tools that can be applied to virtually any subject. They also help enhance critical thinking, satisfy broad intellectual interest, and enrich personal knowledge.

Our majors can be applied directly to various professional fields. They also serve as excellent preparation for pursuing advanced degrees in linguistics and other fields such as English, anthropology, psychology, sociology, computer science, and foreign languages. TESL is an important part of our program and especially compatible with degrees in education and liberal studies. A Japanese minor can be profitably combined with majors in such areas as business, international relations, linguistics, and literature.

Minors in Chinese and Japanese are also available for students with plans to pursue careers in various areas, such as international business, marketing, economics, art and literature, etc., where a knowledge of language and culture would be useful.

The B.A. Option in Computational Linguistics is for those students interested in text processing, forensic linguistics, software design, machine translation, and other professions dealing with the interface between computers and humans.

Facilities

The Department of Linguistics has a computer lab for computer-assisted language learning (CALL), for language study, for the analysis of speech sounds, and for displaying the operation of the organs of speech. Computers are used for simulating speech and for mapping the geographical extent of language features, as well as for storing the data needed for the making of grammars and dictionaries. The Linguistics Department provides practical classroom teaching experience for qualified TESL students through employment in the American English Institute. For more, see American English Institute in the Special Programs section of this catalog. Also associated with the Linguistics Department is the Forensic Linguistics Institute (FLI). The FLI provides analyses in linguistic stylistics to extramural clients, thereby giving Fresno State linguistics majors opportunities for work, study, and research.

Department of Literacy, Early, Bilingual, and Special Education

Laura Alamillo, Chair
Education Building, Room 250
559.278.0250
www.fresnostate.edu/kremen/departments/lebse.html

Degrees and Programs Offered

CRED in Reading/Language Arts - Specialist Credential
CRED in Reading/Language Arts - Advanced Certificate
CRED in Early Childhood - Specialist Credential
CRED in Education Specialist Mild/Moderate - Clear Credential
CRED in Education Specialist Mild/Moderate - Internship Credential
CRED in Education Specialist Mild/Moderate - Preliminary Credential
CRED in Education Specialist Moderate/Severe - Clear Credential
CRED in Education Specialist Moderate/Severe - Internship Credential
CRED in Education Specialist Moderate/Severe - Preliminary Credential
CRED in Multiple Subject - Preliminary - Early Chilhood Emphasis, Credential
M.A. in Education - Reading/Language Arts Option
M.A. in Education - Early Childhood Education Option
M.A. in Special Education
M.A. in Education - Multilingual & Multicultural Education Option
Minor in Urban Civic Education

The mission of the Department of Literacy, Early, Bilingual, and Special Education is to prepare knowledgeable and professionally competent teachers and curriculum leaders in the areas of early childhood education (K-3), bilingual/cross-cultural education (K-12), and reading/language arts (K-12) in both public and private educational settings.

Department of Management

Jim Schmidtke, Chair
Peters Business Building, Room 289
559.278.2851
FAX: 559.278.4911
www.fresnostate.edu/craig/depts-programs/mgt

Degrees and Programs Offered

B.S. in Business Administration - Human Resource Management Option
B.S. in Business Administration - Management Option
B.S. in Business Administration - Entrepreneurship Option
Minor in General Business
Minor in Entrepreneurship

The Department of Management offers three options within the Bachelor of Science in the Business Administration degree program: (1) Entrepreneurship, (2) Human Resource Management, and (3) Management.

The **Entrepreneurship Option** offers students a comprehensive academic experience in entrepreneurship that starts with the classroom and links to the community. It integrates core business concepts around the formation, start-up, and growth of an entrepreneurial firm. By taking a select group of entrepreneurship courses, the students learn how to launch their own business idea.

Students can facilitate their learning experience through active involvement in the Lyles Center for Innovation and Entrepreneurship, Craig School's Small Business Institute, and the Institute for Family Business.

The **Human Resource Management (HRM) Option** is one of only 57 programs nationally -- and the only program in the California State University system -- that has been certified by the Association of University and College Industrial Relations and Human Resource programs. The HRM Option has consistently ranked in the top five programs nationally. This ranking is based on the number of students who pass the Professional in Human Resource exam given by the Society of Human Resource Management.

HRM students explore how organizations can best utilize their most important resource - their employees. Among the issues discussed are how to recruit and select the best employees, how to determine fair compensation, how to use benefit and performance appraisal systems that reward high performance, how to comply with federal and state employment laws, and how to negotiate and resolve employment disputes. The courses offered are intended to help those interested in creating a work environment that promotes teamwork and encourages employee excellence.

The **Management Option** develops skills, knowledge, attitudes, and abilities necessary for effective leadership in a wide variety of organizations. Graduates are prepared for entry-level leadership positions in today's rapidly-changing workplace through a dynamic curriculum combining theory, skill development, and practical experience, including internships in the student's area of interest. Courses develop those leadership abilities demanded by employers that include written, oral, analytical, and people skills. The option also provides a strong foundation for the M.B.A. Students may choose one of the following three tracks:

Organizational Leadership - Courses in this track prepare students for positions as project leaders, team leaders, and business managers. Courses emphasize leadership issues such as self-di-

rected work teams, performance improvement, negotiating, vision and goal setting, and change management.

Production/Logistics Management (PLM) - This track provides students with a foundation for a variety of management career opportunities in manufacturing and distribution. With total quality management as a common basis, the PLM curriculum combines the two integrated disciplines of production/operations (transformation of resources into high quality products and services) and logistics (management of supply and distribution activities). Emphasis is placed on complementing the student's knowledge of PLM subject matter with hands-on, industrial experience gained through internship programs with local firms.

Special Management Applications - This track is designed for Management Option students who have a professional interest in a particular industry chosen by the student (agriculture, fashion merchandising, health science, industrial technology, recreation, theater, etc.) Students take business and organizational leadership courses and then, with approval of the department chair, select courses in their specific areas of interest.

Department of Marketing and Logistics

Susan Geringer, Chair
Peters Business Building, Room 388
559.278.7830
FAX: 559.278.8577
www.fresnostate.edu/craig/depts-programs/mktg/

Degrees and Programs Offered

B.S. in Business Administration - Marketing Option
B.S. in Business Administration - Logistics & Supply Chain Strategies Option
B.S. in Business Administration - Sports Marketing Option

Marketing and Logistics

The Department of Marketing and Logistics offers three options within the Bachelor of Science in the Business Administration degree program: (1) Marketing, (2) Logistics and Supply Chain Strategies, and (3) Sports Marketing. In addition, four certificates are offered: the Certificate in Marketing, the Certificate in Logistics and Supply Chain Strategies, the Certificate in Sports Marketing, and the Certificate in Mass Communications and Journalism. The mission of the department is: "While maintaining the AACSB accreditation, become a preeminent department of applied marketing. Create alliances with the local business community to give our students 'real world' experiential learning in order to successfully compete with all major universities in California." Emphasis is on excellent teaching through practical application and the integration of cutting-edge technology. The department is dedicated to providing students with opportunities for personal growth and professional development in a continually improving educational environment.

The Marketing Option

Marketing is the process by which organizations define and select target markets, design products and services, set prices, determine distribution channels, develop promotions, and design after-sale customer service. When all of these elements are correctly mixed, the firm is able to build long term relationships with its customers. Building on marketing theories and concepts, marketing students study the basics of marketing information systems. They also learn about exchanging relationships, personal communication, market segmentation, positioning strategies, Internet marketing, and marketing strategic planning. In addition, students can explore special interest areas such as promotion, retailing, international marketing, services marketing, logistics and supply chain strategies, sales management, distribution management, buyer behavior, and sports marketing. Particular emphasis is placed on marketing applications through experiential learning projects, service-learning experiences, hands-on projects with local companies, and semester long internships. Marketing is an exciting, fast-paced, dynamic field that offers career opportunities in e-marketing, marketing research, product design, retail and wholesale management, distribution, sales, sales management, purchasing, advertising and public relations, and marketing management. These exciting careers stimulate personal growth, challenge your creativity and imagination, and appeal to a variety of interests.

The Logistics and Supply Chain Strategies Option

Logistics is associated with the movement, storage, and handling of materials and finished products. The option will also take into consideration the movement of agricultural commodities, fresh and processed foods, and managerial and safety issues pertinent to transportation and storage of agricultural commodities. Logistics includes all of the activities focused on efficiently moving goods to the right place at the right time. Logistics has come to be regarded as a key determinant of business competitiveness. Companies are substantially improving their competitiveness and productivity by overhauling their internal logistics and by more effectively managing their external links with suppliers and customers. The aim is to learn how to optimize the distribution of freight and freight-flow information from manufacturer to consumer, using advanced information systems and expertise to reduce inventories, cut transportation costs, speed delivery, and improve customer services. The current and long-term projected demand for logistics managers at all levels is very high. Currently logistics is the second largest employment sector in the United States. Logistics management offers everything that is expected in an ideal career including better than average salaries and advancement opportunities. The type of organizations that employ logistics managers include manufacturing firms, wholesalers, distributors, service institutions, and transportations firms.

Sports Marketing Option

California boasts the largest number of sports organizations in the entire U.S. In California's Central Valley alone, semi-professional or professional teams are well represented, in all the major sports, including the increasingly popular motor racing industry. Additionally, the Central Valley offers a plethora of university, community college, high school, and community sports programs. It is also home to sporting goods manufacturers. The global sports industry is rapidly growing, with the United States sports industry contributing more than $213 billion to the economy, outpacing agriculture and motor vehicle sales combined. In addition, more than 75% of the jobs being created in sports in the U.S. are marketing-related. The proliferation of sports-related businesses in California offers a wide variety of career opportunities for students prepared to enter the market after completion of a bachelor's degree program in sports marketing. The openings for sports marketing and recreation professionals are growing faster on average than for all other professions. The industry needs educators and managers who can create and manage programs to meet the ever-growing demand for leadership in sports and recreation. Graduates who

earn bachelor's degrees in sports marketing will be prepared for positions such as sports marketing account managers, event planning and conference managers, facility managers, ticket operations directors, sporting goods marketing and sales managers, and sponsorship sales managers. The list of potential employers includes, but is not limited to, all professional (MLB, NHL, NBA, NFL, etc.), and semi-professional sports, collegiate sports (NCAA, NAIA, etc.), sporting event management, and sports agency.

Note: Out of 23-24 required units in options, 16 units should be taken at Craig School of Business. Any transferred course(s) should be taken at an AACSB accredited institution. Students who transfer 3 units for MKTG 100S must complete one unit of service learning independent study at the Craig School of Business.

Department of Mathematics

Rajee Amarasinghe, Chair
Peters Business Building, Room 381
559.278.2992
www.fresnostate.edu/csm/math/

Degrees and Programs Offered

B.A. in Mathematics
CRED in Single Subject Credential - Mathematics
CRED in Professional Clear Foundation Level Mathematics
M.A. in Mathematics
M.A. in Mathematics - Teaching Option
Minor in Mathematics

Mathematics and related subjects play important dual roles in our culture. On the one hand, mathematics is a study in its own right; on the other hand, it is an indispensable tool for expressing and understanding ideas in the sciences, engineering, and an increasing number of other fields. As a consequence, employment opportunities for mathematicians have been expanding in recent years. The courses offered by the department are designed to develop skills in, and an appreciation and understanding of, both roles.

Because there are so many different areas in which a trained mathematician can find employment or continue studies, the department offers a large number of electives within the mathematics major. By selecting appropriate courses, students have considerable flexibility to accommodate their individual interests. Students should consult with a department adviser for specific recommendations as to which electives are suited to their career paths.

Electives in applied mathematics prepare students to assume positions in technical industries or government employment, or to continue advanced studies in the applied area.

Electives in pre-college teaching in mathematics provide students with the necessary background for obtaining a California Secondary Teaching Credential in mathematics. In order to complete the credential requirements, a fifth year of education courses, classroom observation, and practice teaching is needed. At the present time, there is an increasing demand for well-trained people in this area.

Electives in pure mathematics prepare students for the pursuit of graduate studies leading to advanced degrees and employment at the college or university level, or research in industries.

Electives in statistics and probability provide a foundation for students planning to work as statisticians for industry or government agencies. They also can enhance employment opportunities in the bioscience and health-related fields. Statistics courses (in addition to MATH 75 [or 75A and B], 76, and 77) are essential for the first two Actuarial Examinations offered by the Society of Actuaries.

Department of Mechanical Engineering

Dr. Gemunu Happawana, Chair
Engineering East Building, Room 154
559.278.2368
www.fresnostate.edu/engineering/

Degrees and Programs Offered

B.S. in Mechanical Engineering
M.S. in Engineering - Mechanical Engineering Option

Mechanical engineering is the use of basic science in the design and manufacture of components and systems. This requires the application of physical and mechanical principles in the development of machines, energy conversion systems, materials, and equipment for measurement and control. Knowledge of mathematics, physics, and chemistry lies at the core of this field. Application of this knowledge uses engineering technology -- a disciplined way of thinking, modeling, and testing that enables development of new systems despite incomplete information and uncertainty.

The program in mechanical engineering provides basics in design and in thermal and fluid mechanics. All areas include statics, dynamics, materials, fluid mechanics, thermodynamics, and experimental methods. Application areas in design include mechanics of materials, applied mechanics, structural and manufacturing aspects of producing equipment, and vibrations. Application areas in thermal and fluid mechanics focus on energy conversion and include combustion, heat engines, refrigeration, and fluid flow.

Students should consult with their advisers to select the proper courses that emphasize their areas of interest.

Engineer-in-Training and Professional Engineering registration are strongly recommended as first licensing steps in professional lifelong learning.

Mission

Our mission is to provide an educational program that allows our students to meet or exceed the necessary level of academic preparedness for successful professional employment and for graduate study through continuous improvement in curricula and instruction.

Educational Objectives

The educational objectives of the Mechanical Engineering program were developed to prepare the graduates to be able to do the following:

1. Apply skills and understanding of engineering sciences with a foundation in mathematics, chemistry, and physics necessary for engineering practice.
2. Design and develop components, systems and products that meet specific requirements and use resources prudently in solving complex problems encountered in professional practice.
3. Develop, test, evaluate, and execute engineering solutions to problems and projects that are practical and of a complexity encountered in professional practice.
4. Design and conduct experiments; analyze results.

5. Communicate and perform effectively as engineering professionals in both individual and team-based project environments, providing leadership as necessary.
6. Practice professional and ethical responsibilities, including understanding of the societal impact of engineering solutions.
7. Recognize and understand contemporary issues and the role of professionals in global society.
8. Develop intellectually and technically through continued learning.

Co-op Program

The department participates in the Cooperative Education Program which allows the student to gain industrial experience and financial benefits through projects with local companies.

Department of Media, Communications, and Journalism

Katherine Adams, Chair
McKee Fisk Building, Room 236
559.278.2087
FAX: 559.278.4995
www.fresnostate.edu/mcj/

Degrees and Programs Offered

B.A. in Mass Communication & Journalism - Advertising Option
B.A. in Mass Communication & Journalism - Public Relations Option
B.A. in Mass Communication & Journalism - Multimedia Production Option
B.A. in Mass Communication and Journalism - Broadcast Journalism Option
B.A. in Mass Communication and Journalism - Print Journalism Option
Minor in Media Arts
Minor in Mass Communication & Journalism

Contemplating an exciting career in mass media? Check out the Department of Media, Communications, and Journalism. Graduates of the program are well represented on the staffs of many of America's finest newspapers, radio and television stations, broadcast and film production companies, advertising agencies, and public relations firms.

MCJ graduates in print -journalism are working for newspapers such as the New York Times, USA Today, the Los Angeles Times, the San Francisco Chronicle, the Fresno Bee, and other major newspapers. Graduates in broadcast journalism are heavily represented on the staffs of Fresno radio and television stations. They also can be found at CNN, ABC, NBC, CBS, ESPN, and PBS. Graduates in advertising are working for agencies that includeJ. Walter Thompson, Chiat/Day, Publicis and Hal Riney, and Foote, Cone, and Belding. Public relations graduates have obtained jobs with American Airlines, Caltrans, Coca-Cola, and other nationally known entities.

The department's advertising students regularly finish high in regional and national competitions sponsored by the American Advertising Federation. The students have drawn high praise from corporations participating in these competitions.

Broadcast production students have won awards in the California State University Media Arts Festival, Charleston International Film/Video Festival, the Silver State Documentary Festival, The Telly, The Communicator, and Videography Awards competitions. The campus radio station, KFSR-FM, has received a Gold record from Columbia Records, as well as various other awards.

Students have a choice of career options: advertising, broadcast journalism, digital media, electronic media production, print journalism, and public relations.

Affiliations

The department is a member of the Association of Schools of Journalism and Mass Communication, the Broadcast Education Association, and the California Newspaper Publishers Association.

Student organizations include chapters of the American Advertising Federation, Kappa Tau Alpha (a national journalism scholarship society), the National Press Photographers Association, and the Society of Professional Journalists.

The department hosts the annual high school competitions for the San Joaquin Valley Scholastic Press Association.

Facilities

The department maintains studios and laboratories for audio production; video production and editing; still photography; and computerized research, writing, and design. The department produces a student-run newspaper, The Collegian, in both paper and on-line versions. The department also oversees a student-run campus radio station, KFSR-FM, and produces television programs and video projects through a student organization called B# Video.

Department of Military Science

Lt. Col. Lorenzo Rios, Chair
North Gym, Room 211
559.278.2887
www.fresnostate.edu/craig/depts-programs/army/

Degrees and Programs Offered

Minor in Military Science

The Army Military Science Program, also known as Reserve Officer Training Corps (ROTC), is an officer-producing program that commissions qualified students into the United States Army, just like West Point. Our program is a part of a national ROTC program that has historically produced leaders such as Gen. Colin Powell, former Secretary of State; Earl Graves, chairman and publisher, Black Enterprise magazine; and Henry Cisneros, former president and chief operating officer, Univision Communications, Inc. Our program is founded in both theoretical instruction and practical application of leadership. Students learn a range of skills (such as decision making, time management, communications, and counseling) that prepare them to succeed in both military and civilian settings.

Students who are uncertain about what ROTC is all about and what it can offer may enroll in introductory courses for either one or two units. The courses acquaint the student with ROTC, the Army, and what opportunities are available. The emphasis in the introductory courses is on familiarization in the basics of ROTC and Army life, adventure training, success in college, and learning to be physically fit.

Those students who want to continue in the program and pursue an opportunity to serve their country as a commissioned officer enroll in a structured curriculum from 12-21 units over a period of two years (see course listings, next page). The emphasis in these courses is on development of leadership skills, decision-making skills, written and oral communications skills, time management, and continued physical fitness. Students who enroll in this curriculum are required to attend the Leadership Development and Assignment course at Joint Base Lewis-McChord, Washington. This course is a 30-day leadership laboratory in which students apply leadership skills while leading peers through variety of exciting events. Students' travel and accommodations are paid for and students are paid to attend.

Enrollment Requirements

Those students who are simply interested in finding out about our program should enroll in one of our introductory courses (see course listings, next page). Those who are considering pursuing the full military science course must meet certain requirements. Information on these requirements can be obtained by telephoning or visiting the Army ROTC office on campus, 278.2887, or in California, 800.660.ROTC.

Financial Assistance

All students who qualify and formally enroll in the Military Science Program earn at least $3,000 a year and can earn in excess of $50,000 during their college careers. Qualified students receive a stipend from $300 to $500 (tax free) each month depending on their academic status ($300 freshman, $350 sophomore, $450 junior, and $500 seniors) during the school year. In addition cadets attending our nationally run leadership development course can earn approximately $700. Students who qualify may elect to join a California National Army Guard or a United States Army Reserve unit as an officer trainee and be paid a minimum of $288 per weekend drill. The Army also has made available two-, three, and four-year scholarships - on a competitive basis - which pay all tuition, book, and fees in addition to a tax-free stipend each month.

Extracurricular Activities

The Military Science Program offers students the opportunity to participate in a wide variety of challenging and exciting activities that emphasize teamwork and increase a student's self-discipline and personal confidence. Some of these activities include leadership reaction courses, rappelling, orienteering, water survival training, marksmanship, map reading, helicopter insertions, and various individual confidence-building exercises. For those who seek additional training, the Military Science Program offers cadets the opportunity to attend a U.S. Army school such as Airborne, Air Assault, Northern Warfare, and Sapper.

Department of Modern and Classical Languages and Literatures

Kristi Eastin, Chair
Peters Building, Room 393
559.278.2386
FAX: 559.278.7878
www.fresnostate.edu/artshum/mcll/

Degrees and Programs Offered

B.A. in French
B.A. in Spanish
CRED in Single Subject Credential - French
CRED in Single Subject Credential - Spanish
M.A. in Spanish
Minor in French
Minor in German
Minor in Spanish
Minor in Classical Studies

Because of increasing mobility in our modern world, it takes no time at all to travel to places where people speak a language other than English. If you visit or go to work in another country you will quickly learn the fallacy of the phrase, "Everyone speaks English there; don't worry!" Even in California, scarcely a day goes by that you do not hear people conversing in a language other than English, because the United States has a wealth of different heritage languages. Whether you travel overseas or stay in the United States, you will be more culturally sensitive if you are bilingual and bicultural. For example, agricultural, health, and music professionals benefit from knowing another language. It is never too late to acquire another culture and language.

The goal of the Department of Modern and Classical Languages and Literatures is to encourage multiculturalism and multilingualism in the Central Valley. That includes preparing students for communication in some of the important heritage languages of the area: German, Spanish, French, Italian, and Portuguese. These are also important languages of Mexico, Central and South America, and the European Union, so students are able to travel or work overseas with greater ease. The department also offers Greek and Latin, as well as Classical Studies and Humanities.

The department has programs for those who wish to be middle and high school teachers of French and Spanish. We offer courses to prepare those who wish to be bilingual/ cross-cultural teachers in elementary schools. We also offer courses in Italian, Portuguese, and other languages to the surrounding community. The department offers a major and a minor in French and Spanish, a minor in German, a minor in Humanities, and a minor in Classical Studies. We collaborate with the Department of Linguistics to offer the B.A. Option in Language Studies.

Students completing the M.A. in Spanish often teach at high schools, community colleges, or go on to Ph.D. programs. Our Master of Arts program in Spanish is one of the largest and best in the California State University system. Students come from all over California to study with our prestigious faculty members. Our faculty members are well-recognized for their expertise in Spanish language pedagogy; Golden Age literature; contemporary Mexican, South American, and Peninsular literature; Spanish linguistics and dialectology; creative writing in Spanish; and Hispanic culture. M.A. students may apply for a limited number of teaching assistant positions.

Study Abroad Programs: Apply as a Sophomore

Sophomore students having a minimum GPA of 3.0 are eligible to apply for participation during their junior or senior years in one of the International Programs organized by the California State University System under agreements with universities in 18 countries, including France, Germany, Italy, Japan, Mexico, Spain, and Peru. See International Programs (Overseas). Students may find it useful to consult with a professor in the Department of Modern and Classical Languages and Literatures. A small scholarship is available for qualified study abroad scholars.

Credit Allowance in Foreign Language

Students may begin a study of any language they desire to learn. However, if they want to continue study of a language they recently studied in high school, they must adhere to the following guidelines:

A. Students who have had less than two years of that language in high school will enroll in either a 1A or 1B class in that language, depending on the quality of the high school language experience.

B. Students who have studied a language for two years in high school will enroll in a 1B class in that language.

C. Students who have studied a language for three years in high school will enroll in a 2A class in that language.

D. Students who have studied a language for four years in high school will enroll in a 2B class in that language.

E. Students who have passed an AP test in a language, or who have five or more years of language study, should consult a department adviser for appropriate placement.

F. Students who have taken Greek and Latin in high school should consult a department adviser for appropriate placement. G. Spanish-speaking students who have appropriate oral language skills will enroll in Spanish 4A.

H. Credit may not be awarded for a lower-division language course if the student has received credit for an upper-division course in that language, other than SPAN 110T and courses taught in English: FREN 149, GERM 103T, LATIN 132.

Credit by Examination

Students who have taken one or more years of a language in high school may not challenge a 1A course in that language. Students who have taken two or more years of a language in high school may not challenge a 1B course in that language. Students who have taken three years of a language in high school may not challenge 2A in that language. Students who have completed the equivalent of ninth grade or more in the native country may not enroll in or challenge lower-division courses. Such students are not exempted from meeting General Education requirements.

General Education Foreign Language Credit

The following courses are applicable to the General Education requirement: HUM 10, 11, 15, 20; FREN 1B, 2A, 2B, 109, 149; GERM 1B, 2A, 2B; GRK 1A, 1B; ITAL 1A, 1B, 2A, 2B; LATIN 1A, 1B; PORT 1A, 1B; SPAN 1B, 2A, 2B, 3, 4A, 4B, 125, 129. See also Department of Linguistics.

Department of Music

Matthew Darling, Chair
Music Building, Room 134
559.278.2654
www.fresnostate.edu/music/

Degrees and Programs Offered

B.A. in Music - Instrumental Performance Keyboard Option
B.A. in Music - Composition Option
B.A. in Music - Vocal Performance Option
B.A. in Music - Instrumental Performance Option
B.A. in Music - Music As A Liberal Art Option
B.A. in Music - Music Education, Choral/Vocal Music Education Emphasis
B.A. in Music - Music Education Option
B.A. in Music - Instrumental Music Education Emphasis
B.A. in Music - Jazz Studies
CRED in Single Subject Credential - Music
M.A. in Music - Music Education Option
M.A. in Music - Performance Option
Minor in Music

A major in music is designed to prepare students for careers in teaching, performance, or music-related fields. It enhances their knowledge of the musical art and increases their sensitivity to the musical world around them.

The Department of Music provides the following:

undergraduate instruction in music for those planning professional careers as performers, composers, and studio teachers, as well as those preparing for advanced degrees in performance and composition

- state-approved subject matter preparation required for a California teaching credential in music
- graduate education for students planning professional and academic careers or seeking professional growth as K-12 teachers or junior college instructors
- broad acquaintance with music for the community and nonmusic major

Two degree programs accredited by the National Association of Schools of Music are offered: the Bachelor of Arts and the Master of Arts.

Facilities

The music building houses recital and concert facilities, rehearsal halls, classrooms, faculty studios, offices, and student practice rooms. The building also contains recording studios, computer labs, MIDI and electronic music labs, and a tracker-action organ.

Department of Philosophy

Andrew Fiala, Chair
Music Building, Room 102
559.278.2621
FAX: 559.278.6484
www.fresnostate.edu/artshum/philosophy

Degrees and Programs Offered

B.A. in Philosophy
B.A. in Philosophy - Religious Studies Option
B.A. in Philosophy - Prelaw Option
Minor in Philosophy
Minor in Peace & Conflict Studies
Minor in Middle East Studies

The Department

Philosophy is one of the fundamental domains of human thought. It grows out of basic life questions, including questions of ethics, religion, politics, and science. The study of philosophy has had an historic role in the core of sound education, because it helps sharpen skills of careful, independent thinking and aids people of all ages in defining their most important values and beliefs.

The examination of great philosophical ideas, and the emphasis on clear reasoning and personal development that are involved in philosophy serve as a strong foundation for life, regardless of one's career objectives.

The Department of Philosophy offers students the following opportunities for a rich and rewarding undergraduate experience: the traditional B.A. philosophy major, the prelaw option, the religious studies option, and the philosophy minor. The department provides ample opportunity for individual attention and student participation in its activities, e.g., student Philosophy Club, symposia, colloquia, etc.

The **Prelaw Option** emphasizes analytical skills, ethics, and values courses. Law schools seek a broad general education background and do not recommend any specific major. Students who enjoy philosophy and are interested in law should find this option an excellent way to combine their interests.

The **Religious Studies Option** offers objective methods for exploring the vast and complex human experience known as religion. This study is done with an appreciation for the variety and diversity of religious beliefs and expressions. This option provides students with an academic approach to religion in personal, social, historical, and global contexts.

Department of Physical Therapy

Peggy R. Trueblood, Chair
Physical Therapy and Intercollegiate Athletics Building, Room 122
559.278.2625
www.fresnostate.edu/physicaltherapy

Degrees and Programs Offered

DPT in Doctor of Physical Therapy, DPT

The Department of Physical Therapy offers an entry-level postbaccaulareate Doctor of Physical Therapy which meets professional education requirements to become a licensed physical therapist in all 50 states.

Department of Physics

Amir Huda, Chair
McLane Hall, Room 173
559.278.2371
FAX: 559.278.7741
www.fresnostate.edu/physics

Degrees and Programs Offered

B.S. in Physics
B.S. in Biomedical Physics
CRED in Single Subject Credential - Physical Science
Minor in Physical Science
Minor in Physics
Minor in Medical Physics
Minor in Astronomy
M.S. in Physics

The Department of Physics has an active theoretical physics program that focuses on gravitational physics and field theory. We have ongoing collaborations with several international research groups including the Institute of Applied Physics of the Academy of Sciences of Moldova, Kyrgyz-Russian Slavic University, the Center for Gravitation and Fundamental Metrology (VNIIMS) at the Peoples' Friendship University of Russia, and the Universidad de Costa Rica. Our students in this area regularly attend national and international conferences to give talks, and they are active in publishing their research work in refereed journals. Several international researchers have visited our department and engaged in collaborative research, colloquia, and seminars.

Department of Plant Science

John T. Bushoven, Chair
Agriculture Building, Room 222
559.278.2861
FAX: 559.278.7413
www.fresnostate.edu/jcast/plantsci

Degrees and Programs Offered

B.S. in Plant Science - Plant Health Option
B.S. in Plant Science - Crop Production Management Option
Minor in Plant Science
M.S. in Plant Science

Join the leader in science, technology, and agricultural management. The Department of Plant Science offers plant science programs focused on agricultural production with options in crop production management or plant health.

Courses offered by the department in-tegrate physiology, soils and nutrition, agronomic practices, plant health management, protection against plant pests, ag marketing, and mechanization to provide students with a well-balanced background for positions in plant/soil sciences, and crop production. In addition, courses in areas such as microprop-a-ga-tion and plant improvement provide students with a background for further studies in plant biotechnology.

Each degree option integrates departmental curricula with the basic sciences (e.g., biology, chemistry, mathematics, physics) and management skills to build a well-balanced foundation.

The irrigation program is augmented by the Center for Irrigation Technology and the newly created International Center for Water Technology.

For information about laboratory units and supervised projects, contact the department office.

Department of Political Science

Kurt Cline, Chair
McKee Fisk Building, Room 244
559.278.2988
www.fresnostate.edu/polysci

Degrees and Programs Offered

B.A. in Political Science
Minor in Political Science
Minor in Public Administration
MPA in Public Administration, M.P.A. - Continuing & Global

Education
MPA in Public Administration, M.P.A.

Courses and programs offered by the Department of Political Science are intended to help all students become more effective participants in a democratic society, as makers of public policy, and as individuals affected by those policies. Our programs prepare political science and public administration majors for a wide variety of careers.

Students may elect to concentrate within political science on American government and politics, international politics, comparative government, or political theory. The Public Administration Program is designed to prepare students for administrative positions in public service agencies and includes instruction in such subjects as personnel administration, budget preparation, public relations, and techniques of management appropriate to the administration of public policy. For those who achieve a high measure of proficiency in their undergraduate programs, the department offers advanced work leading to the master's degree in international relations and public administration. A Minor in Political Science is chosen by students as a means of obtaining skills and knowledge important to their primary area of interest.

Department of Public Health

Vickie Krenz, Chair
McLane Hall, Room 184
559.278.4014
www.fresnostate.edu/publichealth

Degrees and Programs Offered

B.S. in Health Science - Community Health Option
B.S. in Health Science - Health Administration Option
B.S. in Health Science - Environmental/Occupational Health & Safety Option
Minor in Public Health
MPH in Public Health - Health Promotion Option, M.P.H.
Health Science

Health Science

The Bachelor of Science in Health Science and the Master of Public Health degrees are designed to prepare students for careers with official and voluntary health agencies at the federal, state, or local levels of government as well as the private sector.

The Master of Public Health degree is designed for individuals seeking a professional degree in public health. This degree is recognized throughout the world and is fully accredited by the Council of Education for Public Health (CEPH). The MPH program is under probationary accreditation until 2012.

Bachelor of Science Degree

The Department of Public Health offers curricula based on principles of public health practices leading to a Bachelor of Science degree, including a major and minor in health science with options in community health, environmental/occupational health and safety, and health administration.

Master's Program

The mission of the program is to prepare public health professionals for leadership roles in the fields of health policy and management and health promotion so that they may contribute to the process of improving the health of communities located within the San Joaquin Valley, California, and the southwest. This mission is fulfilled by attaining several program goals which address on a partnership basis the health needs of the ethnically and socioeconomically diverse populations living in the San Joaquin Valley and the southwest. Coursework for the Master of Public Health (MPH) is varied and designed to provide the maximum opportunity for problem-solving approaches to the complex issues in the operation, environment, and human factors confronting the health care systems.

Department of Recreation Administration

Sam Lankford, Chair
Professional and Human Services Building, Room 121
559.278.2838
FAX: 559.278.5267
www.fresnostate.edu/recadmin

Degrees and Programs Offered

B.S. in Recreation Administration
B.S. in Recreation Administration - Therapeutic Recreation Emphasis
B.S. in Recreation Administration - Adventure Recreation & Tourism Emphasis
B.S. in Recreation Administration - Commercial Recreation & Event Planning Emphasis
B.S. in Recreation Administration - Community Recreation & Youth Services Emphasis
B.S. in Recreation Administration - Sports & Entertainment Facility Management Emphasis
Minor in Recreation Administration

The department offers a Bachelor of Science degree in Recreation Administration for individuals who are committed to the recreation and leisure services profession. The major in Recreation Administration prepares students with the knowledge, understanding, ability, and skill necessary to successfully function in professional positions related to the major.

Curriculum

Accredited by the Council on Accreditation of Parks, Recreation, Tourism, and Related Professions, the department offers a B.S. and a Minor in Recreation Administration.

Students in the recreation administration major complete a core of courses. These courses are designed to assist students in acquiring competencies related to the principles of recreation, leadership, group dynamics, and leisure behavior. Courses also cover legal and financial aspects of recreation service, advanced program planning, organization and administration of leisure services, evaluation, and professionalism.

Students develop specific skills in the areas of communication, human behavior, youth services, entrepreneurism, and adventure-based recreation and tourism, finance, management, marketing, funding, resources, program planning and supervision, and facility management.

Under the guidance of a practitioner, students in recreation administration are encouraged to acquire 1,000 hours of paid or voluntary hands-on experience in a variety of recreation, clinical, or leisure services agencies. In addition, they complete full-time

internships with commercial recreation and tourism enterprises, public recreation agencies, nonprofit organizations, park-oriented agencies, hospitals, rehabilitation centers, and other service organizations.

Students may apply for an out-of-state internship if they achieve a major GPA of 3.3 and a cumulative GPA of 3.0. Additional requirements must also be met.

School of Nursing

F, Ndidi Griffin-Myers, Chair
McLane Hall, Room 190
559.278.2041
www.fresnostate.edu/nursing/

Degrees and Programs Offered

B.S. in Nursing
B.S. in Nursing - R.N.-B.S.N.
B.S. in Nursing, R.N.-B.S.N. - Continuing & Global Education
CRED in Health Services, Credential
DNP in Nursing, D.N.P.
M.S. in Nursing - Accelerated Clinical Nurse Specialist/Nurse Educator
M.S. in Nursing - Primary Care/Nurse Practitioner Option
M.S. in Nursing - Primary Care/Nurse Practitioner & Clinical Nurse Specialist/Nurse Educator
PREB in Pre-Nursing

The mission of the School of Nursing is to offer quality nursing education to undergraduate and graduate nursing students. This education prepares nurses to make clinical decisions based on theory and research. As life-long learners, graduates are prepared to deliver quality health care for increasingly diverse populations. Graduates will lead, supervise, delegate, manage, and evaluate care outcomes, as well as demonstrate the ability to act as consumer advocates in promoting wellness and facilitating change.

The scope of nursing practice is changing significantly. The professional nurse uses theory and research-based knowledge to provide direct and indirect care to individuals, families, groups, and communities.

In the role as designer, manager, and coordinator of care, nurses collaborate with patients and interdisciplinary care teams.

The school offers an undergraduate program which leads to the Bachelor of Science in Nursing, a postbaccalaureate School Nurse Services Credential Program with an option to pursue the master's degree in nursing, a graduate program leading to a Master of Science in Nursing, a Post-Master's Nurse Practitioner Certificate Program, and a Post-Master's Clinical Nurse Specialist/Nurse Educator Program.

Clinical Facilities

A wide variety of clinical placements are available. Placement facilities include Community Hospitals of Central California, St. Agnes Medical Center, Children's Hospital of Central California, Veteran's Administration Medical Center, Kaweah Delta, Adventist Hospital, Madera Community Hospital, Fresno Heart and Surgical Hospital, the Armenian Home, San Joaquin Gardens, the Kaiser Permanente Medical Group, and the health departments of Fresno, Madera, Kings, and Tulare counties.

Undergraduate Program

The program requires six semesters of nursing courses in addition to two semesters of prerequisite requirements. The basic General Education require-ments are the same for all majors. Upon completion of the sixth semester clinical course sequence, the student is qualified to apply to take the National Council Licensure Examination (NCLEX-RN) and apply for the Public Health Nurse Certificate. California State University, Fresno's nursing program is certified by the California Board of Registered Nursing and accredited by the Commission on Collegiate Nursing Education (CCNE).

RN-BSN PROGRAM (Post-licensure)

The RN-BSN program is designed for associate degree nurses (ADNs) with a registered -nursing license to complete upper division nursing courses that fulfill the BSN degree without repeating lower division nursing coursework. Upper division nursing coursework expands upon leadership and management principles, and introduces research and evidence-based practice methodologies, as well as population-focused community health nursing.

Licensed Vocational Nurses are offered three options:

1. Generic Nursing Program
2. Transfer/Credit by Examination
3. Thirty-Unit Option (nondegree)

LVN 30-unit option students must contact the chair of nursing for pre-admission advising. Acceptance to the 30-unit option program is based on space availability in selected nursing courses. It is important to note that the 30-unit option RN licensee will not be awarded a degree and his/her ability to practice in different states may be limited by state reciprocity regulations.

Health Related Personnel. Medical corpsmen, psychiatric technicians, and others are eligible for credit by examination under the university's policy as outlined in the current catalog.

Advanced placement in the major prepares qualified students to receive their B.S.N. The curriculum is designed to emphasize theory-based practice in nursing and to provide the foundation for graduate study. While pursuing the degree, students are encouraged to select their area of interest. They are also encouraged to collaboratively care for patients in a variety of settings: acute care, critical care, long-term care, ambulatory care, and home care.

Science and Mathematics Interdisciplinary Courses and Programs

David M. Andrews, Director
Science I Building, Room 100
559.278.5173
www.fresnostate.edu/csm

Degrees and Programs Offered

B.A. in Natural Sciences - Biology Option
B.A. in Natural Sciences - Earth Science Option
B.A. in Natural Sciences - Physics Option
B.A. in Natural Sciences - Chemistry Option

The Bachelor of Arts in Natural Sciences serves as a waiver program for the Single Subject Teaching Credential in Science. With the Science Credential, students are able to teach any introductory science class, i.e. earth, general, life, or physical science along

with the courses in their chosen emphasis. Please contact Mr. Jaime Arvizu, College of Science and Mathematics counselor, for advising and more information, at 278-5173.

Social Sciences Interdisciplinary

Social Sciences Building, Room 108
559.278.3013

Degrees and Programs Offered

CRED in Single Subject Credential - Social Science

Department of Social Work Education

Dr. Virginia Rondero Hernandez, MSW, Ph.D., Department Chair
Professional and Human Services 128
559.278.3992
FAX: 559.278.7191
http://www.fresnostate.edu/socialwork

Degrees and Programs Offered

B.A. in Social Work
M.S.W. in Social Work
PREB in Pre-Social Work

The profession of social work is dedicated to meeting the diverse social service needs of special populations of individuals, families, groups, organizations, and communities. As a practice-oriented profession, social work deals with social concerns that range from societal oppression to people's emotional/behavioral problems. The social work practitioner helps at-risk populations which typically include people of color; women; people who are recent refugees; those who are older adults, poor, and/or homeless; children and adults who are abused/neglected; people who have chronic mental illness; those who are developmentally disabled; those who have physical illnesses or disabilities; and those who abuse substances or engage in criminal activities.

In focusing on disadvantaged groups, social workers use a range of traditional and nontraditional methods to promote well-being, personal growth, and social justice. These methods include client and systems policy advocacy, brokering, and consulting, as well as indi-vidual, family, and group counseling/psychotherapy. Other methods include education, research, and professional supervision.

While the discipline of social work is deeply rooted in a rich, 100-year history of service, what social workers "do" is no longer traditionally defined. The role of the social worker is constantly expanding into innovative service fields wherever a compassionate response to human need is indicated.

The Department of Social Work Education offers two degree programs to educate beginning and advanced social work practitioners who can meet complex client needs in a broad range of public and private human service settings and who can perform in a variety of roles using a multisystems approach. The Bachelor of Arts (B.A.) degree program prepares students for beginning generalist social work practice as well as for graduate study in the human service field, including social work. The Master of Social Work (M.S.W.) prepares the learner for advanced multisystems social work practice as well as for doctoral study in social work and related human service arenas. Both the B.A. and the M.S.W. programs are accredited by the Council on Social Work Education.

Department of Sociology

Matthew Jendian, Chair
Social Science Building, Room 227
559.278.2234
www.fresnostate.edu/sociology

Degrees and Programs Offered

B.A. in Sociology
Minor in Sociology
Minor in Philanthropic and Community-Based Leadership

Sociology majors receive strong grounding in traditional and contemporary social theory, methods of conducting social research, and techniques of analyzing social data. Courses with a service-learning component provide students with an opportunity to engage in participant-observation studies, while the Social Research Laboratory (SRL) gives them a chance to participate in survey research. Encouraging student research is one of the hallmarks of sociology at Fresno State.

The program also offers advanced courses on topics ranging from medical sociology, religion, and family to popular culture, deviance, and social movements and social change.

Department of Theatre Arts

The College of Arts and Humanities
Melissa D. Gibson, Chair
Speech Arts Building, Room 33
559.278.3987
www.fresnostate.edu/artshum/theatrearts/

Degrees and Programs Offered

B.A. in Theatre Arts - Dance Option
B.A. in Theatre Arts - Acting Emphasis
B.A. in Theatre Arts - Design/Technology Emphasis
B.A. in Theatre Arts - General Emphasis
Minor in Theatre Arts - Drama Option
Minor in Theatre Arts - Dance Option

The theatre arts major offers your the opportunity to develop your skills in acting, directing, dance performance, choreography, playwriting, children's theatre, technical production, scene design, costume design, lighting design, history, literature, and teaching. After completing our program, you will have the background that will enhance your ability to pursue either an advanced degree or a professional career.

Our professionally trained instructors will guide you through a program which is not only educational but fascinating. A major or minor in theatre or dance can be one of the more exciting times in your life because it will develop communication and performing skills that will aid you no matter what career you finally decide to pursue. If theatre is what you want, then the California State Uni-

versity, Fresno Theatre Arts Department is ready to serve you.

The Theatre Arts Department is an accredited institutional member of the National Association of Schools of Theatre (NAST) and holds memberships with the Association for Theatre in Higher Education, the California Educational Theatre Association, the California Alliance for Arts Education, and the United States Institute of Theatre Technology. The department regularly participates in the American College Theatre Festival (ACTF) and the American College Dance Festival (ACDF). Our students, faculty, and productions have been awarded many regional and national honors from both ACTF and ACDF.

Our national and international award-winning Theatre Arts Department offers you educational preparation in all aspects of theatre and dance. Beside having the opportunity of being guided by an extensive curriculum and production schedule of more than 10 plays and several dance concerts, you will have the opportunity to study with guest professionals who participate in our program on a regular basis.

At California State University, Fresno there are a variety of production organizations, each providing a different kind of experience. University Theatre produces five major productions a year, cast and crewed by students. The Experimental Theatre Company (ETC) and the University Dance Theatre (UDT) are student organizations that produce their own plays and dance concerts. The Black Theatre Contingent (BTC) focuses on drama of the Arican-American experience. Playwrights Theatre is dedicated to the exploration of original plays. Theatre for Young Audiences produces plays for young people and tours throughout the Valley. You also have the opportunity to work with our resident dance company, the Portable Dance Troupe. As you can see, we offer a variety of opportunities for you to develop and practice your art.

Department of Viticulture and Enology

James A. Kennedy, Chair and Director
2360 E Barstow Ave, M/S VR89
559.278.2089
FAX: 559.278.4795
www.fresnostate.edu/jcast/ve

Degrees and Programs Offered

B.S. in Viticulture
B.S. in Enology
CERT in Enology, Certificate of Special Study
CERT in Viticulture, Certificate of Special Study

It is the goal of the Department of Viticulture and Enology to be a world-class center of excellence that can effectively meet the needs of students and the broader community. The department offers courses in viticulture and enology. Each degree integrates viticulture and enology offerings with the basic sciences (e.g., biology, chemistry, mathematics, physics) and management skills to build a well-balanced foundation.

Academic Excellence

The Department of Viticulture and Enology at California State University, Fresno was officially established in July 2000. Prior to this, these disciplines were taught in the Departments of Plant Science, and Food Science and Nutrition respectively. The foundations for the current curricula are firmly based in the sciences such as botany, chemistry, soil science, and microbiology. Classes in viticulture and enology are designed to help the students incorporate the basic sciences into the production of grapes and wines with numerous opportunities for “hands-on” learning experiences. We have the only university teaching facilities in the world that combines 150 acres of table, raisin and wine grape vineyards, a commercial 50,000 gallon winery, and a processing facility suitable for small-scale raisin production. This unique combination of academics and facilities has provided the training ground for numerous award winning viticulturists and winemakers. Students are limited only by their personal energy and motivation.

Students are required to meet with their advisers regularly to monitor their progress and plan for the future. Students are strongly encouraged to become involved in student club activities.

Women’s Studies Program

Janet Slagter, Coordinator
McKee Fisk Building, Room 244
559.278.5721
www.fresnostate.edu/womensstudies

Degrees and Programs Offered

B.A. in Women’s Studies
Minor in Women’s Studies

Women’s Studies is an approach that places women in the center of inquiry. The primary mission of Women’s Studies is to analyze gender. Students acquire both a local and global perspective on gender. Attentiveness to diversity, privilege and power, and women’s unique creative contributions to human experience are central aspects of this training. More than simply a body of knowledge, Women’s Studies encourages students to apply their learning to transform their lives and their communities. Women’s Studies offers a vital perspective everywhere gender impacts our world.

Degrees and Programs

- Admin Serv Cert of Eligibility
- Administrative Services - Internship Credential
- Administrative Services - Preliminary Credential
- Aerospace Studies, Minor
- Africana Studies, B.A.
- Africana Studies, Minor
- Agricultural Business Minor
- Agricultural Business, B.S.
- Agricultural Education - Agricultural Communications Option, B.S.
- Agricultural Education - Teacher Preparation Option, B.S.
- Agriculture Specialist Credential
- Agricultural Science, M.S.
- American History, Certificate of Adv. Study
- American Indian Studies, Minor
- Animal Science - Production Management Option-Dairy Science Specialization, B.S.
- Animal Science - Production Management Option-Equine Science Specialization, B.S.
- Animal Science - Production Management Option-Livestock Business Mgt Specialization, B.S.
- Animal Science - Production Management Option-Meat Technology Specialization, B.S.
- Animal Science - Science Option-Preprofessional Specialization, B.S.
- Animal Science - Science Option-Pre Veterinary Specialization, B.S.
- Animal Sciences, Minor
- Anthropology, B.A.
- Anthropology, Minor
- Armenian Studies, Minor
- Art - Graphic Design Option, B.A.
- Art, B.A.
- Art, M.A.
- Art, Minor
- Asian American Studies, Minor
- Astronomy, Minor
- Athletic Training, B.S.
- Biochemistry, B.S.
- Biology, B.S.
- Biology, M.S.
- Biology, Minor
- Biomedical Physics, B.S.
- Biotechnology, Certificate of Adv. Study
- Biotechnology, M.Bt.
- Business Administration - Accelerated Option, B.S. - Continuing & Global Education
- Business Administration - Accountancy Option, B.S.
- Business Administration - Computer Information Systems Option, B.S.
- Business Administration - Entrepreneurship Option, B.S.
- Business Administration - Finance Option, B.S.
- Business Administration - Human Resource Management Option, B.S.
- Business Administration - International Business Option, B.S.
- Business Administration - Logistics & Supply Chain Strategies Option, B.S.
- Business Administration - Management Option, B.S.
- Business Administration - Marketing Option, B.S.
- Business Administration - Real Estate & Urban Land Economics Option, B.S.
- Business Administration - Special Option, B.S.
- Business Administration - Sports Marketing Option, B.S.
- Business Administration, M.B.A.
- Chemistry, B.A.
- Chemistry, B.S.
- Chemistry, M.S.
- Chemistry, Minor
- Chicano Studies, B.A.
- Chicano/Latino Studies, Minor
- Child Development, B.S.
- Child and Family Science, Minor
- Chinese, Minor
- Civil Engineering, B.S.
- Civil Engineering, M.S.
- Civil Engineering-Water Resources & Environmental Engineering Option, M.S.
- Classical Studies, Minor
- Clinical Rehabilitation and Mental Health Counseling, M.S.
- Cognitive Science, B.S.
- Cognitive Science, Minor
- Communication, B.A.
- Communication, M.A.
- Communication, Minor
- Communicative Disorders - Audiology Option, B.A.
- Communicative Disorders - Deaf Education Option, B.A.
- Communicative Disorders - Deaf Education Option, M.A.
- Communicative Disorders - Deaf Studies Option, B.A.
- Communicative Disorders - Interpreting Option, B.A.
- Communicative Disorders - Speech Pathology Option, B.A.
- Communicative Disorders - Speech-Language Pathology Option, M.A.
- Communicative Disorders, Minor
- Community and Regional Planning, Certificate of Adv Study - Continuing & Global Education
- Composition, Certificate of Adv. Study
- Computational Linguistics, Minor
- Computer Engineering, B.S.
- Computer Engineering, Minor
- Computer Science, B.S.
- Computer Science, M.S.
- Computer Science, Minor
- Construction Management, B.S.
- Construction Management, Minor
- Counseling - Marriage, Family, & Child Counseling Option, M.S.
- Counseling - School Counseling Option, M.S.
- Counseling - Student Affairs & College Counseling Option, M.S.
- Creative Writing, M.F.A.
- Creative Writing, Minor
- Criminology - Corrections Option, B.S.
- Criminology - Forensic Behavioral Sciences, B.S.
- Criminology - Law Enforcement Option, B.S.
- Criminology - Law Enforcement Option, B.S. - Continuing & Global Education
- Criminology - Victimology Option, B.S.
- Criminology, Certificate of Adv. Study
- Criminology, M.S.
- Criminology, M.S. - Continuing & Global Education
- Criminology, Minor
- Dietetics, Certificate of Adv. Study
- Doctor of Educational Leadership CC-CI, ED.D.

- Doctor of Educational Leadership P-12-CI, ED.D.
- Doctor of Physical Therapy, DPT
- Early Childhood - Specialist Credential
- Economics, B.A.
- Economics, Minor
- Education - Curriculum & Instruction Option, M.A.
- Education - Early Childhood Education Option, M.A.
- Education - Educational Leadership & Administration Option, M.A.
- Education - Multilingual & Multicultural Education Option, M.A.
- Education - Reading/Language Arts Option, M.A.
- Education - Teaching, M.A.T.
- Education Specialist Deaf & Hard of Hearing - Clear Credential
- Education Specialist Deaf and Hard of Hearing - Preliminary Credential
- Education Specialist Mild/Moderate - Clear Credential
- Education Specialist Mild/Moderate - Internship Credential
- Education Specialist Mild/Moderate - Preliminary Credential
- Education Specialist Moderate/Severe - Clear Credential
- Education Specialist Moderate/Severe - Internship Credential
- Education Specialist Moderate/Severe - Preliminary Credential
- Education-Counseling and Student Services, M.A.
- Educational Leadership CC, Ed.D.
- Educational Leadership PK-12, Ed.D.
- Educational Technology - Advanced Certificate
- Electrical Engineering, B.S.
- Electrical Engineering, Minor
- Elementary School Teaching Credential (Multiple Subject Credential Program)
- Engineering - Computer Engineering Option, M.S.
- Engineering - Electrical Engineering Option, M.S.
- Engineering - Mechanical Engineering Option, M.S.
- English - English Education Option, B.A.
- English - English Major Option, B.A.
- English - Literature Option, M.A.
- English, Minor
- English-Literature & Composition Theory Option, M.A.
- English-Rhetoric and Writing Studies Option, M.A.
- Enology, B.S.
- Enology, Certificate of Special Study
- Entrepreneurship, Minor
- Environmental Sciences, B.S.
- Family & Consumer Sciences - Family Sciences Emphasis, B.A.
- Family & Consumer Sciences - Fashion Merchandising Emphasis, B.A.
- Fashion Merchandising, Minor
- Food & Nutritional Sciences - Culinology Option, B.S.
- Food & Nutritional Sciences - Dietetics & Food Administration Option, B.S.
- Food & Nutritional Sciences - Food Science Option, B.S.
- Food & Nutritional Sciences, Minor
- French, B.A.
- French, Minor
- General Business, Minor
- Geographic Information Systems, Certificate of Adv Study - Continuing & Global Education
- Geography - City and Regional Planning Option, B.A.
- Geography, B.A.
- Geography, Minor
- Geology, B.S.
- Geology, M.S.
- Geology, Minor
- Geomatics Engineering, B.S.
- German, Minor
- Gerontology, Minor
- Graduate Business Prep, Minor
- Graphic Design, B.F.A.
- Health Science - Community Health Option, B.S.
- Health Science - Environmental/Occupational Health &Safety Option, B.S.
- Health Science - Health Administration Option, B.S.
- Health Services, Credential
- History - Teaching Option, M.A.
- History, B.A.
- History, M.A.
- History, Minor
- Hmong, Minor
- Homeland Security, Certificate of Adv Study - Continuing & Global Education
- Humanities Interdisciplinary Minor
- Industrial Technology - Agricultural Systems Management Option, B.S.
- Industrial Technology, B.S.
- Industrial Technology, M.S.
- Industrial Technology, Minor
- Interior Design, B.A.
- International Political Economy Minor
- Japanese, Minor
- Kinesiology - Exercise Science Option, B.S.
- Kinesiology - Exercise Science Option, M.A.
- Kinesiology - Physical Education Blended Option
- Kinesiology - Physical Education Option, B.S.
- Kinesiology - Sport Administration Option, M.A.
- Kinesiology - Sport Administration, B.S.
- Kinesiology - Sport Psychology Option, M.A.
- Kinesiology, M.A.
- Latin American Studies, B.A.
- Latin American Studies, Minor
- Liberal Studies, B.A.
- Linguistics - Computational Linguistics Option, B.A.
- Linguistics - General Linguistics Option, B.A.
- Linguistics - Interdisciplinary Language Studies Option, B.A.
- Linguistics - Teaching English as a Second Language Option, B.A.
- Linguistics - Teaching English as a Second Language Option, M.A.
- Linguistics, M.A.
- Linguistics, Minor
- Marine Science, M.S.
- Mass Communication & Journalism - Advertising Option, B.A.
- Mass Communication & Journalism - Multimedia Production Option, B.A.
- Mass Communication & Journalism - Public Relations Option, B.A.
- Mass Communication & Journalism, Minor
- Mass Communication and Journalism - Broadcast Journalism Option, B.A.
- Mass Communication and Journalism - Print Journalism Option, B.A.
- Mathematics - Teaching Option, M.A.

- Mathematics, B.A.
- Mathematics, M.A.
- Mathematics, Minor
- Mechanical Engineering, B.S.
- Media Arts, Minor
- Medical Physics, Minor
- Meteorology, Minor
- Middle East Studies, Minor
- Military Science, Minor
- Multiple Subject - Preliminary - Early Chilhood Emphasis, Credential
- Multiple Subject - Preliminary BAP Emphasis: Hmong, Credential
- Multiple Subject - Preliminary BAP Emphasis: Spanish, Credential
- Multiple Subject - Preliminary ECE BAP Emphasis: Hmong, Credential
- Multiple Subject - Preliminary ECE BAP Emphasis: Spanish
- Music - Composition Option, B.A.
- Music - Instrumental Music Education Emphasis, B.A.
- Music - Instrumental Performance Keyboard Option, B.A.
- Music - Instrumental Performance Option, B.A.
- Music - Jazz Studies, B.A.
- Music - Music As A Liberal Art Option, B.A.
- Music - Music Education Option, B.A.
- Music - Music Education Option, M.A.
- Music - Music Education, Choral/Vocal Music Education Emphasis, B.A.
- Music - Performance Option, M.A.
- Music - Vocal Performance Option, B.A.
- Music, Minor
- Natural Sciences - Biology Option, B.A.
- Natural Sciences - Chemistry Option, B.A.
- Natural Sciences - Earth Science Option, B.A.
- Natural Sciences - Physics Option, B.A.
- Nursing - Accelerated Clinical Nurse Specialist/Nurse Educator, M.S.
- Nursing - Primary Care/Nurse Practitioner & Clinical Nurse Specialist/Nurse Educator, M.S.
- Nursing - Primary Care/Nurse Practitioner Option, M.S.
- Nursing - R.N.-B.S.N.
- Nursing, B.S.N.
- Nursing, D.N.P.
- Nursing, R.N.-B.S.N. - Continuing & Global Education
- Peace & Conflict Studies, Minor
- Philanthropic and Community-based Leadership, Minor
- Philosophy - Prelaw Option, B.A.
- Philosophy - Religious Studies Option, B.A.
- Philosophy, B.A.
- Philosophy, Minor
- Physical Science, Minor
- Physics, B.S.
- Physics, M.S.
- Physics, Minor
- Plant Science - Crop Production Management Option, B.S.
- Plant Science - Plant Health Option, B.S.
- Plant Science, M.S.
- Plant Science, Minor
- Political Science, B.A.
- Political Science, Minor
- Pre Veterinary Prerequisites
- Pre-Athletic Training
- Pre-Business
- Pre-Child and Family Science
- Pre-Nursing
- Pre-Psychology
- Pre-Social Work
- Precision Agriculture Technology Minor
- Professional Clear Foundation Level General Science
- Professional Clear Foundation Level Mathematics
- Psychology - Applied Behavior Analysis Option, M.A.
- Psychology - Pre-M.B.A. Option, B.A.
- Psychology, B.A.
- Psychology, Ed.S.
- Psychology, M.A.
- Psychology, Minor
- Public Administration, M.P.A.
- Public Administration, M.P.A. - Continuing & Global Education
- Public Administration, Minor
- Public Health - Health Promotion Option, M.P.H.
- Public Health, Minor
- Pupil Personnel Services - Child Welfare Counseling, Credential
- Pupil Personnel Services - School Counseling Credential
- Pupil Personnel Services - School Psychologist
- Pupil Personnel Services - Social Work, Credential
- Reading and Literacy Added Authorization - Advanced Certificate
- Reading and Literacy Leadership - Specialist Credential
- Recreation Administration - Adventure Recreation &Tourism Emphasis, B.S.
- Recreation Administration - Commercial Recreation &Event Planning Emphasis, B.S.
- Recreation Administration - Community Recreation &Youth Services Emphasis, B.S.
- Recreation Administration - Sports & Entertainment Facility Management Emphasis, B.S.
- Recreation Administration - Therapeutic Recreation Emphasis, B.S.
- Recreation Administration, B.S.
- Recreation Administration, Minor
- Single Subject Credential - Art
- Single Subject Credential - Biological Science
- Single Subject Credential - Business Preliminary
- Single Subject Credential - Chemistry
- Single Subject Credential - English
- Single Subject Credential - French
- Single Subject Credential - Geological Science
- Single Subject Credential - Mathematics
- Single Subject Credential - Music
- Single Subject Credential - Physical Education
- Single Subject Credential - Physical Science
- Single Subject Credential - Social Science
- Single Subject Credential - Spanish
- Social Work, B.A.
- Social Work, M.S.W.
- Sociology, B.A.
- Sociology, Minor
- Southeast Asian Studies, Minor
- Spanish, B.A.
- Spanish, M.A.
- Spanish, Minor
- Special Education Mod/Sev Disab Internship
- Special Education, M.A.
- Speech-Language Pathology Services - Preliminary, Credential

- Sports Coaching, Minor
- TESOL, Certificate of Adv. Study
- Teaching English As A Second Language, Minor
- Theatre Arts - Acting Emphasis, B.A.
- Theatre Arts - Dance Option, B.A.
- Theatre Arts - Dance Option, Minor
- Theatre Arts - Design/Technology Emphasis, B.A.
- Theatre Arts - Drama Option, Minor
- Theatre Arts - General Emphasis, B.A.
- Urban Civic Education, Minor
- Urban Studies, Minor
- Viticulture, B.S.
- Viticulture, Certificate of Special Study
- Water Resource Management, M.S. - Continuing & Global Education
- Women's Studies, B.A.
- Women's Studies, Minor

Bachelor's Degrees

Africana Studies, B.A.

Requirements

Bachelor of Arts Degree Requirements

Africana Studies Major

Major requirements (33 units)
Lower-division requirements (12 units)
AFRS 10, 15, 27 or 36; SOC 125 or PLSI 90

Upper-division requirements (15 units)
AFRS 137, 104W, 144, 150 or 164, 189 (3 units)

Approved Africana electives (6 units)
Consult your academic adviser for approval.

General Education requirements (51 units)

Electives and remaining degree requirements (36 units)*
(See Degree Requirements); it is recommended that units in this area be utilized to complete a second major or minor.

Total units (120)

* This total indicates that AFRS 1 in G.E. Breadth D3 also may be applied to the Africana Studies major.

Advising Note

No General Education Integration or Multicultural/International course offered by the Africana Studies Program may be used to satisfy the General Education requirements for Africana Studies majors.

Double B.A. Major in Africana Studies

A double B.A. major in Africana Studies will consist of 33 units, of which 24 units will be in Africana studies. Fifteen units of the 24 units must be upper division. Units can be double counted. Students are strongly encouraged to see an Africana Studies academic adviser for assistance in planning the major.

Agricultural Business, B.S.

Requirements

Bachelor of Science Degree Requirements

Agricultural Business Major

Major (60-61 units)

Agricultural Foundation (9 units)
(Select three lower-division courses from the below areas. No more than 3 units are allowed in the Ag Business area. No more than 6 units may be taken in any one of the remaining areas. Courses listed are approved introductory level courses. General Education courses cannot be double-counted for credit herein.)
Ag Business: AGBS 5
Animal Sci: ASCI 1, 21, 31, 35, 41, 51, 61, 71, 81, 91
Food Sci/Nutr: FSC 1, FSC 41; NUTR 54; CULG 50, 55
Mech Ag: MEAG 3, MEAG 20
Plant Sci: CRSC 1; HORT 1; OH 1
Soil/Water: SW 2
Vit/Enol: VIT 1; ENOL 15, 45

Business Management Base (18-19 units)
AGBS 2 or ECON 50

AGBS 28 or BA 18
AGBS 31 or ACCT 4A
AGBS 32 or ACCT 4B
AGBS 71 or DS 73 or MATH 11
AGBS 76 or IS 52, 52L

Agricultural Business Core (24 units)
AGBS 100, 110, 120, 130, 140, 150, 160, 170S

Career Specialty (9 units)
A required concentration of upper-division units in agricultural economics is selected to match the student's career goal in consultation with the student's assigned faculty adviser. (See major program of study advising check sheet for elective course listings in various subfields.

Additional requirement (0-1 unit)
Agricultural Business majors must take the following courses, which also satisfy General Education requirements:

FOUNDATION
Area B4: DS 71 or MATH 75

BREADTH
Area D3: AGBS 1

General Education requirements (51 units)

Electives and remaining degree requirements (6-9 units)
Upper-division writing skills by exam or writing course.
Courses supplementary to the major are strongly recommended.

Total units (120)

Grade requirements. Students majoring in agricultural business must earn a grade of C or better in each of the lower-division AGBS courses used to satisfy the Business Management Base and the Additional Requirements in the major.

Advising Notes

1. New students should request the Advising Information brochure that includes a program-of-study check sheet and explanatory notes about requirements for the major.
2. All students are assigned a faculty adviser. Consult the department bulletin board for the current listing. Make an appointment each semester to review your academic record and to schedule remaining courses in order to graduate in a timely manner.
3. Prospective transfer students should consult with a community college academic adviser about their program of study to determine which California State University, Fresno AGBS courses are articulated as equivalent for lower-division credit. Transfer students may also consult ASSIST, the statewide articulations database, www.assist.org.
4. Credits earned for articulated community college courses do not count toward upper-division units in the major.
5. Students intending to pursue graduate study in agricultural economics or agribusiness should include approved courses in intermediate macroeconomic theory, differential and integral calculus, inferential statistics, and linear regression in their bachelor's degree program.
6. A double major of agricultural business with animal sciences, food and nutritional sciences, or plant science must have 36 mutually exclusive units (including a minimum of 18 upper division). A double major requires the approval of the department chairs administering these programs of study. General Education and elective units may be applied (i.e., double counted) toward a second major or a minor. (See Double Major or Minor in this catalog and consult with the appropriate department adviser.)
7. Unit limits for courses included in the major exist for AGBS 80/180 (4 units combined maximum allowed) and AGBS 194 (3 units maximum allowed).
8. General Education courses cannot be double-counted for credit in the 60-unit major. G.E. courses may be used to satisfy additional requirements to the major.

Agricultural Education - Agricultural Communications Option, B.S.

Requirements

Bachelor of Science Degree Requirements

Agricultural Education Major, Agricultural Communications Option

Options: Agricultural Communications, Teacher Preparation

Major requirements (54-60 units)
Select Teacher Preparation or Agricultural Communications

Agricultural Communications Core (45 units)

Agricultural Economics (3 units)
Select 3 units from: AGBS 28, 31, 117, 120, 150

Agricultural Education (6 units)
AGED 66, 166

Animal Science (9 units)
ASCI 1
Select 6 units from: ASCI 11, 21, 31, 35, 41, 51, 61, 81, 91

Food Science and Nutrition (3 units)
Select 3 units from: ASCI 71, ENOL 15

Mass Communication and Journalism (9 units)
MCJ 1, 10, 172 or 173

Mechanized Agriculture (3 units)
Select 3 units from: MEAG 1, 20, 50

Plant Science (9 units)
Select 9 units from: CRSC 1; OH 1; HORT 1, 110; VIT 1

Soil and Water (3 units)
Select 3 units from: SW 2, 100, 100N

Agricultural Communications Career Specialty (15 units)
Select one: Advertising, Broadcast Journalism, Digital Medial, Electronic Media Production, Photo Journalism, Print Journalism, Public Relations (see Agricultural Communications Option check sheet available in the department office.)

Additional requirements (1-10 units)
Agricultural education majors must take the following courses, which also satisfy General Education requirements. These courses amount to 12 units of the 51 unit G.E. requirement, plus 1 excess unit beyond the 3 unit requirement in BREADTH Area B1.

BREADTH
Area B1: CHEM 3A
Area B2: BIOL 10, 11, or 12
Area D3: AGBS 1
Area E1: ASCI 67

General Education requirements (51 units)
(including 12 upper-division units, to be taken no sooner than the term in which 60 units of coursework are completed)

Electives and remaining degree requirements (5-8 units)
Upper-division writing requirement by exam or writing course (see advising note 5 following animal science major)
Courses supplementary to the major are strongly recommended.

Total minimum requirements (120 units)

Advising Notes

1. See advising notes 1-6 following animal sciences major.
2. Teacher preparation majors seeking the Agriculture Specialist Credential must also take AGED 187 and AGED 189.
3. Contact the Kremen School of Education and Human Development for admission and program requirements for the Single

Subject Credential.
4. Agriculture courses titled Tours or Lectures may be used to satisfy upper-division unit requirements but may not be counted to satisfy agricultural education core or specialized field requirements in the major.
5. Candidates for the Agriculture Specialist Credential must possess 3,000 hours or two years of occupational experience in agriculture. (For details, consult the agricultural education credentialing coordinator.)
6. Agricultural communications students must pass the Department Qualification Examination (DQE). The DQE is a screening examination administered by the Media, Communications, and Journalism Department. It must be passed before permission is given for enrollment in MCJ 10 and other writing and editing courses. Contact the Mass Communications and Journalism Department for DQE information, requirements, and testing dates.

Agricultural Education - Teacher Preparation Option, B.S.

Requirements

Bachelor of Science Degree Requirements

Agricultural Education Major, Teacher Preparation Option

Options: Agricultural Communications, Teacher Preparation

Major requirements (54-60 units)
Select Teacher Preparation or Agricultural Communications

Teacher Preparation Core (39 units)

Agricultural Economics (6 units)
AGBS 31, 120

Animal Science (9 units)
ASCI 1, 11; select one of the following: ASCI 21, 31, 41, 61, 91

Natural Resources and Forestry (3 units)
CRSC 105

Ornamental Horticulture (3 units)
OH 1

Plant Science (9 units)
CRSC 1; SW 100 or SW 100N; HORT 110

Mechanized Agriculture (9 units)
MEAG 1, 50, 114

Teacher Preparation Career Specialty (15 units)
Select one: Agricultural Business, Animal Science, Mechanized Agriculture, or Plant Science (see Teacher Preparation Option check sheet available in the department office.)

Additional requirements (1-10 units)
Agricultural education majors must take the following courses, which also satisfy General Education requirements. These courses amount to 12 units of the 51 unit G.E. requirement, plus 1 excess unit beyond the 3 unit requirement in BREADTH Area B1.

BREADTH
Area B1: CHEM 3A
Area B2: BIOL 10, 11, or 12
Area D3: AGBS 1
Area E1: ASCI 67

Teacher Preparation Option (9 units)
Teacher Education requirements: AGED 50 or EHD 50; AGED 135, 150

General Education requirements (51 units)

(including 12 upper-division units, to be taken no sooner than the term in which 60 units of coursework are completed)

Electives and remaining degree requirements (5-8 units)
Upper-division writing requirement by exam or writing course (see advising note 5 following animal science major)
Courses supplementary to the major are strongly recommended.

Total minimum requirements (120 units)

Advising Notes

1. See advising notes 1-6 following animal sciences major.
2. Teacher preparation majors seeking the Agriculture Specialist Credential must also take AGED 187 and AGED 189.
3. Contact the Kremen School of Education and Human Development for admission and program requirements for the Single Subject Credential.
4. Agriculture courses titled Tours or Lectures may be used to satisfy upper-division unit requirements but may not be counted to satisfy agricultural education core or specialized field requirements in the major.
5. Candidates for the Agriculture Specialist Credential must possess 3,000 hours or two years of occupational experience in agriculture. (For details, consult the agricultural education credentialing coordinator.)
6. Agricultural communications students must pass the Department Qualification Examination (DQE). The DQE is a screening examination administered by the Media, Communications, and Journalism Department. It must be passed before permission is given for enrollment in MCJ 10 and other writing and editing courses. Contact the Mass Communications and Journalism Department for DQE information, requirements, and testing dates.

Animal Science - Production Management Option-Dairy Science Specialization, B.S.

Requirements

Bachelor of Science Degree Requirements

Animal Sciences Major

Options: Production Management, Science.

Major requirements (61-66 units)

Animal Science Core (39 units)
ASCI 1, 35, 71, 101, 125, 135, 145, 155, 165, 186; BIOL 20 or 120
Select 6 units from the following: ASCI 21, 31, 41, 51*, 61*, 91

Production Management Option

Career specialization

Dairy Science Management Specialization (27 units)
ASCI 61* (from ASCI core), 146, 156, 161, 162, 163, 164
Select 9 units from: AGBS 28 or BA 18; AGBS 31 or ACCT 4A; AGBS 71 or PLANT 99; AGBS 117, 120; CHEM 8, 150; CRSC 1, 102, 105; SW 2, 100 or 100N
Select 3 units from: ASCI 180, 181, 182, 190, 194, 196

Additional requirements (1-3 units)
Each of the animal science options requires courses in the major that also satisfy General Education requirements. These courses amount to 9-12 units of the 51 unit General Education requirement, plus 1-3 excess units beyond the requirements in BREADTH Area B1 for the Production Management Option and Area B1 and B2 for the Science Option.

- Production Management Option (1 unit above G.E. requirement of 51 units) BREADTH: CHEM 3A (Area B1); BIOL 10 or 12 (Area B2); AGBS 1 (Area D3); ASCI 67 recommended (Area E1)
- Science Option (3 units above G.E. requirement of 51 units) BREADTH: CHEM 1A (Area B1); BIOL 1A (Area B2); ASCI 67 recommended (Area E1)

General Education requirements (51 units)

(including 12 upper-division units, to be taken no sooner than the term in which 60 units of coursework are completed)

Electives and remaining degree requirements (2-4 units)

Total minimum requirements (120 units)**

* Within the Animal Science Core, Equine Specialization majors are required to take ASCI 51 and Dairy Specialization majors are required to take ASCI 61.

** The total number of units will exceed 120 if a student chooses to meet all of the veterinary school entrance requirements, as additional courses may be required (see advising note 6.) This total presumes that the student has fulfilled the Upper-Division Writing Skill requirement by passing the Upper-Division Writing Skill examination for 0 units.

Advising Notes

1. Mandatory advising is required of all students in the degree program. See the administrative support coordinator for the name of your assigned adviser.
2. New students should request an option advising check sheet from the department office.
3. All students should make an appointment with their assigned faculty adviser prior to registration each semester.
4. CR/NC grading is not permitted for courses included in the major unless the courses have been designated CR/NC grading only.
5. The upper-division writing skills requirement can be met by passing the university examination (UDWE) or by taking an approved upper-division writing skills course, to be taken no sooner than the term in which 60 units are completed. One unit of credit in ENGL 100W may be earned for passing the exam if requested by the student; three to four units of credit will be earned by obtaining a letter grade of C or higher in an approved course.
6. Total number of units will exceed 120 if a student chooses to meet all of the Veterinary Medicine entrance requirements. Preveterinary and veterinary preparation students should consult their faculty adviser regarding entrance requirements and admissions procedures to veterinary school. Additional courses such as PHYS 2B, calculus, and statistics may be required.

Animal Science - Production Management Option-Equine Science Specialization, B.S.

Requirements

Bachelor of Science Degree Requirements

Animal Sciences Major

Options: Production Management, Science.

Major requirements (61-66 units)

Animal Science Core (39 units)
ASCI 1, 35, 71, 101, 125, 135, 145, 155, 165, 186; BIOL 20 or 120
Select 6 units from the following: ASCI 21, 31, 41, 51*, 61*, 91

Production Management Option

Career specialization

Equine Science Specialization (27 units)
ASCI 51* (from ASCI core), 151, 152, 153, 156
Select 9 units from: AGBS 28 or BA 18; AGBS 31 or ACCT 4A; AGBS 117, 120; CRSC 1, 102, 105; SW 2, 100 or 100N
Select 4 units from: ASCI 56, 57, 187
Select 4 units from: ASCI 180, 181, 182, 190, 194, 196

Additional requirements (1-3 units)
Each of the animal science options requires courses in the major that also satisfy General Education requirements. These courses amount to 9-12 units of the 51 unit General Education requirement, plus 1-3 excess units beyond the requirements in BREADTH Area B1 for the Production Management Option and Area B1 and B2 for the Science Option.

- Production Management Option (1 unit above G.E. requirement of 51 units) BREADTH: CHEM 3A (Area B1); BIOL 10 or 12

(Area B2); AGBS 1 (Area D3); ASCI 67 recommended (Area E1)
- Science Option (3 units above G.E. requirement of 51 units) BREADTH: CHEM 1A (Area B1); BIOL 1A (Area B2); ASCI 67 recommended (Area E1)

General Education requirements (51 units)
(including 12 upper-division units, to be taken no sooner than the term in which 60 units of coursework are completed)

Electives and remaining degree requirements (2-4 units)

Total minimum requirements (120 units)**

* Within the Animal Science Core, Equine Specialization majors are required to take ASCI 51 and Dairy Specialization majors are required to take ASCI 61.
** The total number of units will exceed 120 if a student chooses to meet all of the veterinary school entrance requirements, as additional courses may be required (see advising note 6.) This total presumes that the student has fulfilled the Upper-Division Writing Skill requirement by passing the Upper-Division Writing Skill examination for 0 units.

Advising Notes

1. Mandatory advising is required of all students in the degree program. See the administrative support coordinator for the name of your assigned adviser.
2. New students should request an option advising check sheet from the department office.
3. All students should make an appointment with their assigned faculty adviser prior to registration each semester.
4. CR/NC grading is not permitted for courses included in the major unless the courses have been designated CR/NC grading only.
5. The upper-division writing skills requirement can be met by passing the university examination (UDWE) or by taking an approved upper-division writing skills course, to be taken no sooner than the term in which 60 units are completed. One unit of credit in ENGL 100W may be earned for passing the exam if requested by the student; three to four units of credit will be earned by obtaining a letter grade of C or higher in an approved course.
6. Total number of units will exceed 120 if a student chooses to meet all of the Veterinary Medicine entrance requirements. Preveterinary and veterinary preparation students should consult their faculty adviser regarding entrance requirements and admissions procedures to veterinary school. Additional courses such as PHYS 2B, calculus, and statistics may be required.

Animal Science - Production Management Option-Livestock Business Mgt Specialization, B.S.

Requirements

Bachelor of Science Degree Requirements

Animal Sciences Major

Options: Production Management, Science.

Major requirements (61-66 units)

Animal Science Core (39 units)
ASCI 1, 35, 71, 101, 125, 135, 145, 155, 165, 186; BIOL 20 or 120
Select 6 units from the following: ASCI 21, 31, 41, 51*, 61*, 91

Production Management Option

Career specialization

Livestock Business Management Specialization (27 units)
ASCI 11, 81, 156
Select 9 units from: AGBS 28 or BA 18; AGBS 31 or ACCT 4A; AGBS 71 or PLANT 99; AGBS 117, 120; CHEM 8, 150; CRSC 1, 102, 105; SW 2, 100 or 100N
Select 6 units from: ASCI 121, 131, 151, 161, 171, 172
Select 5 units from: ASCI 180, 181, 182, 190, 194, 196

Additional requirements (1-3 units)
Each of the animal science options requires courses in the major that also satisfy General Education requirements. These courses amount to 9-12 units of the 51 unit General Education requirement, plus 1-3 excess units beyond the requirements in BREADTH Area B1 for the Production Management Option and Area B1 and B2 for the Science Option.

- Production Management Option (1 unit above G.E. requirement of 51 units) BREADTH: CHEM 3A (Area B1); BIOL 10 or 12 (Area B2); AGBS 1 (Area D3); ASCI 67 recommended (Area E1)
- Science Option (3 units above G.E. requirement of 51 units) BREADTH: CHEM 1A (Area B1); BIOL 1A (Area B2); ASCI 67 recommended (Area E1)

General Education requirements (51 units)
(including 12 upper-division units, to be taken no sooner than the term in which 60 units of coursework are completed)

Electives and remaining degree requirements (2-4 units)

Total minimum requirements (120 units)**

* Within the Animal Science Core, Equine Specialization majors are required to take ASCI 51 and Dairy Specialization majors are required to take ASCI 61.
** The total number of units will exceed 120 if a student chooses to meet all of the veterinary school entrance requirements, as additional courses may be required (see advising note 6.) This total presumes that the student has fulfilled the Upper-Division Writing Skill requirement by passing the Upper-Division Writing Skill examination for 0 units.

Advising Notes

1. Mandatory advising is required of all students in the degree program. See the administrative support coordinator for the name of your assigned adviser.
2. New students should request an option advising check sheet from the department office.
3. All students should make an appointment with their assigned faculty adviser prior to registration each semester.
4. CR/NC grading is not permitted for courses included in the major unless the courses have been designated CR/NC grading only.
5. The upper-division writing skills requirement can be met by passing the university examination (UDWE) or by taking an approved upper-division writing skills course, to be taken no sooner than the term in which 60 units are completed. One unit of credit in ENGL 100W may be earned for passing the exam if requested by the student; three to four units of credit will be earned by obtaining a letter grade of C or higher in an approved course.
6. Total number of units will exceed 120 if a student chooses to meet all of the Veterinary Medicine entrance requirements. Preveterinary and veterinary preparation students should consult their faculty adviser regarding entrance requirements and admissions procedures to veterinary school. Additional courses such as PHYS 2B, calculus, and statistics may be required.

Animal Science - Production Management Option-Meat Technology Specialization, B.S.

Requirements

Bachelor of Science Degree Requirements

Animal Sciences Major

Options: Production Management, Science.

Major requirements (61-66 units)

Animal Science Core (39 units)
ASCI 1, 35, 71, 101, 125, 135, 145, 155, 165, 186; BIOL 20 or 120
Select 6 units from the following: ASCI 21, 31, 41, 51*, 61*, 91

Production Management Option

Career specialization

Meat Technology Specialization (27 units)

ASCI 11, 162, 171, 172; FSC 125; CHEM 8
Select 3 units from: ASCI 121, 131,151, 161
Select 5 units from: ASCI 180, 181, 182, 190, 194, 196

Additional requirements (1-3 units)
Each of the animal science options requires courses in the major that also satisfy General Education requirements. These courses amount to 9-12 units of the 51 unit General Education requirement, plus 1-3 excess units beyond the requirements in BREADTH Area B1 for the Production Management Option and Area B1 and B2 for the Science Option.

- Production Management Option (1 unit above G.E. requirement of 51 units) BREADTH: CHEM 3A (Area B1); BIOL 10 or 12 (Area B2); AGBS 1 (Area D3); ASCI 67 recommended (Area E1)
- Science Option (3 units above G.E. requirement of 51 units) BREADTH: CHEM 1A (Area B1); BIOL 1A (Area B2); ASCI 67 recommended (Area E1)

General Education requirements (51 units)
(including 12 upper-division units, to be taken no sooner than the term in which 60 units of coursework are completed)

Electives and remaining degree requirements (2-4 units)

Total minimum requirements (120 units)**

* Within the Animal Science Core, Equine Specialization majors are required to take ASCI 51 and Dairy Specialization majors are required to take ASCI 61.
** The total number of units will exceed 120 if a student chooses to meet all of the veterinary school entrance requirements, as additional courses may be required (see advising note 6.) This total presumes that the student has fulfilled the Upper-Division Writing Skill requirement by passing the Upper-Division Writing Skill examination for 0 units.

Advising Notes

1. Mandatory advising is required of all students in the degree program. See the administrative support coordinator for the name of your assigned adviser.
2. New students should request an option advising check sheet from the department office.
3. All students should make an appointment with their assigned faculty adviser prior to registration each semester.
4. CR/NC grading is not permitted for courses included in the major unless the courses have been designated CR/NC grading only.
5. The upper-division writing skills requirement can be met by passing the university examination (UDWE) or by taking an approved upper-division writing skills course, to be taken no sooner than the term in which 60 units are completed. One unit of credit in ENGL 100W may be earned for passing the exam if requested by the student; three to four units of credit will be earned by obtaining a letter grade of C or higher in an approved course.
6. Total number of units will exceed 120 if a student chooses to meet all of the Veterinary Medicine entrance requirements. Preveterinary and veterinary preparation students should consult their faculty adviser regarding entrance requirements and admissions procedures to veterinary school. Additional courses such as PHYS 2B, calculus, and statistics may be required.

Animal Science - Science Option-Preprofessional Specialization, B.S.

Requirements

Bachelor of Science Degree Requirements

Animal Sciences Major

Options: Production Management, Science.

Major requirements (61-66 units)

Animal Science Core (39 units)
ASCI 1, 35, 71, 101, 125, 135, 145, 155, 165, 186; BIOL 20 or 120
Select 6 units from the following: ASCI 21, 31, 41, 51*, 61*, 91

Science Option

Career specialization

Preprofessional Specialization (24 units)
ASCI 156; CHEM 8, 129A, 150; AGBS 71 or PLANT 99 or MATH 101
Select 6 units from: ASCI 121, 131, 151, 161, 171, 172
Select 3 units from: AGBS 28 or BA 18; AGBS 31 or ACCT 4A; AGBS 117, 120; CRSC 1, 102, 105; SW 2, 100 or 100N
Select 3 units from: ASCI 180, 190, 194

Additional requirements (1-3 units)
Each of the animal science options requires courses in the major that also satisfy General Education requirements. These courses amount to 9-12 units of the 51 unit General Education requirement, plus 1-3 excess units beyond the requirements in BREADTH Area B1 for the Production Management Option and Area B1 and B2 for the Science Option.

- Production Management Option (1 unit above G.E. requirement of 51 units) BREADTH: CHEM 3A (Area B1); BIOL 10 or 12 (Area B2); AGBS 1 (Area D3); ASCI 67 recommended (Area E1)
- Science Option (3 units above G.E. requirement of 51 units) BREADTH: CHEM 1A (Area B1); BIOL 1A (Area B2); ASCI 67 recommended (Area E1)

General Education requirements (51 units)
(including 12 upper-division units, to be taken no sooner than the term in which 60 units of coursework are completed)

Electives and remaining degree requirements (2-4 units)

Total minimum requirements (120 units)**

* Within the Animal Science Core, Equine Specialization majors are required to take ASCI 51 and Dairy Specialization majors are required to take ASCI 61.
** The total number of units will exceed 120 if a student chooses to meet all of the veterinary school entrance requirements, as additional courses may be required (see advising note 6.) This total presumes that the student has fulfilled the Upper-Division Writing Skill requirement by passing the Upper-Division Writing Skill examination for 0 units.

Advising Notes

1. Mandatory advising is required of all students in the degree program. See the administrative support coordinator for the name of your assigned adviser.
2. New students should request an option advising check sheet from the department office.
3. All students should make an appointment with their assigned faculty adviser prior to registration each semester.
4. CR/NC grading is not permitted for courses included in the major unless the courses have been designated CR/NC grading only.
5. The upper-division writing skills requirement can be met by passing the university examination (UDWE) or by taking an approved upper-division writing skills course, to be taken no sooner than the term in which 60 units are completed. One unit of credit in ENGL 100W may be earned for passing the exam if requested by the student; three to four units of credit will be earned by obtaining a letter grade of C or higher in an approved course.
6. Total number of units will exceed 120 if a student chooses to meet all of the Veterinary Medicine entrance requirements. Preveterinary and veterinary preparation students should consult their faculty adviser regarding entrance requirements and admissions procedures to veterinary school. Additional courses such as PHYS 2B, calculus, and statistics may be required.

Animal Science - Science Option-Pre Veterinary Specialization, B.S.

Requirements

Policies and Procedures for Admission to B.S. in Animal Science-Veterinary Preparation Specialization

Admission into the Veterinary Preparation specialization of the bachelor's degree program in Animal Science is a two-step process: (1) admission to the university and (2) admission into the Veterinary Preparation major specialization. Students not in the program may apply to the university as Animal Science Preveterinary majors. Students may apply for admission into the Veterinary Preparation major the semester during which they will complete all prerequisite coursework. Approval will be contingent upon satisfactory fulfillment of the prerequisites and the grade point average standard.

In order to gain admission into the Animal Science Veterinary Preparation major and enroll in upper-division animal science courses, students must do the following:

a. Complete the following courses or their equivalents with a C or better in each course, CR/NC grades are not acceptable:
ASCI 1 Introduction to Animal Science
ASCI 68 Pre-Vet Orientation
BIOL 1A Introductory Biology
BIOL 1B and 1BL Introductory Biology and Lab
BIOL 20 Introductory Microbiology
CHEM 1A and 1AL General Chemistry and Lab 1A
CHEM 1B and 1BL General Chemistry and Lab 1B

b. Have a cumulative grade point average of at least 3.2

c. Submit a Change of Major Request form requesting admission into the Veterinary Preparation major. Students may obtain this form from the Animal Science and Agricultural Education Department office in the Agricultural Science Building room 232 or online at *www.fresnostate.edu/studentaffairs/are/forms/*

Bachelor of Science Degree Requirements

Animal Sciences Major

Options: Production Management, Science.

Major requirements (61-66 units)

Animal Science Core (39 units)
ASCI 1, 35, 71, 101, 125, 135, 145, 155, 165, 186; BIOL 20 or 120
Select 6 units from the following: ASCI 21, 31, 41, 51*, 61*, 91

Science Option

Veterinary Preparation Specialization (22-25 units)
ASCI 68; BIOL 1B, 1BL; CHEM 1B, 1BL, CHEM 8 or 128A and 128B, CHEM 129A, 150; PHYS 2A

Additional requirements (1-3 units)
Each of the animal science options requires courses in the major that also satisfy General Education requirements. These courses amount to 9-12 units of the 51 unit General Education requirement, plus 1-3 excess units beyond the requirements in BREADTH Area B1 for the Production Management Option and Area B1 and B2 for the Science Option.

- Production Management Option (1 unit above G.E. requirement of 51 units) BREADTH: CHEM 3A (Area B1); BIOL 10 or 12 (Area B2); AGBS 1 (Area D3); ASCI 67 recommended (Area E1)
- Science Option (3 units above G.E. requirement of 51 units) BREADTH: CHEM 1A (Area B1); BIOL 1A (Area B2); ASCI 67 recommended (Area E1)

General Education requirements (51 units)
(including 12 upper-division units, to be taken no sooner than the term in which 60 units of coursework are completed)

Electives and remaining degree requirements (2-4 units)

Total minimum requirements (120 units)**

* Within the Animal Science Core, Equine Specialization majors are required to take ASCI 51 and Dairy Specialization majors are required to take ASCI 61.
** The total number of units will exceed 120 if a student chooses to meet all of the veterinary school entrance requirements, as additional courses may be required (see advising note 6.) This total presumes that the student has fulfilled the Upper-Division Writing Skill requirement by passing the Upper-Division Writing Skill examination for 0 units.

Advising Notes

1. Mandatory advising is required of all students in the degree program. See the administrative support coordinator for the name of your assigned adviser.
2. New students should request an option advising check sheet from the department office.
3. All students should make an appointment with their assigned faculty adviser prior to registration each semester.
4. CR/NC grading is not permitted for courses included in the major unless the courses have been designated CR/NC grading

only.
5. The upper-division writing skills requirement can be met by passing the university examination (UDWE) or by taking an approved upper-division writing skills course, to be taken no sooner than the term in which 60 units are completed. One unit of credit in ENGL 100W may be earned for passing the exam if requested by the student; three to four units of credit will be earned by obtaining a letter grade of C or higher in an approved course.
6. Total number of units will exceed 120 if a student chooses to meet all of the Veterinary Medicine entrance requirements. Preveterinary and veterinary preparation students should consult their faculty adviser regarding entrance requirements and admissions procedures to veterinary school. Additional courses such as PHYS 2B, calculus, and statistics may be required.

Anthropology, B.A.

Requirements

Bachelor of Arts Degree Requirements

Anthropology Major

Major requirements (34 units)
(see Advising Note 1)

A. CORE CURRICULUM (19 units)
(required of all majors)
ANTH 2 (3 units)
ANTH 3 (3 units)
ANTH 100 (3 units)
ANTH 101 or ANTH 111 (see Advising Note 2) (6 units)
ANTH 104 (3 units)
ANTH 195 (1 unit)

In addition to the core curriculum, each student, in consultation with an adviser, will select the following:

Elective curriculum
(15 units minimum.) Three upper-division classes within the student's area of concentration (e.g. cultural, physical, or archaeology) (9 units) (see Advising Note 3)
Two upper-division classes, one in each remaining subdiscipline (e.g., an archaeology student would take one cultural and one physical course) (6 units) (see Advising Note 3)

B. ADDITIONAL ELECTIVES
Students may benefit from additional courses to supplement their area of interest; please consult an adviser.

General Education requirements (51 units)

Second major, electives, and remaining degree requirements (35-38 units)*
(See Degree Requirements); may be used toward a double major or minor.
(See Advising Notes 3 and 4.)

Total (120 units)

Advising Notes

1. CR/NC grading is not permitted in the anthropology major or minor unless the grading method for the course is CR/NC only.
2. ANTH 101 and 111 must be taken for at least 6 units.
3. ANTH 161 cannot be taken to satisfy the physical anthropology elective requirement.
4. Units in this category as well as in General Education, may also be applied toward a double major or minor, as appropriate. (See Double Major or departmental minor.)
5. Students must complete 40 upper-division units as part of the requirements to earn a B.A.
6. No General Education Integration or Multicultural/International course offered by the Anthropology Department may be used to satisfy the General Education requirements for majors in the department.

* This total indicates that ANTH 2 or 3 in G. E. Breadth D3 also may be applied to the anthropology major. Consult the department chair or faculty adviser for additional details.

Art - Graphic Design Option, B.A.

Requirements

Bachelor of Arts Degree Requirements

Art Major - Graphic Design Option

Major requirements (69 units)

Art and Design Core (18 units)
ARTH 10 and 11 (6 units)
ART 13 (3 units)
ART 20 or ID 43 (3 units)
ART 24 or 30 or 40 (3 units)
ART 14 or 50 or 60 or 70 or 80* (3 units)

Lower-division requirements (21 units)
GD 35, 37, 39, 41, 42, 50, 60

Upper-division requirements (15 units)
GD 135, 150, 163; ART 116; MCJ 142

Upper-division electives (15 units)
Select from ART 101, 107, 125, 126, 127, 130, 133, 180*, 185, 188; ARTH 132, 136; GD 132; MCJ 131, 144, 146, 148

General Education requirements (51 units)

Total units (120)

* See adviser for prerequisites.

Advising Notes

1. All courses required for the major must receive a letter grade.
2. Student work may be retained for a limited period for display and accreditation visits.
3. The upper-division writing skills requirement can be met by passing the university examination or by completing a W course with a letter grade of C or higher, to be taken no sooner than the term in which 60 units are completed.
4. No General Education course offered by the Department of Art and Design may be used to satisfy the General Education requirements for majors in the department.
5. A grade of C or higher in all graphic design coursework is necessary for successful completion of the major. Any course required as a prerequisite must be completed with a grade of C or better before registration in the subsequent course.

Art, B.A.

Requirements

Bachelor of Arts Degree Requirements

Art Major

Major requirements (54 units)

Art and Design Core (21 units)
ARTH 10 and 11 (6 units)

ART 13 (3 units)
ART 14 (3 units)
ART 20 or ID 43 (3 units)
ART 24 or 30 or 40 (3 units)
ART 50 or 60 or 70 or 80 (3 units)

Computer Imaging requirement (3 units)
ART 37

Theory requirement (3 units)
ART 101

Art Gallery requirement (3 units)
ART 112

Art History requirement (6 units)
ARTH 132 or 136 and one additional 3-unit upper-division art history course

Area of Emphasis (I, II, III, IV, V, VI) (9 units)
I. Drawing/Painting
ART 120, 121, 140, 141
II. Ceramics/Sculpture
ART 152, 153, 155, 160, 161, 165
III. Printmaking/Photography
ART 125, 126, 127, 130, 133, 182, 183, 185
IV. Crafts/Design
ART 113, 116, 166, 170
V. Animation/New Media
ART 102, 107, 180, 188
VI. Art History
In consultation with their major adviser, students with an Art History Emphasis will complete an additional 3-unit upper-division art history course from each of the following areas:

Renaissance, Baroque (ARTH 120 or 122 or 124 or 126)
Modern, Contemporary (ARTH 131 or 132 or 136)
World Art (ARTH 160 or 170 or 173 or 175)

Art and Design upper-division electives (9 units)

General Education requirements (51 units)

Electives and remaining degree requirements (15-21 units*)
(See Degree Requirements); may be used toward a double major or minor.

Total (120 units)

* This total indicates that a maximum of two courses (6 units) in G.E. Breadth C1 and G.E. Breadth E1 also may be applied to the art major. These courses include ARTH 10, 11; ART 20, 40, 50 (G.E. C1); and/or ART 13 (G.E. E1). Consult the department chair or faculty adviser for additional details.

Advising Notes

1. CR/NC grading is only permitted in ART 198, Internship.
2. General Education and elective units may be used toward a double major or minor (see double major or departmental minor). Consult the appropriate department chair, program coordinator, or faculty adviser for further information.
3. No General Education Integration course offered by the Department of Art and Design may be used to satisfy the General Education requirements for majors in the department.

Athletic Training, B.S.

Requirements

Policies and Procedures for B.S.A.T. Admission. The Department of Kinesiology offers a program that leads to the Bachelor of Science degree in Athletic Training (BSAT). The degree requires a minimum of 120 semester units. The Athletic Training Program requires four semesters of athletic training and other required courses in addition to the required prerequisite courses. The General Education requirements are the same for all CSU Fresno students.

Students who are enrolled and/or registered in their final semester prior to graduation or have already graduated are eligible to sit for the Board of Certification exam. The program is accredited by the Commission on Accreditation of Athletic Training Education (CAATE).

Applicants must meet all criteria for admission to the university and to the athletic training major. Admission to the program is a two-step process: (1) admission to the university and then (2) admission to the Athletic Training major. All prerequisites must be completed prior to application to the Athletic Training major.

All students who have been admitted to Fresno State, but have not yet been admitted to the Athletic Training Program, will be admitted to the university as "pre-athletic training" students. Admission to the university does not guarantee admission to the Athletic Training program.

Eligibility to apply to the BSAT

- Specific health criteria must be met. Students with physical limitations who cannot meet clinical course objectives may be unable to satisfactorily complete the requirements for a B.S. in Athletic Training. Contact the coordinator of the Athletic Training program regarding specific physical requirements.
- Students must have an overall GPA of 2.75.
- The following ten (10) prerequisite courses must be completed prior to application to the athletic training major program.

1. G.E. Area A1 (COMM 3, 7, or 8) (3 units)
2. G.E. Area A2 (ENGL 10/ENGL 5B) (3 units)
3. G.E. Area B2 (BIOL 10 or 1A) (3 units)
4. G.E. Area B4* or Statistics
5. G.E. Area E (KINES 32 + KAC) (3 units)
6. Anatomy and Physiology I w/ lab (BIOL 67A) (4 units)
7. Anatomy and Physiology II w/ lab (BIOL 67B) (4 units)
8. Introduction to Athletic Training (KINES 38) (3 units)
9. Pre-Observation in Athletic Training (KINES 43) (1 unit) or completion of at least 200 clinical observation hours in a settings employing a certified athletic trainer.
10. First Responder and Emergency Care (PH 49) (3 units) or Emergency Medical Technician

Total (30 units)
See G.E. list for approved courses.

- Each prerequisite must be completed with a minimum C grade. CR/NC grades are not acceptable except in those courses which are designated CR/NC grading only
- A GPA of 3.0 is required in the ten prerequisite courses
- A maximum of two different prerequisite courses may be repeated once to improve grade
- Online, Web-based, or distance learning science and laboratory courses taken at other institutions must be approved by the athletic training program director.

Applying to the Program/Selection Criteria

The program is on impacted status (i.e., the number of applications received is greater than the number of vacancies for the program). Therefore, admission into the Athletic Training major is very competitive. Only applicants with the highest composite scores in the ten prerequisite courses, who do well on their personal interview score, and with strong professional letters of recommendation will be offered admission. Applicants not selected may reapply each year, but must compete with the entire new applicant pool.
Selection process for the Athletic Training Program:

* Students must submit an Athletic Training Program application.
* Students must submit sealed, official transcripts from all colleges and universities attended, except for Fresno State.
* Students will be ranked according to overall grade point average (GPA) and GPA in the ten prerequisites courses.
* Letters of recommendation will be reviewed and scored based on specific criteria. Two letters of recommendation are required. One letter must be from a certified athletic trainer.
* Composite scores will be calculated from overall GPA + prerequisite course GPA + and letters of recommendation scores.
* Interviews will be granted to applicants with the highest composite scores.
* Interview performance will be reviewed and scored based on specific criteria .

* Interview score will be added to the composite score (see above). Those with the highest scores (beginning with the highest score and in descending order) will be offered admission to the program, until all vacancies are filled.

Preference will be given to US. military veterans who meet minimum requirements for admission and who submit a DD214 showing a discharge date no more than four years prior to date application is submitted.

Students who have been admitted to the major and fail to attend the first day of class, without prior arrangement with the athletic training program director, will be dropped from the major and not considered for future admission.

Application Filiång Period

- **Fall Admission Athletic Training Program Application Deadline** - February 1, prior to fall admission
- Cohorts for the athletic training major are only admitted each fall semester. Athletic Training Program applications are available January 1-31 and must be submitted by Feb.1 of each year.
- University applications are available at www.csumentor.com.

* Dates are subject to change. Additional information and applications can be obtained online at http://www.fresnostate.edu/chhs/kinesiology/degrees-programs/athletic-training/ or by calling the athletic training program director at 559.278.2543. The program application includes additional instructions and deadlines. The university application form can be obtained online at *www.csumentor.edu*.

Note: Students who have been admitted to the major, have made no arrangements with the department, and fail to attend the first day of class will be dropped from the major and not considered for future admission.

Leave of Absence from Athletic Training Program

- In order to request a leave of absence (LOA), a student must submit the following in writing, to the athletic training program director:
  Dates of the LOA (start and end dates)
  Detailed reason required for the LOA
  Contact information during the time of the LOA

- Leaves will only be granted to students who have been admitted to the program and have completed at least one semester in the program.
- A leave of absence may be granted for up to one year.

Request to return from leave of absence

- In order to be reinstated into the athletic training program, students must request reinstatement, in writing, to the athletic training program director.
- Students may be asked to fulfill the following requirements before reinstatement from an LOA is granted:
- Letters of recommendation or clearance to return from involved parties (i.e., counselors, physicians, rehabilitation specialists, financial institutions, etc.)
- Re-enroll in up to 6 units of coursework in order to remediate loss of knowledge, skills, and abilities.
- Students will only be allowed reinstatement on a space-available basis and must receive permission from the program director in order to enroll in classes. Students will receive written notice of reinstatement to the major.

Progression in the major

Criteria for retention, progression, and graduation from the program requires a minimum grade of C in all required major courses and “credit” in courses offered for CR/NC grading only. Required major courses may be repeated only once to achieve a C or credit grade. Any student who must repeat more than two major courses will not be permitted to continue in the major.

Refer to the Student Handbook, Baccalaureate Degree Athletic Training Program, for complete progression and retention policies.

Expenses

Students must be prepared to incur any additional cost such as uniforms, malpractice insurance, health insurance, stethoscopes, course materials, lab fees, etc., and be responsible for their own transportation to clinical facilities. A current CPR certification, a physical examination, and specific immunizations are required. CPR certification must be maintained throughout the students’ tenure in the program.

Clinical Facilities

As part of the athletic training program, students are required to complete 1,200 clinical hours, working under the direct supervi-

sion of a certified athletic trainer. Clinical placements are determined in consultation with the program director, and Fresno State and affiliated clinical staff. A wide variety of clinical placements are available. Placement facilities include Fresno State Athletics, Fresno Pacific University, Sierra Pacific Orthopedic and Spine Center, several high schools within Clovis Unified School District, Fresno Unified District, Central Unified District, Madera Unified District, Golden Valley Unified District, and San Joaquin Memorial High School.

Bachelor of Science Degree Requirements

Athletic Training Major

Athletic training requirements (69 units)

Core Program (15 units)*
PH 48 or 49; KINES 38, 43; BIOL 67A, 67B

Major requirements (45 units)
KINES 116, 118, 121, 137, 138A, 138B, 139, 140A, 140B, 141, 142 (4 units); 143A-D (8 units); KINES 180T (Human Structure)

Electives (9 units)

General Education requirements (51 units)

Total (120 units)

* General Education Areas A1, B2, B4, A2, and E are required as prerequisites for admission into the Bachelor of Science in Athletic Training.

Advising Notes for BSAT

1. Required major courses may be repeated only once to achieve a C or credit grade.
2. Any student who must repeat more than two major courses will not be permitted to continue in the major.
3. CR/NC grading is not permitted in courses for the kinesiology major, except in those courses which are designated CR/NC grading only.
4. General Education and elective units may be used toward a minor (see departmental minors) or supplemental credential. Consult the appropriate department chair, program coordinator, or faculty adviser for further information.
5. A grade of C or higher in all required coursework is necessary for successful completion of the major. Any course required as a prerequisite must be completed with a grade of C or better before registration in the subsequent course.
6. Lower-division courses taken at other institutions may be accepted as being equivalent to lower-division requirements in the department. Petitions to have courses accepted should be completed during the first semester in the major.
7. No General Education Integration and Multicultural/International course offered by the Kinesiology Department may be used to satisfy the General Education requirements for majors in the department.

Biochemistry, B.S.

Requirements

Bachelor of Science Degree Requirements

Biochemistry Major

The Bachelor of Science in Biochemistry is intended for students who plan to pursue a career in biochemical research, chemistry research, and suitable for a student pursuing health professions (medical, pharmaceutical, dental, and other clinical and health professions). The B.S. program is a comprehensive, multi-disciplinary program to prepare students for graduate study in pursuit of a Master of Science (M.S.) or Doctor of Philosophy (Ph.D.) in areas related to biochemistry.

Note: Biochemistry majors may not take courses listed in category A or B for CR/NC grades.

A. Major requirements (50-54 units)

Core Program
CHEM 1A, 1AL, 1B, 1BL, 102, 110A, 112, 128A, 128B, 129A, 129B, 155A, 155B, 156

Select two additional upper-division CHEM courses (4-7 units): CHEM 106, 106S, 111, 123, 124, or 190 or other approved courses.
Select two additional upper-division BIOL courses (6-7 units): BIOL 102, 103, 104, 120, or other approved courses.

B. Additional requirements (25-28 units)
BIOL 1A, 1B, 1BL
MATH 75, 76
PHYS 2A, 2B (or PHYS 4A, 4AL, 4B, 4BL, 4C strongly recommended)

C. Remaining General Education requirements* (42 units)

D. Free elective units (0-3 units)

Total minimum (120 units)

* Of the 51 required General Education units, 9 units will be satisfied by the following courses in the major and additional requirements: 3 units of CHEM 1A and 1AL or PHYS 2A (or PHYS 4A and 4AL) in G.E. Breadth B1; 3 units of BIOL 1A in G.E. Breadth B2; 3 units of MATH 75 in G.E. Foundation B4.

The following is an example of a four-year program for the B.S. in Biochemistry.

First Semester Fall
CHEM 1A and 1AL (5 units)
MATH 75 (4 units)
ENGL 5B or 10 (3 units)
General Education (3 units)
Total (15 units)

Second Semester Spring
CHEM 1B and 1BL (5 units)
MATH 76 (4 units)
PHYS 2A (4 units)
General Education (3 units)
Total (16 units)

Third Semester Fall
CHEM 128A (3 units)
PHYS 2B (4 units)
BIOL 1A (4 units)
General Education (3 units)
Total (14 units)

Fourth Semester Spring
CHEM 128B (3 units)
CHEM 129A (2 units)
BIOL 1B, 1BL (5 units)
Electives or General Education (6 units)
Total (16 units)

Fifth Semester* Fall
**CHEM 155A (3 units)
CHEM 129B (2 units)
CHEM 102 (5 units)
**CHEM 110A (3 units)
Electives or General Education (6 units)
Total (16 units)

Sixth Semester* Spring
***CHEM 155B (3 units)

***CHEM 156 (3 units)
***CHEM 112 (3 units)
Electives or General Education (6 units)
Total (15 units)

Seventh Semester Fall
Electives or General Education (14 units)
Total (14 units)

Eighth Semester Spring
Electives or General Education (14 units)
Total (14 units)

* It is important to fulfill the upper-division writing skills requirement by exam or W class during the junior year.
** Offered fall semester only.
*** Offered spring semester only.

Biology, B.S.

Requirements

Bachelor of Science Degree Requirements

Biology Major

The Bachelor of Science in Biology is a 120-unit program. Of the total, 51 units are required to satisfy the university's General Education Program and 22 units are required by the Department of Biology to satisfy the biology core. The core curriculum is a sequence of courses required for all biology majors. The core curriculum builds the foundation upon which further learning in biology will be based. Additional requirements are listed below.

The biology degree program prepares students for entry into a wide range of careers, for further academic study at the graduate level, including the department's own M.S. in Biology, and for entrance into professional degree programs. Within the scope of the major requirements and electives, students may focus their studies in areas that best meet their future career needs. Students must consult an adviser for help in selecting courses appropriate to their interests and career objectives.

Students may also obtain an emphasis in marine science by selecting electives offered at the Moss Landing Marine Laboratories. An emphasis on cellular and molecular processes prepares students for the department's Master of Biotechnology and the Certificate of Advanced Studies in Biotechnology. Students preparing for the biotechnology certificate program should select a general microbiology course with laboratory and a general biochemistry laboratory course among their elective courses.

Students planning for graduate and professional schools should be aware that entrance requirements for those programs will often exceed the minimal requirements for a Biology B.S., particularly in the ancillary fields of chemistry, physics, and mathematics. An adviser should be consulted for specific information on graduate and professional school requirements.

Students should meet with an adviser a minimum of once a semester so the adviser can review the student's program and progress.

Major requirements (42 units)
- Biology Core (22 units)
- Other major requirements (20 units)

Biology Core (22 units)
The biology core is required of all majors (see Advising Notes.)
BIOL 1A, 1B and 1BL, 101, 102, 103, 104, 105 (22 units)

Other Major Requirements (20 units)
In addition to the core, all majors must complete major and additional requirements described as follows:

All students must take a minimum of three upper-division biology (BIOL) laboratory courses. Of these, at least one must be designated as a diversity course, and one must be designated as a physiology course, both identified below. The third course may

be any other laboratory course, also identified below. All other courses taken as part of the major requirements are the choice of the student. One of these additional courses may be either BIOL 67A or BIOL 67B, but no other lower-division course may be used.

1. Diversity Courses:
BIOL 120, 122, 123, 124, 125, 130, 131, 132, 133, 134, 135, 136, 140, 143, 178; MSCI 112, 113, 124, 125, 131

2. Physiology Courses:
BIOL 155, 156, 157 and 157L, 160, 161, 162 and 162L; MSCI 135

3. Third Laboratory Course:
BIOL 120, 122, 123, 124, 125, 130, 131, 132, 133, 134, 135, 136, 140, 141, 142, 143, 144, 151, 152, 153, 155, 156, 157 and 157L, 160, 161, 162 and 162L, 170, 171, 172S, 174, 176, 178; MSCI 112, 113, 124, 125, 131, 135

Options for Completing the 20-unit requirement:
You may take additional laboratory courses from line 3 above, BIOL 67A or 67B, 110, 119, 121, 150, 158, 163, 164, 165, 166, 173, 175, 189T, up to 6 units of 190.

Additional requirements (30 units)
CHEM 1A, 1AL, 1B, 1BL, 8 or 128A, 129A, and 150** or 155A (18 units)
MATH 70 or 75 (4 units)
MATH 101 or PSYCH 42 (4 units)
PHYS 2A (4 units)

General Education requirements (51 units)

Electives and remaining degree requirements (6 units)
(see Degree Requirements); may be used toward a double major or minor

Total (120 units)

* See Advising Note 1.
** See Advising Note 3.

Advising Notes for B.S. in Biology

1. The total of 120 units assumes biology majors will maximize the 9 units of General Education requirements that also may be applied to major and additional required courses as follows: 3 units of CHEM 1A/1AL in G.E. Breadth B1; 3 units of BIOL 1A in G.E. Breadth B2; and 3 units of MATH 70 or 75 in G.E. Foundation B4. Consult your major academic adviser for details.
2. B.S. biology majors who have taken introductory sequences other than BIOL 1A and 1B /BL must consult with their faculty adviser or department chair for equivalency evaluation prior to beginning their upper-division coursework.
3. Please note that CHEM 128B is a prerequisite for CHEM 150 and 155A.
4. Premedical, prepharmacy, preveterinary, and preclinical laboratory sciences students are required to take CHEM 128B in addition to CHEM 128A, and PHYS 2B in addition to PHYS 2A. Prepharmacy students are required to take, and most pre-medical and preveterinary students should take, CHEM 129B. Preclinical laboratory sciences students are required to take CHEM 105. Some prepharmacy and premedical students should take MATH 76.
5. No BIOL courses meeting General Education Integration course requirements may be used to satisfy the General Education requirements for biology majors.
6. CR/NC grading is not permitted in the biology major.
7. General Education, additional, and elective requirements may be used toward a double major or minor (see Double Major or departmental minor). Consult the appropriate department chair, program coordinator, or faculty adviser for additional information.

Suggested Sequence of Courses for B.S. in Biology

The following comments on timing and sequence are intended for full-time students who plan to complete the B.S. in four years. Students with extensive extracurricular obligations should make appropriate timing adjustments to avoid overloads. See your adviser for assistance.

A total of 120 units must be completed for the B.S. in Biology. In addition to courses required for the major, full-time students should add General Education requirements and electives to bring semester totals to 15-17 units.

During the first two years, resident students should complete some General Education requirements, BIOL 1A and 1B/1BL, all lower-division additional requirements, and any lower-division electives that might be selected. Students are advised to keep

some General Education coursework for their junior and senior years. BIOL 101, 102, 103, and statistics should be completed as early as possible and preferably no later than the end of the third year. The remainder of the third and fourth years should be spent completing requirements for the major, for General Education, and for the electives in biology and other fields. BIOL 105 must be taken after the other core courses.

Biomedical Physics, B.S.

Requirements

Bachelor of Science Degree Requirements

Biomedical Physics Major

The B.S. in Biomedical Physics is an interdisciplinary program developed with the assistance of the National Institute of Mental Health and the National Institute of Biomedical Imaging and Bioengineering to motivate students pursuing careers in applications of physics in medicine. The curriculum provides fundamental groundwork in physics, mathematics, and biology. For further details, please contact Dr. Amir Huda at 559.278.8427 or visit http://medicalphysics.fresnostate.edu.

Bachelor of Science in Biomedical Physics Requirements. Those seeking admission to the B.S. in Biomedical Physics major must adhere to university admissions requirements, including submission of applications, official transcripts, and appropriate standardized test scores.

Biomedical Physics Major

Biomedical Physics Requirements (46 units) (see note 1)

Physics core (14 units)
PHYS 4A, 4AL, 4B, 4BL, 4C, 102

Biology core (9 units)
BIOL 65, 144

Upper-division courses (23 units)
PHYS 135, 136, 137, 155, 156, 157, 158

Additional Requirements (29 units)
MATH 75, 76, 77, 81; CHEM 1A, 1AL, 1B, 1BL; CSCI 40

General Education Requirements (51 units)*

Total units (120 units)

* There are 51 units required for General Education. Of these 51 required units, 6 units will be satisfied by the following two courses in additional requirements: 3 units of CHEM 1A in G.E. Breadth B1 and 3 units of MATH 75 in G.E. Foundation B4.

Advising Notes

1. CR/NC grading is not permitted in the biomedical physics major. Additional requirements, however, may be taken for CR/NC (see Credit/No Credit Grading),
2. Students should be sure to take sufficient upper-division units in their General Education courses and electives to satisfy the university requirement of 40 upper-division units. It is important to fulfill the upper-division writing skills requirement by exam or “W” class after completing 60 units for which a student may request 1 unit of credit.

Business Administration - Accelerated Option, B.S. - Continuing & Global Education

Requirements

Accelerated Bachelor's Degree in Business Administration (ABBA) Requirements

Highlights of the program:The Accelerated Bachelor's in Business Administration (ABBA) provides students with an opportunity to complete the last two years of their degree within 15 months. The ABBA program was designed as a Special Option with focus on general knowledge in Business Administration. The courses are taught in a cohort format on the Fresno State campus (students go through all the courses with the same group of students from start to finish) on two weekday evenings with additional alternate Saturdays. The total number of units needed to complete the program is 62, of which 20 units will be completed online. Due to the nature of this program, seating is limited.

- classes guaranteed to be available
- cohort model, with online and face-to-face courses
- not subject to any fee increases throughout the program
- courses taught by distinguished Craig School of Business faculty
- work and complete the degree at the same time (night and weekend classes)
- financial aid is available for those who qualify

There is space for 44 students in the cohort. As part of the cohort program, all your classes are prescheduled and your seat will be reserved. From start to finish, it will take 15 months to complete the program.

The intended start date for the fourth cohort is January 2014.
Fees are tentatively set at $350 per unit.

The degree is the same (Bachelor of Science in Business Administration) as the on-campus degree program. However, the ABBA program is considered a Special Option offered through the Division of Continuing and Global Education with an emphasis in general business. If your goal is to earn an option in any of the fields offered by the Craig School of Business, you might consider standard admission with a regular option.

For additional information, schedule an appointment with the Craig School of Business Outreach Counselor. Please call 559.278.2048 or e-mail eaguilar@csufresno.edu. Or visit: http://www.fresnostate.edu/craig/depts-programs/abba/index.html

For questions not related to admission, please call the University Business Center at 559.278.2352.

Business Administration - Accountancy Option, B.S.

Requirements

Bachelor of Science Degree Requirements

Business Administration Major, Accountancy Option

All students in the Craig School of Business who are working toward the Bachelor of Science in Business Administration must satisfy (a) the university's General Education requirements; (b) pre-business requirements, which include demonstration of computer competency, a seven-course group of pre-business courses, and both a cumulative and campus GPA of at least 2.25 to declare an option; (c) upper-division core requirements of six upper-division courses, (d) option requirements of 24 units in an area of specialization; (e) the upper-division writing skills requirement; (f) an integrative course requirement; and (g) complete at least 50 percent of the required business units in the Craig School of Business.

Computer literacy and computer software competency are considered essential to success in the program, which is heavily oriented in the use of technology. The pre-business courses include material considered essential for further study in business. The upper-division core courses provide a broad background and a breadth of knowledge and understanding. The option courses enable the student to specialize in a specific area of business and to prepare for effective performance in future employment.

Demonstration of computer competency. Complete IS 52 and 52L or equivalent courses with a grade of C or better or achieve a passing score on the CSB computer competency waiver examination.

Pre-Business requirements* (16 units)
ACCT 4A, 4B; BA 18; DS 71, 73; ECON 40 or AGBS 1; ECON 50

(See Pre-Business Requirement.)

Upper-division core requirements (24 units)
DS 123; FIN 120; IS 130; MGT 110, 124; MKTG 100S

Option requirements (24 units)
ACCT 120A, 120B, 132 (12 units)
Select three courses from the following: ACCT 144, 145, 146, 148, 162, 165, 167, 169 (12 units)

General Education requirements (48 units)**

Grade Requirement
A grade of C or better must be earned for each course used to satisfy the requirements for the major.

Upper-division writing skills requirement (3 units)
Business majors take BA 105W, Business Communication, to fulfill the Upper-Division Writing requirement.
(See Writing Requirements)
Note: the Upper-Division Writing Exam is not an option for business administration majors.

Integrative course requirement (3 units)
MGT 187 or ACCT 187***

Electives and remaining degree requirements (2 units)
See individual option requirements.

Total (120 units)

* This total indicates that 6 units for DS 71 and ECON 50 are being used to satisfy the General Education requirement of 48 units.
** Note: Business majors are exempt from G.E. Area MI.
*** Accountancy Option students only.

Business Administration - Computer Information Systems Option, B.S.

Requirements

Bachelor of Science Degree Requirements

Business Administration Major, Computer Information Systems Option

All students in the Craig School of Business who are working toward the Bachelor of Science in Business Administration must satisfy (a) the university's General Education requirements; (b) pre-business requirements, which include demonstration of computer competency, a seven-course group of pre-business courses, and both a cumulative and campus GPA of at least 2.25 to declare an option; (c) upper-division core requirements of six upper-division courses, (d) option requirements of 24 units in an area of specialization; (e) the upper-division writing skills requirement; (f) an integrative course requirement; and (g) complete at least 50 percent of the required business units in the Craig School of Business.

Computer literacy and computer software competency are considered essential to success in the program, which is heavily oriented in the use of technology. The pre-business courses include material considered essential for further study in business. The upper-division core courses provide a broad background and a breadth of knowledge and understanding. The option courses enable the student to specialize in a specific area of business and to prepare for effective performance in future employment.

Demonstration of computer competency. Complete IS 52 and 52L or equivalent courses with a grade of C or better or achieve a passing score on the CSB computer competency waiver examination.

Pre-Business requirements* (16 units)
ACCT 4A, 4B; BA 18; DS 71, 73; ECON 40 or AGBS 1; ECON 50
(See Pre-Business Requirement.)

Upper-division core requirements (24 units)

DS 123; FIN 120; IS 130; MGT 110, 124; MKTG 100S

Option requirements (24 units)
IS 51, 158**, 166**, 181, 186 (15 units)

Select 9 units from the following courses: IS 106, 140, 150, 153, 156T, 162, 182, 183, 184, 189T, 190, 195; any approved upper-division IS courses (9 units)

General Education requirements (48 units)**

Grade Requirement
A grade of C or better must be earned for each course used to satisfy the requirements for the major.

Upper-division writing skills requirement (3 units)
Business majors take BA 105W, Business Communication, to fulfill the Upper-Division Writing requirement.
(See Writing Requirements)
Note: the Upper-Division Writing Exam is not an option for business administration majors.

Integrative course requirement (3 units)
IS 187**

Electives and remaining degree requirements (2 units)
See individual option requirements.

Total (120 units)

* This total indicates that 6 units for DS 71 and ECON 50 are being used to satisfy the General Education requirement of 48 units.
** This is a three-semester sequence of classes that cannot be taken concurrently or out of order.
*** Note: Business majors are exempt from G.E. Area MI.

Business Administration - Entrepreneurship Option, B.S.

Requirements

Bachelor of Science Degree Requirements

Business Administration Major, Entrepreneurship Option

All students in the Craig School of Business who are working toward the Bachelor of Science in Business Administration must satisfy (a) the university's General Education requirements; (b) pre-business requirements, which include demonstration of computer competency, a seven-course group of pre-business courses, and both a cumulative and campus GPA of at least 2.25 to declare an option; (c) upper-division core requirements of six upper-division courses, (d) option requirements of 24 units in an area of specialization; (e) the upper-division writing skills requirement; (f) an integrative course requirement; and (g) complete at least 50 percent of the required business units in the Craig School of Business.

Computer literacy and computer software competency are considered essential to success in the program, which is heavily oriented in the use of technology. The pre-business courses include material considered essential for further study in business. The upper-division core courses provide a broad background and a breadth of knowledge and understanding. The option courses enable the student to specialize in a specific area of business and to prepare for effective performance in future employment.

Demonstration of computer competency. Complete IS 52 and 52L or equivalent courses with a grade of C or better or achieve a passing score on the CSB computer competency waiver examination.

Pre-Business requirements* (16 units)
ACCT 4A, 4B; BA 18; DS 71, 73; ECON 40 or AGBS 1; ECON 50
(See Pre-Business Requirement.)

Upper-division core requirements (24 units)
DS 123; FIN 120; IS 130; MGT 110, 124; MKTG 100S

Option requirements (24 units)
The Department of Management offers three options as part of the Business Administration major: Entrepreneurship, Human Resource Management, and Management.

General Education requirements (48 units)**

Grade Requirement
A grade of C or better must be earned for each course used to satisfy the requirements for the major.

Upper-division writing skills requirement (3 units)
Business majors take BA 105W, Business Communication, to fulfill the Upper-Division Writing requirement.
(See Writing Requirements)
Note: the Upper-Division Writing Exam is not an option for business administration majors.

Integrative course requirement (3 units)
MGT 187

Electives and remaining degree requirements (2 units)
See individual option requirements.

Total (120 units)

* This total indicates that 6 units for DS 71 and ECON 50 are being used to satisfy the General Education requirement of 48 units.
** Note: Business majors are exempt from G.E. Area MI.

Entrepreneurship Option

ENTR 81, 151, 153, 157; MGT 127 **(15 units)**
Select three courses from the following: BA 152; ENTR 155, 161, 163S, 165, 167, 169; FIN 131 or courses approved by the option coordinator **(9 units)**
Total (24 units)

Business Administration - Finance Option, B.S.

Requirements

Bachelor of Science Degree Requirements

Business Administration Major, Finance Option

All students in the Craig School of Business who are working toward the Bachelor of Science in Business Administration must satisfy (a) the university's General Education requirements; (b) pre-business requirements, which include demonstration of computer competency, a seven-course group of pre-business courses, and both a cumulative and campus GPA of at least 2.25 to declare an option; (c) upper-division core requirements of six upper-division courses, (d) option requirements of 24 units in an area of specialization; (e) the upper-division writing skills requirement; (f) an integrative course requirement; and (g) complete at least 50 percent of the required business units in the Craig School of Business.

Computer literacy and computer software competency are considered essential to success in the program, which is heavily oriented in the use of technology. The pre-business courses include material considered essential for further study in business. The upper-division core courses provide a broad background and a breadth of knowledge and understanding. The option courses enable the student to specialize in a specific area of business and to prepare for effective performance in future employment.

Demonstration of computer competency. Complete IS 52 and 52L or equivalent courses with a grade of C or better or achieve a passing score on the CSB computer competency waiver examination.

Pre-Business requirements* (16 units)

ACCT 4A, 4B; BA 18; DS 71, 73; ECON 40 or AGBS 1; ECON 50
(See Pre-Business Requirement.)

Upper-division core requirements (24 units)
DS 123; FIN 120; IS 130; MGT 110, 124; MKTG 100S

Option requirements (24-25 units)
The Department of Finance and Business Law offers three options. (See option in the copy that follows.)

General Education requirements (48 units)**

Grade Requirement
A grade of C or better must be earned for each course used to satisfy the requirements for the major.

Upper-division writing skills requirement (3 units)
Business majors take BA 105W, Business Communication, to fulfill the Upper-Division Writing requirement.
(See Writing Requirements)
Note: the Upper-Division Writing Exam is not an option for business administration majors.

Integrative course requirement (3 units)
MGT 187 or FIN 139***

Electives and remaining degree requirements (1-2 units)
See individual option requirements.

Total (120 units)

* This total indicates that 6 units for DS 71 and ECON 50 are being used to satisfy the General Education requirement of 48 units.
** Note: Business majors are exempt from G.E. Area MI.
*** Finance majors only.

Finance Option

General Finance Track
FIN 121, 128, 178 (9 units)
Select at least 15 units from the following: FIN 122, 123, 129, 131, 138, 150, 186, 195; BA 150; ACCT 120A (15 units)
Total (24 units)

Business Administration - Human Resource Management Option, B.S.

Requirements

Bachelor of Science Degree Requirements

Business Administration Major, Human Resource Management Option

All students in the Craig School of Business who are working toward the Bachelor of Science in Business Administration must satisfy (a) the university's General Education requirements; (b) pre-business requirements, which include demonstration of computer competency, a seven-course group of pre-business courses, and both a cumulative and campus GPA of at least 2.25 to declare an option; (c) upper-division core requirements of six upper-division courses, (d) option requirements of 24 units in an area of specialization; (e) the upper-division writing skills requirement; (f) an integrative course requirement; and (g) complete at least 50 percent of the required business units in the Craig School of Business.

Computer literacy and computer software competency are considered essential to success in the program, which is heavily oriented in the use of technology. The pre-business courses include material considered essential for further study in business. The upper-division core courses provide a broad background and a breadth of knowledge and understanding. The option courses enable the student to specialize in a specific area of business and to prepare for effective performance in future employment.

Demonstration of computer competency. Complete IS 52 and 52L or equivalent courses with a grade of C or better or achieve a passing score on the CSB computer competency waiver examination.

Pre-Business requirements* (16 units)
ACCT 4A, 4B; BA 18; DS 71, 73; ECON 40 or AGBS 1; ECON 50
(See Pre-Business Requirement.)

Upper-division core requirements (24 units)
DS 123; FIN 120; IS 130; MGT 110, 124; MKTG 100S

Option requirements (24 units)
The Department of Management offers three options as part of the Business Administration major: Entrepreneurship, Human Resource Management, and Management.

General Education requirements (48 units)**

Grade Requirement
A grade of C or better must be earned for each course used to satisfy the requirements for the major.

Upper-division writing skills requirement (3 units)
Business majors take BA 105W, Business Communication, to fulfill the Upper-Division Writing requirement.
(See Writing Requirements)
Note: the Upper-Division Writing Exam is not an option for business administration majors.

Integrative course requirement (3 units)
MGT 187

Electives and remaining degree requirements (2 units)
See individual option requirements.

Total (120 units)

* This total indicates that 6 units for DS 71 and ECON 50 are being used to satisfy the General Education requirement of 48 units.
** Note: Business majors are exempt from G.E. Area MI.

Human Resource Management Option

HRM 150, 152, 153, 154, 157, 159; MGT 127 **(21 units)**

Take a minimum of 3 units from the following: AFRS 144, 146; ANTH 120; ECON 150, 152; PH 143, 145, 168B; HRM 189T, 190, 195; MGT 189T; PLSI 185; PSYCH 144, 149, 176 **(3 units)**
Total (24 units)

Business Administration - International Business Option, B.S.

Requirements

Bachelor of Science Degree Requirements

Business Administration Major, International Business Option

All students in the Craig School of Business who are working toward the Bachelor of Science in Business Administration must satisfy (a) the university's General Education requirements; (b) pre-business requirements, which include demonstration of computer competency, a seven-course group of pre-business courses, and both a cumulative and campus GPA of at least 2.25 to declare an option; (c) upper-division core requirements of six upper-division courses, (d) option requirements of 24 units in an area of specialization; (e) the upper-division writing skills requirement; (f) an integrative course requirement; and (g) complete at least 50 percent of the required business units in the Craig School of Business.

Computer literacy and computer software competency are considered essential to success in the program, which is heavily oriented in the use of technology. The pre-business courses include material considered essential for further study in business. The upper-division core courses provide a broad background and a breadth of knowledge and understanding. The option courses enable the student to specialize in a specific area of business and to prepare for effective performance in future employment.

Demonstration of computer competency. Complete IS 52 and 52L or equivalent courses with a grade of C or better or achieve a passing score on the CSB computer competency waiver examination.

Pre-Business requirements* (16 units)
ACCT 4A, 4B; BA 18; DS 71, 73; ECON 40 or AGBS 1; ECON 50
(See Pre-Business Requirement.)

Upper-division core requirements (24 units)
DS 123; FIN 120; IS 130; MGT 110, 124; MKTG 100S

Option requirements (24-25 units)
The Department of Finance and Business Law offers three options. (See option in the copy that follows.)

General Education requirements (48 units)**

Grade Requirement
A grade of C or better must be earned for each course used to satisfy the requirements for the major.

Upper-division writing skills requirement (3 units)
Business majors take BA 105W, Business Communication, to fulfill the Upper-Division Writing requirement.
(See Writing Requirements)
Note: the Upper-Division Writing Exam is not an option for business administration majors.

Integrative course requirement (3 units)
MGT 187 or FIN 139***

Electives and remaining degree requirements (1-2 units)
See individual option requirements.

Total (120 units)

* This total indicates that 6 units for DS 71 and ECON 50 are being used to satisfy the General Education requirement of 48 units.
** Note: Business majors are exempt from G.E. Area MI.
*** Finance majors only.

International Business Option

BA 174, 175, 176 **(9 units)**
BA 177; FIN 178; MKTG 140; and MGT 131 **(13 units)**
Select one upper-division course from the following: AFRS 164; ANTH 123, 125 (Same as HUM 140); CLAS 170; COMM 164; PHIL 131; PLSI 120/WS 135
or
Any upper-division course offered through the Craig School of Business, including upper-division economics courses as well as BA 195 (Internship) (3 units)
Total (25 units)

Electives and remaining degree requirements (1-2 units)

The International Business Association (IBA). While not a university requirement, membership in IBA is strongly encouraged. More than a student club, IBA is the vehicle by which students acquire the personal international network they will need for a successful career in international business. IBA also sponsors field trips and invites current practitioners in international business to speak and interact with students in the program.

Business Administration - Logistics & Supply Chain Strategies Option, B.S.

Requirements

Bachelor of Science Degree Requirements

Business Administration Major, Logistics & Supply Chain Strategies Option

All students in the Craig School of Business who are working toward the Bachelor of Science in Business Administration must satisfy (a) the university's General Education requirements; (b) pre-business requirements, which include demonstration of computer competency, a seven-course group of pre-business courses, and both a cumulative and campus GPA of at least 2.25 to declare an option; (c) upper-division core requirements of six upper-division courses, (d) option requirements of 24 units in an area of specialization; (e) the upper-division writing skills requirement; (f) an integrative course requirement; and (g) complete at least 50 percent of the required business units in the Craig School of Business.

Computer literacy and computer software competency are considered essential to success in the program, which is heavily oriented in the use of technology. The pre-business courses include material considered essential for further study in business. The upper-division core courses provide a broad background and a breadth of knowledge and understanding. The option courses enable the student to specialize in a specific area of business and to prepare for effective performance in future employment.

Demonstration of computer competency. Complete IS 52 and 52L or equivalent courses with a grade of C or better or achieve a passing score on the CSB computer competency waiver examination.

Pre-Business requirements* (16 units)
ACCT 4A, 4B; BA 18; DS 71, 73; ECON 40 or AGBS 1; ECON 50
(See Pre-Business Requirement.)

Upper-division core requirements (24 units)
DS 123; FIN 120; IS 130; MGT 110, 124; MKTG 100S

Option requirements (23-24 units)
The Department of Marketing and Logistics offers three options: (1) Marketing, (2) Logistics and Supply Chain Strategies, and (3) Sports Marketing as part of the Business Administration major.

General Education requirements (48 units)**

Grade Requirement
A grade of C or better must be earned for each course used to satisfy the requirements for the major.

Upper-division writing skills requirement (3 units)
Business majors take BA 105W, Business Communication, to fulfill the Upper-Division Writing requirement.
(See Writing Requirements)
Note: the Upper-Division Writing Exam is not an option for business administration majors.

Integrative course requirement (4 units)
MKTG 188

Total (120 units)

* This total indicates that 6 units for DS 71 and ECON 50 are being used to satisfy the General Education requirement of 51 units.
** Note: Business majors are exempt from G.E. Area MI.

Logistics and Supply Chain Strategies Option

Take the following courses: MKTG 101, 114, 115 , and 160 **(16 units)**
Select a minimum of 7-8 units from the following: MKTG 126, 190, 195; MGT 158; and IS 140 **(7-8 units)**
Total (23-24 units)

Business Administration - Management Option, B.S.

Requirements

Bachelor of Science Degree Requirements

Business Administration Major, Management Option

All students in the Craig School of Business who are working toward the Bachelor of Science in Business Administration must satisfy (a) the university's General Education requirements; (b) pre-business requirements, which include demonstration of computer competency, a seven-course group of pre-business courses, and both a cumulative and campus GPA of at least 2.25 to declare an option; (c) upper-division core requirements of six upper-division courses, (d) option requirements of 24 units in an area of specialization; (e) the upper-division writing skills requirement; (f) an integrative course requirement; and (g) complete at least 50 percent of the required business units in the Craig School of Business.

Computer literacy and computer software competency are considered essential to success in the program, which is heavily oriented in the use of technology. The pre-business courses include material considered essential for further study in business. The upper-division core courses provide a broad background and a breadth of knowledge and understanding. The option courses enable the student to specialize in a specific area of business and to prepare for effective performance in future employment.

Demonstration of computer competency. Complete IS 52 and 52L or equivalent courses with a grade of C or better or achieve a passing score on the CSB computer competency waiver examination.

Pre-Business requirements* (16 units)
ACCT 4A, 4B; BA 18; DS 71, 73; ECON 40 or AGBS 1; ECON 50
(See Pre-Business Requirement.)

Upper-division core requirements (24 units)
DS 123; FIN 120; IS 130; MGT 110, 124; MKTG 100S

Option requirements (24 units)
The Department of Management offers three options as part of the Business Administration major: Entrepreneurship, Human Resource Management, and Management.

General Education requirements (48 units)**

Grade Requirement
A grade of C or better must be earned for each course used to satisfy the requirements for the major.

Upper-division writing skills requirement (3 units)
Business majors take BA 105W, Business Communication, to fulfill the Upper-Division Writing requirement.
(See Writing Requirements)
Note: the Upper-Division Writing Exam is not an option for business administration majors.

Integrative course requirement (3 units)
MGT 187

Electives and remaining degree requirements (2 units)
See individual option requirements.

Total (120 units)

* This total indicates that 6 units for DS 71 and ECON 50 are being used to satisfy the General Education requirement of 48 units.
** Note: Business majors are exempt from G.E. Area MI.

Management Option

MGT 127, 133S, 182; HRM 150 **(12 units)**

and a minimum of 12 units selected from ENTR 81, 151, 153, 157, 165; HRM 152, 153, 154, 157, 190; MGT 131, 158, 180, 190, 195 **(12 units)**

Total (24 units)

Business Administration - Marketing Option, B.S.

Requirements

Bachelor of Science Degree Requirements

Business Administration Major, Marketing Option

All students in the Craig School of Business who are working toward the Bachelor of Science in Business Administration must satisfy (a) the university's General Education requirements; (b) pre-business requirements, which include demonstration of computer competency, a seven-course group of pre-business courses, and both a cumulative and campus GPA of at least 2.25 to declare an option; (c) upper-division core requirements of six upper-division courses, (d) option requirements of 24 units in an area of specialization; (e) the upper-division writing skills requirement; (f) an integrative course requirement; and (g) complete at least 50 percent of the required business units in the Craig School of Business.

Computer literacy and computer software competency are considered essential to success in the program, which is heavily oriented in the use of technology. The pre-business courses include material considered essential for further study in business. The upper-division core courses provide a broad background and a breadth of knowledge and understanding. The option courses enable the student to specialize in a specific area of business and to prepare for effective performance in future employment.

Demonstration of computer competency. Complete IS 52 and 52L or equivalent courses with a grade of C or better or achieve a passing score on the CSB computer competency waiver examination.

Pre-Business requirements* (16 units)
ACCT 4A, 4B; BA 18; DS 71, 73; ECON 40 or AGBS 1; ECON 50
(See Pre-Business Requirement.)

Upper-division core requirements (24 units)
DS 123; FIN 120; IS 130; MGT 110, 124; MKTG 100S

Option requirements (23-24 units)
The Department of Marketing and Logistics offers three options: (1) Marketing, (2) Logistics and Supply Chain Strategies, and (3) Sports Marketing as part of the Business Administration major.

General Education requirements (48 units)**

Grade Requirement
A grade of C or better must be earned for each course used to satisfy the requirements for the major.

Upper-division writing skills requirement (3 units)
Business majors take BA 105W, Business Communication, to fulfill the Upper-Division Writing requirement.
(See Writing Requirements)
Note: the Upper-Division Writing Exam is not an option for business administration majors.

Integrative course requirement (4 units)
MKTG 188

Total (120 units)

* This total indicates that 6 units for DS 71 and ECON 50 are being used to satisfy the General Education requirement of 51 units.
** Note: Business majors are exempt from G.E. Area MI.

Marketing Option

Take the following courses: MKTG 101, 110, 132, and 160 **(16 units)**
Select 7 or 8 units from the following: MKTG 114, 115, 126, 130, 134, 140, 144, 150, 153, 161, 162, 163, 164, 165, 166, 167, 189T, 190, 195 **(7-8 units)**
Total (23-24 units)

Business Administration - Real Estate & Urban Land Economics Option, B.S.

Requirements

Bachelor of Science Degree Requirements

Business Administration Major, Real Estate & Urban Land Economics Option

All students in the Craig School of Business who are working toward the Bachelor of Science in Business Administration must satisfy (a) the university's General Education requirements; (b) pre-business requirements, which include demonstration of computer competency, a seven-course group of pre-business courses, and both a cumulative and campus GPA of at least 2.25 to declare an option; (c) upper-division core requirements of six upper-division courses, (d) option requirements of 24 units in an area of specialization; (e) the upper-division writing skills requirement; (f) an integrative course requirement; and (g) complete at least 50 percent of the required business units in the Craig School of Business.

Computer literacy and computer software competency are considered essential to success in the program, which is heavily oriented in the use of technology. The pre-business courses include material considered essential for further study in business. The upper-division core courses provide a broad background and a breadth of knowledge and understanding. The option courses enable the student to specialize in a specific area of business and to prepare for effective performance in future employment.

Demonstration of computer competency. Complete IS 52 and 52L or equivalent courses with a grade of C or better or achieve a passing score on the CSB computer competency waiver examination.

Pre-Business requirements* (16 units)
ACCT 4A, 4B; BA 18; DS 71, 73; ECON 40 or AGBS 1; ECON 50
(See Pre-Business Requirement.)

Upper-division core requirements (24 units)
DS 123; FIN 120; IS 130; MGT 110, 124; MKTG 100S

Option requirements (24-25 units)
The Department of Finance and Business Law offers three options. (See option in the copy that follows.)

General Education requirements (48 units)**

Grade Requirement
A grade of C or better must be earned for each course used to satisfy the requirements for the major.

Upper-division writing skills requirement (3 units)
Business majors take BA 105W, Business Communication, to fulfill the Upper-Division Writing requirement.
(See Writing Requirements)
Note: the Upper-Division Writing Exam is not an option for business administration majors.

Integrative course requirement (3 units)
MGT 187 or FIN 139***

Electives and remaining degree requirements (1-2 units)
See individual option requirements.

Total (120 units)

* This total indicates that 6 units for DS 71 and ECON 50 are being used to satisfy the General Education requirement of 48 units.
** Note: Business majors are exempt from G.E. Area MI.
*** Finance majors only.

Real Estate and Urban Land Economics Option

BA 154 **(3 units)**
FIN 122, 180, 181, 182, 183, 186 **(18 units)**
Select at least 3 units from the following: FIN 123, 185, 195 **(3 units)**
Total (24 units)

Business Administration - Special Option, B.S.

Requirements

Bachelor of Science Degree Requirements

Business Administration Major, Special Option

The special option for the Bachelor of Science degree in Business Administration provides an opportunity for students who are well grounded in the core areas of study required for the undergraduate degree in Business Administration to individualize a course of study not accommodated by any of the ten standard areas of specialization. The special option is offered for students who want to correlate studies in two or more areas of business and is not intended as a means of bypassing normal graduation requirements.

Students requesting a special option must obtain application forms from the Office of Undergraduate Student Services in the Craig School of Business. On these forms, students must do the following:

1. Prepare a statement giving their reason for desiring a special option in terms of academic and professional goals and why these goals cannot be met through any of the standard options in business.
2. Develop a specific list of courses which would, in their opinion, lead to the stated academic and professional goals.
3. Secure the signed approval from the Office of Undergraduate Student Services, as well as from a faculty adviser, all department chairs in the business areas from which the option courses are drawn.

Students must submit the foregoing material to the Office of the Dean of the Craig School of Business for final approval.

Business Administration - Sports Marketing Option, B.S.

Requirements

Bachelor of Science Degree Requirements

Business Administration Major, Accountancy Option

All students in the Craig School of Business who are working toward the Bachelor of Science in Business Administration must satisfy (a) the university's General Education requirements; (b) pre-business requirements, which include demonstration of computer competency, a seven-course group of pre-business courses, and both a cumulative and campus GPA of at least 2.25 to declare an option; (c) upper-division core requirements of six upper-division courses, (d) option requirements of 24 units in an area of specialization; (e) the upper-division writing skills requirement; (f) an integrative course requirement; and (g) complete at least 50 percent of the required business units in the Craig School of Business.

Computer literacy and computer software competency are considered essential to success in the program, which is heavily oriented in the use of technology. The pre-business courses include material considered essential for further study in business. The upper-division core courses provide a broad background and a breadth of knowledge and understanding. The option courses enable the student to specialize in a specific area of business and to prepare for effective performance in future employment.

Demonstration of computer competency. Complete IS 52 and 52L or equivalent courses with a grade of C or better or achieve a passing score on the CSB computer competency waiver examination.

Pre-Business requirements* (16 units)
ACCT 4A, 4B; BA 18; DS 71, 73; ECON 40 or AGBS 1; ECON 50
(See Pre-Business Requirement.)

Upper-division core requirements (24 units)
DS 123; FIN 120; IS 130; MGT 110, 124; MKTG 100S

Option requirements (23-24 units)
The Department of Marketing and Logistics offers three options: (1) Marketing, (2) Logistics and Supply Chain Strategies, and (3) Sports Marketing as part of the Business Administration major.

General Education requirements (48 units)**

Grade Requirement
A grade of C or better must be earned for each course used to satisfy the requirements for the major.

Upper-division writing skills requirement (3 units)
Business majors take BA 105W, Business Communication, to fulfill the Upper-Division Writing requirement.
(See Writing Requirements)
Note: the Upper-Division Writing Exam is not an option for business administration majors.

Integrative course requirement (4 units)
MKTG 188

Total (120 units)

* This total indicates that 6 units for DS 71 and ECON 50 are being used to satisfy the General Education requirement of 51 units.
** Note: Business majors are exempt from G.E. Area MI.

Sports Marketing Option

Take the following courses: MKTG 101, 110, 150, 160, and 161 **(19 units)**
Select at least 4 units from the following: BA 152, 179; ECON 144; RA 150 or 152; MKTG 132, 140, 190, 195 **(4 units)**
Total (23 units)

Chemistry, B.A.

Requirements

Bachelor of Arts Degree Requirements

The Bachelor of Arts in Chemistry is intended primarily for those students who plan to take extensive coursework in other areas in addition to chemistry. This degree is suitable for prehealth professional students (premedical, predental, etc.), secondary school teaching credential students, and biochemistry students oriented toward biotechnology, forensic science, and the health professions. This degree is NOT intended for students who anticipate a career in chemistry, or who expect to continue their education in pursuit of graduate degrees.

Note: Chemistry majors may not take courses listed in category A or B below for CR/NC grades.

A. The B.A. Chemistry Major requirements (38 units)
Core Program
CHEM 1A, 1AL, 1B, 1BL, 102, 108, 128A, 128B, 129A, 129B, 155A**, 155B***, 156 (38 units)

B. Additional requirements (32-39 units)
BIOL 1A, 1B, 1BL (9 units)
Elect 7 units from BIOL 102, 103, 104, 120 or other approved courses (7 units)
MATH 75, 76 (MATH 77 strongly recommended) (8-12 units)
PHYS 2A, 2B (or PHYS 4A, 4AL, 4B, 4BL, 4C strongly recommended) (8-11 units)

C. Remaining General Education requirements* (42 units)

D. Electives and remaining degree requirements (8 units)
(See Degree Requirements); may be used toward a double major or minor.

Total (120 units)

* Of the 51 required General Education units, 9 units will be satisfied by the following courses in the major and additional requirements: 3 units of CHEM 1A and 1AL or PHYS 2A in G.E. Breadth B1; 3 units of BIOL 1A in G.E. Breadth B2; and 3 units MATH 75 in G.E. Foundation B4. Consult the department chair or faculty adviser for additional details.

The following is an example of a four-year program for the B.A. in Chemistry.

First Semester - Fall
CHEM 1A and 1AL (5 units)
MATH 75 (4 units)
ENGL 5B or 10 (3 units)
General Education (3 units)
Total (15 units)

Second Semester - Spring
CHEM 1B and BL (5 units)
MATH 76 (4 units)
PHYS 2A or 4A, 4AL (4 units)
General Education (3 units)
Total (16 units)

Third Semester - Fall
CHEM 128A (3 units)
CHEM 129A (2 units)
PHYS 2B or 4B, 4BL (4 units)
BIOL 1A (4 units)
General Education (3 units)
Total (16 units)

Fourth Semester - Spring
CHEM 128B (3 units)
CHEM 102 (5 units)
BIOL 1B, BIOL 1BL (5 units)
Electives or General Education (3 units)
Total (16 units)

Fifth Semester - Fall*
**CHEM 108 (4 units)
**CHEM 155A (3 units)
BIOL 102 (4 units)
Electives or General Education (3 units)
Total (14 units)

Sixth Semester - Spring
***CHEM 156 (3 units)
BIOL 103 and 104 or BIOL 120 (4 units)
Electives or General Education (6 units)
Total (13 units)

Seventh Semester - Fall
Electives or General Education
Total (15 units)

Eighth Semester - Spring
Electives or General Education
Total (15 units)

TOTAL (120 UNITS)

* It is important to fulfill the upper-division writing skills requirement by exam or W class during the junior year.
** Offered fall semester only.
*** Offered spring semester only.

Chemistry, B.S.

Requirements

Bachelor of Science Degree Requirements

The Bachelor of Science in Chemistry is intended for students who plan a career in chemistry. The B.S. is accredited by the American Chemical Society. Students who satisfactorily complete this program are recommended by the department for certification as graduate chemists by the American Chemical Society. The B.S. prepares students to enter the job market or for graduate study leading to an advanced degree, such as a Master of Science or Doctor of Philosophy.

Note: Chemistry majors may not take courses listed in category A or B below for CR/NC grades.

A. The B.S. Chemistry Major requirements (46 units)
CHEM 1A, 1AL, 1B, 1BL, 102, 106 or 106S, 110A, 110B, 111, 123, 124, 128A, 128B, 129A, 129B, 155A

B. Additional requirements (23 units)
MATH 75, 76, 77; PHYS 4A, 4AL, 4B, 4BL, 4C

C. Remaining General Education requirements* (45 units)

D. Electives and remaining degree requirements (6 units)

Recommended: CHEM 140T, 155B, 156, 160, 190

Total (120 units)

* Of the 51 required General Education units, 3 units will be satisfied by PHYS 4A and 4AL in G.E. Breadth B1, and 3 units of MATH 75 in G.E. Foundation B4. Consult the department chair or faculty adviser for details.

Advising Note for Chemistry Majors

1. No General Education Integration or Multicultural/International course with a CHEM designation may be used to satisfy the General Education requirements for majors in the department.

Transfer students are strongly urged to consult their adviser.

Many of the courses listed above have chemistry or other prerequisites. For that reason, the following sample four-year program leading to a B.S. in Chemistry is provided. This sample program emphasizes the need to take sequences in mathematics and physics prior to CHEM 110A. In addition, it specifies certain semesters for some courses that are offered only once a year. Finally, this program is constructed in such a way as to leave adequate time for independent study experience (CHEM 190) in the senior year.

If a student wished to deviate significantly from this sample program, particularly in regard to chemistry, physics, and mathematics requirements, it is very important that an alternate program be developed in consultation with a departmental adviser. Any course substitutions or other changes to degree requirements can only initiated by submitting a written request to the chair of the Chemistry Department.

First Semester - Fall
CHEM 1A and 1AL (5 units)
MATH 75 (4 units)
ENGL 5B or 10 (3 units)
General Education (3 units)
Total (15 units)

Second Semester - Spring
CHEM 1B and 1BL (5 units)
MATH 76 (4 units)
PHYS 2A or 4A, 4AL (4 units)
General Education (3 units)
Total (16 units)

Third Semester - Fall
CHEM 128A (3 units)
CHEM 129A (2 units)
MATH 77 (4 units)
PHYS 4B, 4BL (4 units)
General Education (3 units)
Total (16 units)

Fourth Semester - Spring
CHEM 128B (3 units)
CHEM 129B (2 units)
CHEM 102 (5 units)
PHYS 4C (3 units)
General Education (3 units)
Total (16 units)

Fifth Semester - Fall*
**CHEM 110A (3 units)
**CHEM 155 (3 units)
**CHEM 123 (3 units)
CHEM or other elective (1 unit)
General Education (5 units)
Total (15 units)

Sixth Semester - Spring
***CHEM 110B (3 units)
***CHEM 111 (3 units)
***CHEM 124 (2 units)
General Education (8 units)
Total (16 units)

Seventh Semester - Fall
**CHEM 106 or 106S (4 units)
Chemistry or other elective (3 units)
CHEM 190 (recommended) or other elective (3 units)
General Education (4 units)
Total (14 units)

Eighth Semester - Spring
CHEM 190 (recommended) or other elective (3 units)
General Education (9 units)
Total (12 units)

TOTAL (120 UNITS)

* It is important to fulfill the upper-division writing skills requirement by exam or W class during the junior year.
** Offered fall semester only.
*** Offered spring semester only.

Chicano Studies, B.A.

Requirements

Chicano Studies Major Requirements

Students are strongly encouraged to pursue a double major and can take the Chicano Studies either as a primary or secondary major. Chicano Studies majors and double majors are required to see a CLAS adviser during their first semester on campus.

Major requirements (33 units)

Lower-division requirements (6 units)
Basic Content: CLAS 3 or 5 (3 units)
Latin America: CLAS 70 (3 units)

Upper-division requirements (21 units)
U.S.-Mexico Relations: CLAS 114 or 115 (3 units)
Political and Economic Issues: CLAS 128 or CLAS 130 (3 units)
Arts and Humanities: CLAS 100, 102W, 106 or 108 (see note 1) (3 units)
Research Methods: CLAS 150 or 120 (3 units)
Family and Gender: CLAS 141, 160 or 162 (3 units)
Education: CLAS 143 (3 units)
Community Service/Senior Project: CLAS 145 or CLAS 172S (see note 1) (3 units)

Approved electives (6 units)
Consult your adviser.

General Education requirements (51 units)

Electives and remaining degree requirements* (36-42 units)
It is recommended that units in this area be utilized to complete a second major or minor. See Degree Requirements.

Total (120 units)

*This total indicates that 6 units of the following courses in General Education also may be applied to the Chicano studies major: CLAS 9 in G.E. C1, and CLAS 3 or 5 in G.E. D3.

Advising Notes

1. Contact the department chair or CLAS adviser for list of approved electives. A maximum of 3 units from CLAS 106, 107, 108, 145, and 180T can be used to fulfill 3 units of electives, but students must secure proper and final approval from the department chair or CLAS adviser.
2. Consult your adviser or the Schedule of Courses to determine what CLAS courses also meet General Education requirements.
3. If the Chicano studies major is taken as a second major, CLAS courses taken to complete General Education Integration requirements also can be used to satisfy major requirements.
4. Chicano studies majors are not permitted to take CLAS courses by CR/NC grading (unless the courses are only offered on that basis).
5. General Education and elective units may be used toward a double major or minor (see double major or other departmental minor). Consult the appropriate department chair, program coordinator or faculty adviser for further information.
6. Students who are planning to do graduate work in Chicano or Latin American studies are advised to study Spanish and/or Portuguese.
7. Liberal Studies/BCLAD students may take CLAS 145 in lieu of EHD 50 or EHD 115, but not both.
8. No General Education Integration or Multicultural/International course offered by the Chicano and Latin American Studies Department may be used to satisfy the General Education requirements for majors in the department.

Child Development, B.S.

Requirements

Bachelor of Science Degree Requirements

Child Development Major

Major requirements (55 units)

Pre-Major requirements (9 units)
CFS 31, 39, and 153; passing score (70% or better) on qualifying exam

Core Requirements (15 units)
CFS 100, 130W, 134, 143, 135

Child Development Requirements (25 units)
CFS 37 or CFS 145A; CFS 136, 137, 138, 140, and 146;
CFS 139 or 145B or 193; COUN 150

Major elective courses (6 units)
See an adviser for approved elective courses.

General Education requirements (51 units)

General electives and remaining degree requirements (14-20 units)
(see Degree Requirements); may be used toward a minor

Total (120 units)

Advising Notes

1. Group advising is required for new pre-majors (freshmen and transfers). Students must attend a group advising session before meeting individually with an adviser. Details available from the department.
2. In order to major in Child Development and Family and Consumer Sciences, students must do the following:
   (a) formally declare major as “pre-CFS,” and
   (b) complete pre-major classes: CFS 31, 39, and 153 (or their departmentally approved equivalents) with grades of Cor better; pass a qualifying exam over content in those three classes; and have earned a cumulative grade point average of at least 2.5.
   (c) Students may apply for a change of major (from Pre-CFS to CFS) when they take the qualifying exam; application will be provided with the exam. When the qualifying exam is passed, applications to the CFS major will be reviewed, and approved when completion of all required courses has been verified. Upon approval, the major will be changed, and students will be allowed to enroll in restricted upper division CFS courses.
3. Students majoring in Child Development and Family and Consumer Sciences are required to earn a grade of C or better in all major courses. A grade of CR/NC counts in the major only if it is the sole method of grading specified for a particular course.
4. The following courses may not be taken concurrently: CFS 37 and CFS 139; CFS 145A and CFS 145B; CFS 179 and CFS 193.

Civil Engineering, B.S.

Requirements

Bachelor of Science Degree Requirements

Civil Engineering Major

Major requirements (67 units)
CE 20, 85, 110, 121L, 123, 123L, 128, 129, 130, 132, 133, 142, 150, 180A, 180B, 185 (36 units)
CE 124 and 142L (2 units)
GME 15, 15L (3 units)

GME 66 or ME 26 or CM 4 (3 units)
ECE 91 or Tech Area Course (3 units)
CE 161 (2 units)
ME 112 (3 units)
Technical Area Courses (12 units)

Select mandatory technical area courses in one or more of the following groups subject to the Design Courses statement below.
Environmental and Water Resources: CE 140, 141, 144, 146
General Professional: CE 190, 191T
Geotechnical: CE 125, 134
Structures: CE 131, 136, 137
Geomatics: GME 151, 173
Transportation: CE 151, 152, 153

Design Courses: at least 9 units of technical area courses must be selected from the following design courses: CE 125, 134, 136, 141, 144, 146, 151

Other requirements (57 units)
General Education
Select one course from each of the G.E. areas: Area A1, A2, B2, D1, D2, D3. (See G.E. listings).
The following courses are required to satisfy both G.E. and major requirements: MATH 75 [B4], CHEM 3A [B1], PHIL 1 or 10 [C2], CE 121 [IB], PLSI 120 [M/I]

Additional requirements
MATH 81, EES 1; MATH 76, 77; PHYS 4A, 4AL, 4B

Total (124 units)

Note: Engineering majors are exempt from G.E. Area A3, third course Area C, Area E, and Area ID.

Advising Notes

1. Courses in mathematics, the physical sciences, or engineering taken CR/NC are not counted toward fulfillment of degree requirements in civil engineering.
2. The Upper-Division Writing Skills requirement can be met by passing the university examination or by completing a “W” course with a letter grade of C or better no sooner than the term in which 60 units of coursework are completed.
3. All civil engineering students must consult with their academic adviser at least once each year.
4. The 12 units of Technical Area Courses should be completed with an average grade of at least a C.

Cognitive Science, B.S.

Requirements

Bachelor of Science Degree Requirements

Cognitive Science Major

The general objectives for the B.S. in Cognitive Science are to develop and provide a thorough foundation in the study of cognitive science, drawing in perspectives from computer science, linguistics, philosophy, and psychology; to provide a foundation in cognitive science with which students will be able to pursue graduate education in cognitive science, computer science, linguistics, philosophy, psychology, or related fields; and to provide a foundation for the pursuit of jobs in business and industry where a multidisciplinary background is highly desirable.

The primary instructional objectives of the B.S. in Cognitive Science are to give an education in recent approaches to cognition and cognitive science and to give an overview of current methodologies used within cognitive science, including those methodologies used in the core disciplines of computer science, linguistics, philosophy, and psychology.

Cognitive Science

Major requirements (43-47 units)
The core consists of the two cognitive science foundational courses, plus a set of courses from each of the primary cognitive science disciplines represented at Fresno State: computer science, communicative disorders, linguistics, philosophy, and psychology.

Core requirements (34-35 units)
CGSCI 100; CSCI 40, 41; LING 100; PHIL 45; PSYCH 42, 128, 144; CSCI 60 or MATH 114

Electives (9-12 units)
Select three courses from the following list: PSYCH 121, 124; PHIL 145, 146; LING 139, 142, 143, 151, 165; CSCI 119, 164, 166; CGSCI 101*

Additional requirements
(Double counted in G.E.) PHIL 151; PSYCH 10, 126

General Education requirements (51 units)

Remaining degree requirements (22-26 units)

Total (120 units)

* Course may be taken twice.

Communication, B.A.

Requirements

Bachelor of Arts Degree Requirements

Communication Major

The communication major is designed to provide broad-based competencies in oral and written communication, critical analysis of human discourse, and social scientific and humanistic research methods. The major also emphasizes how this theoretical knowledge is applied in specific contexts ranging from personal relationships to business management to public advocacy.

Major requirements (42 units)
Fundamental communication processes and skills (6 units)
Select two from COMM 3, 4, 5, 7, 8, 15

Core competencies (12 units)
COMM 100, 140, 142, 166

Personal and professional communication (18 units)
Select a minimum of two courses in each area

- Personal and relational settings: COMM 108, 120, 150, 161, 162, 164, 169
- Advocacy in public settings: COMM 103, 105, 115**, 148, 149, 160, 163
- Organizational and professional settings: COMM 114, 165, 167, 168, 170, 171, 176, 179, 189

Electives in major (6 units)**
Select an additional 6 units of upper-division communication coursework.

General Education requirements (51 units)

Electives and remaining degree requirements (27-33 units)*

Total (120 units)

* See Advising Note 1.
** See Advising Note 2.

Advising Notes

1. This total indicates that 6 units of COMM 3, 5, 7 and/or 8 also may be applied to fulfill General Education Foundation A1 and A3 requirements.
2. No more than 3 units from COMM 15 and 6 units from COMM 115 can count toward fulfillment of the communication major. No more than 3 units from COMM 115 can be applied to the Advocacy in Public Settings Area.
3. CR/NC grading is not permitted in the communication major with the exception of COMM 179 (Internship).
4. No more than 6 units of COMM 179 (Internship) may be applied toward completion of the communication major.
5. Students are allowed only 3 units of COMM 190 and no more than 6 units toward the baccalaureate degree.
6. No General Education Multicultural/International course offered by the Communication Department may be used to satisfy the General Education requirements for majors in the department.

Communicative Disorders - Audiology Option, B.A.

Requirements

Bachelor of Arts Degree Requirements

Communicative Disorders Major, Audiology Option

Major requirements for the Option

Audiology (41 units)
CDDS 80, 91, 95, 101, 102, 103, 105, 107, 109, 110, 116, 128, 131, 141, 172

General Education requirements (51 units)

Electives and remaining degree requirements (22-28 units)*
Courses may be used to satisfy credential requirements or a minor in another field. See advising notes 4 and 5 for recommended electives.

Total (120 units)

* CDDS 92 in G.E. Breadth C2 also may be applied to the communicative disorders major for students in the deaf education and interpreting options.

Advising Notes

1. CR/NC grading is not permitted for CDDS majors for any coursework required in the major, with the exception of clinical courses. (See course descriptions.)
2. General Education and elective units may be used toward a double major or minor (see Double Major or departmental minor). Consult the appropriate department chair, program coordinator, or faculty adviser for further information.
3. Students in CDDS 110, 162, 163, 164, and other clinical, internship, and student teaching courses are required to show health certification that they are free from tuberculosis and rubella, and to purchase student clinic malpractice insurance for the clinical courses (see the University Speech and Hearing Clinic director for details).
4. PSYCH 101 is a required credential course than can also be used as an undergraduate elective.
5. A statistics course is a prerequisite to CDDS 200, which is typically taken the first semester of graduate work. It is recommended that students take statistics as an undergraduate elective prior to applying to graduate school.
6. No General Education Multicultural/International course offered by the Communicative Sciences and Deaf Studies Department may be used to satisfy the General Education requirements for majors in the department.

Communicative Disorders - Deaf Education Option, B.A.

Requirements

Bachelor of Arts Degree Requirements

Communicative Disorders Major, Deaf Education Option

Major requirements for the option

Deaf Education (47 units)
CDDS 80, 93, 94S, 95, 96, 106, 114, 121, 128, 131, 136S, 137, 139, 141, 162, 163, 164

General Education requirements (51 units)

Electives and remaining degree requirements (22-28 units)*
Courses may be used to satisfy credential requirements or a minor in another field. See advising notes 4 and 5 for recommended electives.

Total (120 units)

* CDDS 92 in G.E. Breadth C2 also may be applied to the communicative disorders major for students in the deaf education and interpreting options.

Advising Notes

1. CR/NC grading is not permitted for CDDS majors for any coursework required in the major, with the exception of clinical courses. (See course descriptions.)
2. General Education and elective units may be used toward a double major or minor (see Double Major or departmental minor). Consult the appropriate department chair, program coordinator, or faculty adviser for further information.
3. Students in CDDS 110, 162, 163, 164, and other clinical, internship, and student teaching courses are required to show health certification that they are free from tuberculosis and rubella, and to purchase student clinic malpractice insurance for the clinical courses (see the University Speech and Hearing Clinic director for details).
4. PSYCH 101 is a required credential course than can also be used as an undergraduate elective.
5. A statistics course is a prerequisite to CDDS 200, which is typically taken the first semester of graduate work. It is recommended that students take statistics as an undergraduate elective prior to applying to graduate school.
6. No General Education Multicultural/International course offered by the Communicative Sciences and Deaf Studies Department may be used to satisfy the General Education requirements for majors in the department.

Communicative Disorders - Deaf Studies Option, B.A.

Requirements

Bachelor of Arts Degree Requirements

Communicative Disorders Major, Deaf Studies Option

Major requirements - Deaf Studies Option (46 units)

Required 34 units: CDDS 80, 90, 93, 94S, 95, 96, 98, 106, 136S, 137, 139, 141
Select 12 units from the following: CFS 113; COMM 103, 108; GERON 161; RA 113, 121, 125; SWRK 125, 135, 136; COUN 102, 150, 174, 176

General Education requirements (51 units)

Electives and remaining degree requirements (22-28 units)*
Courses may be used to satisfy credential requirements or a minor in another field. See advising notes 4 and 5 for recommended electives.

Total (120 units)

* CDDS 92 in G.E. Breadth C2 also may be applied to the communicative disorders major for students in the deaf education and interpreting options.

Advising Notes

1. CR/NC grading is not permitted for CDDS majors for any coursework required in the major, with the exception of clinical courses. (See course descriptions.)
2. General Education and elective units may be used toward a double major or minor (see Double Major or departmental minor). Consult the appropriate department chair, program coordinator, or faculty adviser for further information.
3. Students in CDDS 110, 162, 163, 164, and other clinical, internship, and student teaching courses are required to show health certification that they are free from tuberculosis and rubella, and to purchase student clinic malpractice insurance for the clinical courses (see the University Speech and Hearing Clinic director for details).
4. PSYCH 101 is a required credential course than can also be used as an undergraduate elective.
5. A statistics course is a prerequisite to CDDS 200, which is typically taken the first semester of graduate work. It is recommended that students take statistics as an undergraduate elective prior to applying to graduate school.
6. No General Education Multicultural/International course offered by the Communicative Sciences and Deaf Studies Department may be used to satisfy the General Education requirements for majors in the department.

Communicative Disorders - Interpreting Option, B.A.

Requirements

Bachelor of Arts Degree Requirements

Communicative Disorders Major, Interpreting Option

Major requirements (41-47 units)

Interpreting (44 units)
CDDS 80, 93, 94S, 95, 96, 106, 136S, 137, 139, 141, 166, 168, 169, 170, 175, 188T (2 units)

General Education requirements (51 units)

Electives and remaining degree requirements (22-28 units)*
Courses may be used to satisfy credential requirements or a minor in another field. See advising notes 4 and 5 for recommended electives.

Total (120 units)

* CDDS 92 in G.E. Breadth C2 also may be applied to the communicative disorders major for students in the deaf education and interpreting options.

Advising Notes

1. CR/NC grading is not permitted for CDDS majors for any coursework required in the major, with the exception of clinical courses. (See course descriptions.)

2. General Education and elective units may be used toward a double major or minor (see Double Major or departmental minor). Consult the appropriate department chair, program coordinator, or faculty adviser for further information.
3. Students in CDDS 110, 162, 163, 164, and other clinical, internship, and student teaching courses are required to show health certification that they are free from tuberculosis and rubella, and to purchase student clinic malpractice insurance for the clinical courses (see the University Speech and Hearing Clinic director for details).
4. PSYCH 101 is a required credential course than can also be used as an undergraduate elective.
5. A statistics course is a prerequisite to CDDS 200, which is typically taken the first semester of graduate work. It is recommended that students take statistics as an undergraduate elective prior to applying to graduate school.
6. No General Education Multicultural/International course offered by the Communicative Sciences and Deaf Studies Department may be used to satisfy the General Education requirements for majors in the department.

Communicative Disorders - Speech Pathology Option, B.A.

Requirements

Bachelor of Arts Degree Requirements

Communicative Disorders Major, Speech-Language Pathology Option

Major requirements (41-47 units)

Speech-Language Pathology (47 units)
CDDS 80*, 91, 95*, 101*, 102*, 103, 105, 107, 109, 110, 114, 115, 116, 117, 128, 131, 172

General Education requirements (51 units)

Electives and remaining degree requirements (22-28 units)**
Courses may be used to satisfy credential requirements or a minor in another field. See advising notes 4 and 5 for recommended electives.

Total (120 units)

* These are four courses that are prerequisites for many of the remaining courses necessary to complete the option in speech-language pathology. A grade point average of 3.0 in these four courses, with a grade of C or better in each course, must be maintained as a prerequisite for CDDS 105, 109, 115, 117, and 172.
** CDDS 92 in G.E. Breadth C2 also may be applied to the communicative disorders major for students in the deaf education and interpreting options.

Advising Notes

1. CR/NC grading is not permitted for CDDS majors for any coursework required in the major, with the exception of clinical courses. (See course descriptions.)
2. General Education and elective units may be used toward a double major or minor (see Double Major or departmental minor). Consult the appropriate department chair, program coordinator, or faculty adviser for further information.
3. Students in CDDS 110, 162, 163, 164, and other clinical, internship, and student teaching courses are required to show health certification that they are free from tuberculosis and rubella, and to purchase student clinic malpractice insurance for the clinical courses (see the University Speech and Hearing Clinic director for details).
4. PSYCH 101 is a required credential course than can also be used as an undergraduate elective.
5. A statistics course is a prerequisite to CDDS 200, which is typically taken the first semester of graduate work. It is recommended that students take statistics as an undergraduate elective prior to applying to graduate school.
6. No General Education Multicultural/International course offered by the Communicative Sciences and Deaf Studies Department may be used to satisfy the General Education requirements for majors in the department.

Computer Engineering, B.S.

Requirements

Bachelor of Science Degree Requirements

Computer Engineering Major

(See note 1)

Major requirements (60 units)
ECE 1, 72, 85, 85L, 90, 90L, 103, 106, 107, 115, 118, 118L, 124, 125, 128, 128L, 174, 176, 178, 186A (48 units)
CSCI 150 (3 units)
Technical Area (9 units)
Select at least 9 units from the following: ECE 114, 126, 132, 134, 135, 138, 138L, 140, 146, 148, 155, 172, 173; CSCI 144, 156

Other requirements (64 units)
--- General Education ---
Select one course from each of the G.E. areas: Area A1, A2, D1, D2. (See G. E. listings.)
The following courses are required to satisfy both G.E. and major requirements: MATH 75 [B4], CHEM 3A [B1], PHIL 1 or 10 [C2], ECE 186B [IB], PLSI 120 or BA 104 [M/I], ECON 40 or 50 [D3], BIOL 10 [B2]

--- Additional requirements ---
MATH 76, 77, 81; PHYS 4A; PHYS 4B, PHYS 4BL; PHYS 4C; CSCI 40, 41 (see advising notes)

Total (124 units)

Note: Engineering majors are exempt from G.E. Area A3, third course Area C, Area E, and Area ID.

Advising Notes

1. Courses in mathematics, the physical sciences, or engineering taken CR/NC are not counted toward fulfillment of degree requirements in computer engineering.
2. Computer engineering majors might consider a math minor. (See faculty adviser for details.)
3. All computer engineering students must consult with their academic adviser at least once each year.
4. The Upper-Division Writing Skills requirements can be met by passing the university examination or completing an upper-division writing course with a letter grade of C or better no sooner than the term in which 60 units of coursework are completed. The writing course units are not counted toward the required 130 program units.
5. ENGR 101 may be taken instead of MATH 81.
6. The prerequisites for ECE 186A are ECE 85, 85L, 90, 106, 118, 118L, 124, 128, 128L; CSCI 41; and one course from ECE 107, 174, 176, or CSCI 150.
7. Students must enroll in and complete ECE 1 during the first two semesters of attendance at Fresno State.
8. The following prerequisite courses must be completed with a letter grade of C or better: ECE 72, 71, 85, 85L, 90, 90L.

Prerequisites: Students violating any course prerequisites may be required to take an additional course (if they earned a C) or repeat a course (if they earned a D or less.) Repeated violations of prerequisites may trigger disciplinary action.

Computer Science, B.S.

Requirements

Bachelor of Science Degree Requirements

Computer Science Major

Undergraduate Program

The bachelor's degree in computer science prepares students for careers in the computing industry or for graduate study. Combined with a minor in another field of study, the bachelor's degree allows students to utilize their computing expertise in a variety of specialized fields. The core and computer science theory courses are excellent preparation for students who intend to pursue an advanced degree in computer science.

For the computer science major, the department offers courses that represent both the core of study considered essential to all aspects of computing and advanced study sequences in particular fields of interest. The core classes introduce all majors to the spectrum of thought represented in computing. The advanced sequences allow the individual student to pursue concentrated work within such areas as computer architecture, artificial intelligence, databases, compilers, operating systems, computer science theory, computer graphics, software engineering, programming languages, networking, distributed systems, and parallel processing. The department also offers topics courses to keep students informed of current advances and methods in computing.

In addition to courses designed for majors, the department offers courses intended to introduce computing to nonmajors. These courses will benefit any major who wishes to include computing in their undergraduate study.

Grade Requirements

All courses taken to fulfill major course requirements must be taken for a letter grade. All courses required as prerequisites for a course must be completed with a grade of C or better before registration will be permitted.
Administrative Academic Probation

A minimum Grade Point Average (GPA) of 2.0 must be maintained in all courses taken in the College of Science and Mathematics. Students who fail to maintain a 2.0 GPA in courses within their major may be placed on administrative academic probation. Failure to eliminate the grade point deficiency could result in disqualification from the College of Science and Mathematics.

Bachelor of Science Degree Requirements

Computer Science Major

Major requirements (59 units)
CSCI 40, 41, 60, 112, 113, 115, 117, 119, 144 (35 units)

Select seven of the following, including one of the sequences (21 units)
CSCI 124, 126, 130, 134, 146, 148, 150, 152, 154, 156, 164, 166, 172, 173, 174, 176, 177, 186, 188, 191T (max total 6 units)

Approved sequences:
CSCI 124-126
CSCI 144-146 or 144-148
CSCI 150-152
CSCI 156-ECE 146
CSCI 164-166
CSCI 172-173
CSCI 176-177
CSCI 186-188

CSCI 198 or complete an additional second course in one of the sequences above (3 units)

Additional requirements (10 units)
MATH 75, 76; PHYS 2A and 2B or PHYS 4A, 4AL, 4B, 4BL

General Education requirements (51 units)*

Total (120 units)

* This total indicates that 6 units from MATH 75 and PHYS 2A or PHYS 4A are being used to satisfy the General Education requirement of 51 units.

Note: Pass the Upper-Division Writing Exam (recommended to satisfy the upper-division writing skills graduation requirement).

Construction Management, B.S.

Requirements

Bachelor of Science Degree Requirements

Construction Management Major

Program Description

The Bachelor of Science in Construction Management is accredited by the American Council for Construction Education, the professional accreditation organization of the construction industry.

Students in construction management (CM) are exposed to a wide variety of topics, ranging from courses in management and administration of construction companies, projects, people, and equipment to courses focusing on specific techniques for project planning and control work improvement and estimating. The Construction Management program also provides opportunities to develop a strong background in computer applications in construction. Computer skills combined with a solid management and technical background are major assets of the construction management graduate.

Opportunities for construction management graduates are excellent. Examples of positions held by construction management graduates are project manager, construction manager, project administrator, estimator, scheduler, architectural representative, project superintendent, and construction administrator. Students should consider this challenging, satisfying, and high-paying profession.

Mission of Construction Management

The mission of the Construction Management Program is to develop character, build leaders, and sustain learning.

Educational Objectives of the Instructional Program

- Provide students with the ability to recognize and independently diagnose construction related problems accurately, develop creative alternatives, and implement practical and effective solutions.
- Provide students with the ability to plan, schedule, and control work activities; motivate and provide accurate and timely constructive alternatives; and implement practical and effective solutions.
- Provide students with the ability to apply construction related techniques, skills, and tools to construction materials as necessary for a managed construction project.
- Provide students with the ability to understand technical issues related to the fields of architecture, engineering, business and construction accounting, and finance. Work effectively and efficiently with personnel from these disciplines to properly apply related fundamentals, techniques, and procedures.
- Provide students with the ability to apply basic construction related design theory within the areas of structural, mechanical, electrical, thermodynamics, civil, and soil mechanics.

Bachelor of Science Degree Requirements

Construction Management Major

Pre-construction management requirements (16 units)
CM 1S, 4, 7S, 20; CE 20; GME 15 and 15L

Upper-division core requirements (25 units)
CM 110, 116, 122, 127, 140, 170, 180A(S), 181, 193; CE 121 and 121L

Construction Management Electives (9 units)
Sector Electives (3 units)
Select one course from the following: CM 134, 150, 151, or 166

Construction Technology Electives (3 units)
Select one course from the following: CM 131 or 191T

Construction Methods Electives (3 units)
Select one course from the following: CM 132, CM 144, or CE 130

Other requirements (70 units)
General Education (41 units)
Select one course from each of the G.E. areas: Area A1, A2, A3, B2, C1, C2, D1, D2, and IC. (See G.E. listings). The following courses are required to satisfy both G.E. and major requirements: PHYS 4A and 4AL [BI], MATH 75 [B4], ECON 40 or 50 [D3], BA 104 [M/I]

Additional requirements (29 units)
MATH 76; EES 1 or CHEM 3A; DS 73; ACCT 4A; MGT 104; two business electives (see Business Electives below); BA 105W or ENGR 105W (see Upper-Division Writing Skills requirement below.) CM 180B satisfies the G.E. IB requirement.

- Business Electives (6 units)
  Select two courses from the following: upper-division business administration courses, CM 124, or courses approved by the academic adviser.
- Upper-division writing skills requirement (3 units)
  Construction management majors must select either BA 105W or ENGR 105W. The Upper-Division Writing Exam is not an option for construction management majors.

Total (120 units)*

* ***Note:*** Construction management majors are exempt from G.E. third course Area C, Area E, and Area ID.

Pre-Construction Management Requirements

All construction management students entering California State University, Fresno are considered pre-construction management majors and are coded as such. In order to enroll in 100-level construction management courses, pre-construction management students must do the following:

(a) Complete all of the following courses: MATH 75, MATH 76, PHYS 4A, PHYS 4AL, CM 1S, CM 4, CM 7S, CM 20, CE 20, GME 15, and GME 15L; (b) attain a "C" in six of the 11 courses listed above, with no course to be repeated more than twice; and (c) have a cumulative and campus grade point average of at least 2.00.

Advising Notes

1. Courses in mathematics and the physical sciences taken CR/NC are not counted toward fulfillment of degree requirements in construction.
2. The Upper-Division Writing Skills requirement must be met by completing a "W" course with a letter grade of C or better no sooner than the term in which 60 units of coursework are completed.
3. All construction management students must consult with their academic advisers at least once per academic year.

Criminology - Corrections Option, B.S.

Requirements

Bachelor of Science Degree Requirements

Criminology Major

A grade of C or higher is required for all courses to be counted toward the major (excluding CR/NC classes).

Criminology - Corrections Option Major requirements (53 units)
Lower-division requirements: (see advising note 1): CRIM 1 (see advising note 9), 2, 20, 50 (10 units)
Upper-division core (see advising note 2): CRIM 100, 102, 109, 112, 170 (see advising note 6), 174 (18 units)
Upper-division requirements: CRIM 119, 131, 133, 134, 135, 141, 181 or 181H (19 units)
Electives (6 units)
CRIM 175, 176, 177; PAX 100; PHIL 121; CRIM 113, 120; CRIM/WS 126; CRIM 136T, 137, 139, 140, 153, 160T, 190/192

General Education requirements (51 units)

Electives and remaining degree requirements (16-20 units)
(see Degree Requirements); may be used toward a double major or minor

Total (120 units)

Criminology - Forensic Behavioral Sciences, B.S.

Requirements

Bachelor of Science Degree Requirements

Criminology Major

A grade of C or higher is required for all courses to be counted toward the major (excluding CR/NC classes).

Criminology - Forensic Behavioral Sciences Option Major (50 units)
Lower-division requirements: CRIM 1 (see footnote 1 below), 2 (see footnote 1 below), 20 (see footnote 1 below), 50 (see footnotes 1 and 2 below) (10 units)

Upper-division core: CRIM 100 (see footnote 1 below), 153, 170 (see footnote 1 below) or PSYCH 144 (9 units)
Upper-division requirements: CRIM 113, 117, 118, 154, 155; PSYCH 126 (18 units)
Electives Clusters: (13 units)

General electives: select at least two courses from CRIM 114, 120, 127, 131, 134, 141, 160T, 175; ANTH 138T; LING 149

Psychology electives: select at least two courses from PSYCH 128, 149, 156, 160T (Psychopathology); PSYCH 160T (other special topics)

General Education requirements (51 units)

Electives and remaining degree requirements (16-20 units)
(see Degree Requirements); may be used toward a double major or minor

Total (120 units)

1. These courses are also required for the other three options in the criminology major.
2. This requirement may also be met by completing PSYCH 42, PH 92, MATH 11, DS 73, or any equivalent statistics course from another university or community college.

Criminology - Law Enforcement Option, B.S.

Requirements

Bachelor of Science Degree Requirements

Criminology Major

A grade of C or higher is required for all courses to be counted toward the major (excluding CR/NC classes).

Criminology - Law Enforcement Option Major (49 units)

Lower-division requirements: (see advising note 1): CRIM 1 (see advising note 9), 2, 20, 50 (10 units)

Upper-division core (see advising note 2): CRIM 100, 102, 109, 112, 170 (see advising note 6), 174 (18 units)

Upper-division requirements: CRIM 108, 113, 117, 127, or 180 or 180H (12 units)

Electives: CRIM 114, 120; CRIM/WS 126; CRIM 131, 133, 134, 135, 136T, 137, 139, 140, 141, 153, 154, 155, 160T, 175, 176, 177, 190/192; AFRS 146; CLAS 120; PAX 100; PHIL 121 (9 units)

General Education requirements (51 units)

Electives and remaining degree requirements (16-20 units)
(see Degree Requirements); may be used toward a double major or minor

Total (120 units)

Criminology - Law Enforcement Option, B.S. - Continuing & Global Education

Requirements

Bachelor of Science Degree Requirements
Criminology, Law Enforcement Option (Off-Campus)

Criminology courses at the undergraduate level include integration of theoretical and applied materials of an interdisciplinary nature. The law enforcement option is designed for students in careers with federal, state and local law enforcement agencies, or law enforcement careers within the private sector. Students enrolling in this degree program can anticipate promotions within their agencies and earn increased qualifications for various positions within criminal justice agencies.

This off-campus degree completion program is offered exclusively to current and former employees and their spouses from any local, state or federal government entity. The program has been in operation for seven years and classes are held at the Fresno County Sheriffs Training Room in downtown Fresno.

Eligible students may join the program at any point. Classes begin at various times throughout each semester. Classes are not normally scheduled during the months of June, July, December, and January.

Students taking both courses during each two-month cycle can complete their upper division criminology degree requirements in the Law Enforcement option within two years. Classes are accelerated, meet face-to-face on Monday and/or Wednesday evenings, and each class meets all day on one Saturday per month. Some instruction may be online.

Criminology faculty members are experts in their field. The off-campus program provides the same courses required for the B.S. in criminology on campus and the majority of the courses are taught by tenured or tenure track full-time faculty from the Fresno State campus.

To be eligible for admission, students must meet these requirements:

- two years (60 units) of transferable units from an accredited university or college, including the completion of the lower division General Education requirements needed for admission as transfer students
- prerequisite courses for the criminology major (these may be completed at a community college while one is concurrently enrolled in the off-campus B.S. in Criminology program)

Fees are currently $225 per unit and are due prior to, or on the first day of, class for each cycle. Financial aid is available to qualified students.

To inquire about the Bachelor of Science in Criminology, contact:
Dr. Harald Otto Schweizer
Science II, Area C - Room 159
2576 E. San Ramon, M/S ST104
Fresno, CA 93740-8029
haralds@csufresno.edu • 559.278.8880
http://zimmer.csufresno.edu/~haralds/downtowndegreeoverview.htm

Criminology - Victimology Option, B.S.

Requirements

Bachelor of Science Degree Requirements

Criminology Major

A grade of C or higher is required for all courses to be counted toward the major (excluding CR/NC classes).

Criminology - Victimology Option Major (52 units)

Lower-division requirements: (see advising note 1): CRIM 1 (see advising note 9), 2, 20, 50 (10 units)

Upper-division core (see advising note 2): CRIM 100, 109, 112, 150, 170 (see advising note 6), 174 (18 units)

Upper-division requirements: CRIM 140, 173, 175, 176, 177, 182 or 182H (18 units)
Elective Clusters (6 units)

Select one course from one cluster:
Criminology electives: CRIM 120, 133, 134, 135, 141, 152, 153, 190/192
PAX electives: PAX 100; AFRS 146; CLAS 120; CRIM/WS 126; PHIL 121

General Education requirements (51 units)

Electives and remaining degree requirements (16-20 units)
(see Degree Requirements); may be used toward a double major or minor

Total (120 units)

Economics, B.A.

Requirements

Bachelor of Arts Degree Requirements

Economics Major

ECON 40 and 50 are prerequisites for most upper-division courses in economics. Any student planning graduate work is advised to take additional mathematics.

Major requirements (39 units)

Core (18 units)
Lower-Division: ECON 40 and 50
Upper-Division: ECON 100A, 100B, 123, 192

Upper-Division Breadth and Application Course Selections (21 units)
Students must select one upper-division economics course from each of Categories I, II and III to be exposed to the breadth of fields of study in economics (9 units).

In addition, students must select four upper division economics courses from the remaining courses in Categories I, II, III, IV and V. (12 units).

Category I. Macroeconomics and International Economics Courses (3 units minimum)
ECON 103, 114, 135, 178, 188T

Category II. Microeconomics Courses (3 units minimum)

ECON 117, 119, 131, 144, 150, 162, 189T

Category III. Historical and Political Economics Courses (3 units minimum)
ECON 101, 110, 111, 179, 181, 183, 115T

Category IV. Cross-cutting Economics Courses
ECON 102W, 120, 125, 146, 152, 167, 176

Category V. Special Courses (3 units maximum)
ECON 185, 190 and 191

General Education requirements (51 units)

Electives and remaining degree requirements (30 units)
(see Degree Requirements); may be used toward a double major or minor

Total (120 units)

Advising Notes

1. Economics majors may not use ECON 25, 40, 50, or AGBS 1 for General Education requirements.
2. CR/NC grading is not permitted in the economics major or minor, except for courses offered only under CR/NC grading.
3. General Education and elective units may be used toward a double major or minor (see double major or departmental minor). Consult the appropriate department chair, program coordinator, or faculty adviser for further information.
4. No General Education Integration or Multicultural/International course offered by the Department of Economics may be used to satisfy the General Education requirements for economics majors.
5. ECON 165 is not open to economics majors.
6. ECON 123 has the following prerequisite: MATH 11 or MATH 101 or DS 73 or AGBS 71 or PSYCH 42 passed with C grade or better (in addition to ECON 40 and ECON 50).

Electrical Engineering, B.S.

Requirements

Bachelor of Science Degree Requirements

Electrical Engineering Major

(See note 1)

Major requirements (65 units)
ECE 1, 71, 72, 85, 85L, 90, 90L, 102, 103, 118, 118L, 121, 124, 125, 126, 128, 128L, 134, 138, 138L, 155, 186A (51 units)

Select one from CE 29, ME 29, or ME 136 (3 units)

Technical Area Courses (11 units)
Select from the following
ECE 106, 107, 114, 115, 132, 135, 136, 140, 146, 148, 151, 152, 153, 162, 166, 168, 171, 176, 172, 173, 174, 178
Select at least two from the following: ECE 119L, 121L, 134L, 136L, 155L

Other requirements (59 units)
--- General Education (see footnote) ---
Select one course from each of the G.E. areas: Area A1, A2, D1, D2. (See G.E. listings.)
The following courses are required to satisfy both G.E. and additional requirements: MATH 75 [B4], CHEM 3A [B1], PHIL 1 or 10 [C2], ECE 186B [IB], PLSI 120 or BA 104 [M/I], ECON 40 or 50 [D3], BIOL 10 [B2]

--- Additional requirements ---

MATH 76, 77, 81
PHYS 4A; PHYS 4B, 4BL; PHYS 4C; choose one from MATH 121, 123, 128, 152, 171, 181, 182

Total (124 units)

Note: Engineering majors are exempt from G.E. Area A3, third course Area C, Area E, and Area ID.

Advising Notes

1. Courses in mathematics, the physical sciences, or engineering taken CR/NC are not counted toward fulfillment of degree requirements in electrical engineering.
2. Electrical engineering majors might consider a math minor (see faculty adviser for details).
3. All electrical engineering students must consult with their academic adviser at least once each year.
4. The Upper-Division Writing Skills requirements can be met by passing the university examination or completing an upper-division writing course with a letter grade of C or better no sooner than the term in which 60 units of coursework are completed. The writing course units are not counted toward the required 130 program units.
5. ENGR 101 may be taken instead of MATH 81.
6. The prerequisites for ECE 186A are ECE 85, 85L, 90, 90L, 102, 118, 124, 128, 128L; one lab from ECE 119L, 118L, 121L, 134L, 138L, 155L; and two courses from ECE 121, 134, 138, 155.
   Students must enroll in and complete ECE 1 during the first two semesters of attendance at Fresno State.
   The following prerequisite courses must be completed with a letter grade of C or better: ECE 71, 72, 85, 85L, 90, 90L.

Prerequisites

Students violating any course prerequisites may be required to take an additional course (if they earned a C) or repeat a course (if they earned a D or less.) Repeated violations of prerequisites may trigger disciplinary action.

English - English Education Option, B.A.

Requirements

Bachelor of Arts Degree Requirements

English Major, Education Option

The English Education Option for the English major at Fresno State is designed to help prepare future middle and high school English teachers. Through this California state-approved program, students may demonstrate the English Language Arts subject matter competency required for entrance into a post-baccalaureate single subject teaching credential program.

Majors with this option complete core English courses; courses in subjects related to language arts education such as drama, speech communication, and linguistics; and chose one area of Extended Studies from the following emphases:

- Composition and Rhetoric
- Creative Writing
- Linguistics (Language Awareness or TESOL)
- LiteratureSpeech
- Theater Education

In addition to the major program requirements, General Education (G.E.) requirements and electives are required to fulfill the 120-unit degree. No General Education integration course offered by the Department of English may be used to satisfy the General Education requirements for English majors.

English Education major requirements (59-61 units)

Lower-division core (8 units)

ENGL 31, 32

Core competencies (8 units)

ENGL 105 and 189 (or approved topics course in Shakespeare)

English Education Option coursework (43-45 units)

Electives and remaining degree requirements (8-10 units)
may be used toward a double major or minor

- Additional degree requirement: Two college-level courses in the same foreign language.

General Education requirements (51 units)

Total (120 units)

English Education Option coursework (Subject Matter Program)

The following 28 units are required of all English credential majors regardless of extended studies emphasis.

ENGL 131 (4 units)
LING 146 (3 units)
LING 141 (3 units)
DRAMA 138A (3 units)
COMM 103, 105, 114, or 115 (3 units of 115 are required) (3 units)
ENGL 167 or 112 (4 units)
ENGL 193T or 194T (4 units)
Literature of Diversity (4 units)
Select one approved course: ENGL 112, 113, 114, 178, 179, 193T (selected topics), 194T
Total (28 units)

Extended Studies (15-17 units)
Select one of the following English education major extended studies emphases.

Literature Emphasis (16 units)
--- Creative Writing (4 units) ---
Select one: ENGL 41, 43, 44, 161, 163, 164
---- Literature (12 units) ---
Select a minimum of three approved courses: ENGL 112, 113, 114, 115W, 116, 146, 147, 150, 151, 152, 153, 154, 155, 156, 167, 168T, 169T, 171, 176T, 177, 179, 181, 183T, 184, 187, 193T, 194T

Composition and Rhetoric Emphasis (15 units)
--- Creative Writing (4 units) ---
Select one: ENGL 41, 43, 44, 161, 163, 164
--- Theory (11 units) ---
Select one: COMM 105, 140, 142
Select two: ENGL 181, 175T (Tutoring), 175T (Comp. Theory) or other approved courses

Creative Writing Emphasis (16 units)
Select two of the following sequences:
ENGL 41 and 161 (8 units)
ENGL 43 and 163 (8 units)
ENGL 44 and 164 (8 units)

Linguistics Emphasis (15 units)
LING 100 (3 units)
LING 147 (3 units)

Select three courses in ONE of the following sequences: (9 units)
Language Awareness Strand: LING 132, 138, 139, 142, 143, 144, 145, 148
OR
Teaching English as a Second Language Strand: LING 132, 155, 165, 171

Theatre Education Emphasis (17 units)

DRAMA 32 or 33 (3 units)
DRAMA 34* (3 units)
DRAMA 110* (3 units)
DRAMA 139 (3 units)
DRAMA 185 or 186 (3 units)
DRAMA 115 (2 units)

*Requires DRAMA 115 to be taken concurrently.

Speech Emphasis (15 units)
Select two: COMM 3, 5, 7, 8 (6 units)
Select two: COMM 108, 162, 164 (6 units)
Select any upper-division speech course not used in previous electives (3 units)

Advising Notes

1. The major in English Education is a California state-approved program preparing students for a career teaching English Language Arts at the middle and high school level. The program includes core courses in the English major and additional courses in English Education. Students also choose one extended studies emphasis from the following areas: Creative Writing, Composition and Rhetoric, Speech, Theater Education, and Linguistics.
2. Courses within the major cannot fulfill two requirements.
3. Courses may double-count in G.E. and extended studies emphasis.
4. Recommended G.E. courses for all English credential majors are as follows:
   G.E. Area C1 - DRAMA 22, 62
   G.E. Area C2 - LING 10 or foreign language courses
   G.E. Area E - DRAMA 32
   G.E. Area IC - DRAMA 163; PHIL 120, 150 or 151
   G.E. Area ID - MCJ 178
   G.E. Area MI - LING 147
5. To demonstrate Subject Matter Competency in the state of California through the Fresno State English Education major, students must
   - receive grades of either A or B in ENGL 105, 131, and 193/194T;
   - complete and earn the B.A. in English Education with an average 3.0 GPA or better in subject matter (major) coursework; and
   - complete and pass a reflective portfolio and interview process covering four state-mandated areas of English Education.
6. To be eligibile to enter the Fresno State Credential Program in the Kremen School of Education, students must
   - earn a bachelor's degree (B.A. or B.S.) with an overall GPA of 2.67 (including major and General Education Coursework);
   - provide evidence of successful completion of an appropriate pre-program field experience or EHD 50: Introduction to Teaching; and
   - complete CI 149: Curriculum, Instruction, and Technology in Secondary Classroom.exam should make an appointment with a credential adviser to obtain a list of additional requirements.
7. Provide evidence of English Language Arts Subject Matter Competency, either through a California state-approved program of coursework such as Fresno State's major in English Education OR by passing the state CSET exam in English.

English - English Major Option, B.A.

Requirements

Bachelor of Arts Degree Requirements

English Major

Each student seeking a Bachelor of Arts with a major in English must fulfill the lower-division core, core competencies, and all requirements listed under the English major degree option. Students also must fulfill the university's General Education requirements (51 units). The English Department requires two college-level courses in the same foreign language for both English major degree options. No General Education integration course offered by the Department of English may be used to satisfy the General Education requirements for English majors.

Major requirements (48-57 units)

Lower-division core (8 units)
ENGL 31, 32

Core competencies (8 units)
ENGL 105 and 189 (or approved topics course in Shakespeare)

Options (32-45 units)
I. The English Major (32 units)
II. English Education (43-45 units)

Electives and remaining degree requirements (12-21 units)
(see Degree Requirements); may be used toward a double major or minor

General Education requirements (51 units)

Total (120 units)

Degree Options

The English Major

*From the following three literature categories, select at least two courses before 1865.**

British Literature (8 units)
Select two: ENGL 146, 147, 150, 151, 152, 156, 184, 187

American Literature (4 units)
Select one: ENGL 153, 154, 155

World Literature (4 units)
Select one: ENGL 112, 113, 114, 167

Literature of Diversity (4 units)
Select one approved course: ENGL 168T, 178, 179, 193T, 194T

Approved upper-division electives in major (12 units)
See adviser

Total (32 units)

* Definition of a course before 1865: ENGL 112, 113, 116, 146, 147, 150, 151, 153, 184, 187.

Advising Notes

1. A course may fulfill the requirement in more than one of the above content categories but will not reduce the number of total units required for the major.
2. The English Department requires that students take at least one senior seminar (ENGL 193T or 194T) in their senior year. This may fulfill an upper-division requirement or an elective.
3. CR/NC grading is not permitted in the English major with the exception of 4 units total of ENGL 175T and 186.
4. General Education and elective units may be used toward a double major or minor (see double major or departmental minor). Consult the appropriate department chair, program coordinator, or faculty adviser for further information.
5. Not more than 6 units by extension and correspondence courses may be applied toward the English major; correspondence courses may be applied only if they are acceptable for the major at the college where the course is offered.
6. English majors are advised to select a course in English history as one of their upper-division electives.
7. English majors considering eventual graduate degrees should consult the graduate adviser.

Enology, B.S.

Requirements

Bachelor of Science Degree Requirements

Enology Major

Major requirements (43 units)
ENOL 15, 45, 105, 110, 115, 125, 140, 151, 163, 164, 166, 170, 173, 175, 199

Additional requirements (38-42 units)
CHEM 8 or both CHEM 128A and 128B, CHEM 105 or CHEM 102, CHEM 150 or CHEM 155A;
BIOL 11 (GE B2)
SPAN 1B (GE C2)
AGBS 1 (GE D3)
Select 18 units in consultation with faculty adviser from the following courses: CHEM 3A or CHEM 1A,1AL, 1B, and 1BL (see note 1); BIOL 161; ENOL 190, 194, 199 (see note 2); SPAN 1A; SW 100, 100L; VIT 101, 102, 106, 165

1. Students must take either CHEM 3A or CHEM 1A, 1AL, 1B and 1BL to meet the prerequisite requirements for other chemistry courses required within the degree.
2. The first time a student takes ENOL 199 it counts for the major requirements. If taken a second time it may count towards the elective unit requirement.

Remaining General Education requirements (39 units)
Of the 51 required General Education units, 3 units are satisfied by CHEM 3A or 1A and 1AL in area B1, 3 units are satisfied by BIOL 11 in area B2, 3 units are satisfied by SPAN 1B in area C2, and 3 units are satisfied by AGBS 1 in area D3. Consult with the department chair or college adviser for details.

Upper-division writing skills requirement
Upper-division Writing Exam (See Advising Note 6.)

Total units (120 units)

Advising Notes

1. During the Add/Drop period of their first semester, students are required to attend a department undergraduate orientation session. Alternatively, they are required to meet with the department chair. In either case, they will be assisted in selecting an appropriate faculty adviser.
2. Students meet with their academic advisers prior to registration each fall semester.
3. General Education courses designated as required by the department are prerequisites to many courses in the program of study. The General Education requirement of 51 units may be exceeded depending upon your selection of courses.
4. CR/NC grading is not permitted for courses included in the major.
5. Upper-division G.E. courses (i.e., 100-level course) should not be attempted prior to the semester in which 60 units toward the degree have been completed.
6. If the upper-division writing skills requirement is not met by passing the university Upper-Division Writing Examination (0 units), then a 3- to 4-unit W course (e.g., PLANT 110W or ENGL 160W) must be passed with a grade of C or higher.
7. One semester prior to graduation, contact your academic adviser to prepare and file an official certification of major requirements form. Your application for graduation cannot be processed by the Evaluations Office until this form has been submitted.
8. Viticulture students are encouraged to become certified crop scientists/specialists and should consult their faculty adviser for additional requirements for certification.
9. All courses listed under the major and additional requirements require a grade of C or better.

Environmental Sciences, B.S.

Requirements

Bachelor of Science Degree Requirements

Environmental Sciences Major

Lower-division core requirements (50-51 units)
Biology: BIOL 1A, 1B, 1BL (8 units)
Chemistry: CHEM 1A, 1AL, 1B,1BL (10 units)
Environmental Sciences: EES 4 (see note 1), 12 (7 units)
Earth Science: EES 1, 30 (7 units)
Mathematics: MATH 75 and select one: MATH 76 or 101; or PSYCH 42 (see note 2); or EES 177 (7-8 units)
Physics: PHYS 2A and 2B; or 4A (see note 3), 4AL, 4B, and 4BL (8 units)
Social Science: PLSI 71 (3 units)

Upper-division requirements (26 units)
Biology: BIOL 101 (4 units)
Environmental Sciences: EES 108, 109, 199 (10 units)
Geology: EES 105, 186, and select one: EES 113, or 117, or 124 (9 units)
Social Science: ECON 117 (see note 4) (3 units)

Controlled electives (9 units)
Biology/Chemistry: CHEM 8 (3 units)
Earth Science: EES 102, or 110, or 113, or 114, or 117, or 124 (6 units)

Remaining General Education requirements (36-39 units)

Total (120 units)

Notes
Requires G.E. Foundation B4 as prerequisite.
PSYCH 42 is prerequisite for BIOL 101.
Requires MATH 77 as prerequisite or may be taken concurrently.
Prerequisite for ECON 117 waived for environmental sciences majors.

Advising Note

1. Students interested in physical aspects of environmental sciences should take MATH 76 or EES 177 in addition to PSYCH 42.

Family & Consumer Sciences - Family Sciences Emphasis, B.A.

Requirements

Bachelor of Arts Degree Requirements

Family and Consumer Sciences, Family Sciences Emphasis

Major requirements (54 units)

Pre-Major requirements (9 units)
CFS 31, 39, and 153; passing score (70% or better) on qualifying exam

Core Requirements (15 units)
CFS 100, 130W, 134, 143, 135

Family Science Requirements (30 units)
CFS 32, 38, 131, 179, 193; CFS 136 or 137 or 138 or 146; FIN 30, PH 91 or PH 127 or PSYCH 132; COUN 174 or PSYCH 175; COUN 150

General Education requirements (51 units)

General electives and remaining degree requirements (15-21 units)
(see Degree Requirements); may be used toward a minor

Total (120 units)

Advising Notes

1. Group advising is required for new pre-majors (freshmen and transfers). Students must attend a group advising session before meeting individually with an adviser. Details available from the department.
1. In order to major in Child Development and Family and Consumer Sciences, students must do the following:
   (a) formally declare major as "pre-CFS," and
   (b) complete pre-major classes: CFS 31, 39, and 153 (or their departmentally approved equivalents) with grades of Cor better; pass a qualifying exam over content in those three classes; and have earned a cumulative grade point average of at least 2.5.
   (c) Students may apply for a change of major (from Pre-CFS to CFS) when they take the qualifying exam; application will be provided with the exam. When the qualifying exam is passed, applications to the CFS major will be reviewed, and approved when completion of all required courses has been verified. Upon approval, the major will be changed, and students will be allowed to enroll in restricted upper division CFS courses.
3. Students majoring in Child Development and Family and Consumer Sciences are required to earn a grade of C or better in all major courses. A grade of CR/NC counts in the major only if it is the sole method of grading specified for a particular course.
4. The following courses may not be taken concurrently: CFS 37 and CFS 139; CFS 145A and CFS 145B; CFS 179 and CFS 193.

Family & Consumer Sciences - Fashion Merchandising Emphasis, B.A.

Requirements

Bachelor of Arts Degree Requirements

Family and Consumer Sciences, Fashion Merchandising Emphasis

Major requirements (49-50 units)
Fashion Merchandising required courses
FM 20, 21, 120, 126, 127, 128, 130, 133, 134, 140; ART 13; ACCT 3 or 4A; BA 105W or ENGL 160W; ECON 40 or AGBS 1*; MKTG 100S; MGT 104 or 106

General Education requirements (51 units)

Electives and remaining degree requirements (19-20 units)
(See Degree Requirements); may be used toward a double major or minor
Courses supplementary to the major are strongly recommended.

Total units (120)

Advising Notes

1. Students majoring in fashion merchandising are required to earn a grade of C or better in all major courses.
2. A grade of CR/NC counts in the major only if it is the sole method of grading specified for a particular course.

Food & Nutritional Sciences - Culinology Option, B.S.

Requirements

Bachelor of Science Degree Requirements

Food and Nutritional Sciences Major

Major requirements (41-54 units)

Culinology Option (54 units)
CULG 50, 55, 151, 152; FSC 1, 41, 100, 112, 120, 125, 178, 199; FSM 60, 131, 133, 134; NUTR 54

Select 4 units of electives from the following list: AGBS 1, 120; ASCI 1, 11, 71, 171, 172; AGED 66; FSC 115, 141, 142; FSC 193; FSM 193; IT 117; ENOL 15, 45; VIT 1; CRSC 1, 111, 115; HORT 1 or courses approved by the culinology director.

Additional requirements (4-25 units)
Culinology (15 units)*
CHEM 1A, 1AL, 8, 150; BIOL 20; MATH 11

Elective Units
General Food Science (0 units)
Food Agribusiness Career Specialty (choose 21 units from the following): AGBS 5, 28, 100, 124, 164; ENTR 81, 151, 161, 163, 165; CULG 55, 152; FSC 112, 115, 120, 125, 144
Food Plant Operation and Management Career Specialty (choose 14 units from the following): IT 104, 107, 114, 115, 117, 131, 148, 190

General Education requirements (51 units)
(Includes 12 upper-division units, to be taken no sooner than the term in which 60 units of coursework are completed.)

Total units (120)

* This total indicates that 3 units for CHEM 1A are being used to satisfy the General Education requirement of 51 units.

Advising Notes

1. Students should contact the program coordinator to schedule an academic advising appointment each semester. Since many courses are sequential in nature, it is important for new, transfer, or returning students to contact the program coordinator one semester prior to intended enrollment.
2. CR/NC grading is not permitted for courses included in the major and additional requirements, except work experience (FSC 193; FSM 193; and NUTR 193).
3. Grade Policy - all courses listed under major and additional requirements require a grade of C or better.
4. General Education courses designated as required by the department are prerequisite to many courses in the program of study.
5. The upper-division writing skills requirement can be met by passing the university upper-division writing examination or by passing an approved upper-division writing skills course. One unit of credit (in ENGL 100W) may be earned for passing the examination if requested by the student; by obtaining a letter grade of C or higher in an approved course (e.g., PLANT 110W) the student meets the university writing skills requirement.
6. For further information, see the Food Science and Nutrition Department Didactic Program in Dietetics (DPD) Student Handbook: *http://www.fresnostate.edu/jcast/fsn/documents/faculty-staff/DPDHandbookS13-14Final.pdf*.

Food & Nutritional Sciences - Dietetics & Food Administration Option, B.S.

Requirements

Bachelor of Science Degree Requirements

Food and Nutritional Sciences Major

Major requirements (41-54 units)

Dietetics and Food Administration Option (35 units)
CULG 50, 152; FSC 1; FSM 60, 131; NUTR 54, 61, 149, 153, 160, 165, 166S, 170

Career Specialty (12 units)
In consultation with assigned faculty adviser, each student is required to select one area of electives to match his or her career goals. A minimum of 3 of the 12 career specialty units must be upper-division in the Department of Food Science and Nutrition. Career specialties include, but are not limited to, the following:

- Registered Dietitian: ***Note:*** This career specialty requires admission to the Certificate of Special Study - Dietetics in addition to completing the Dietetics and Food Administration Option of The B.S. in Food and Nutritional Sciences; 12 units from the certificate can be used to fulfill the 12 units required for a career specialty.
- Foodservice Management: FSM 133, 134; additional courses approved by adviser
- Community Nutrition, Health, and Wellness: NUTR 147; PH 100, 112, 114, 115, 128S; additional courses approved by adviser.

Additional requirements (4-25 units)
Dietetics and Food Administration (22 units)*
CHEM 3A, 8, 150; BIOL 20; BIOL 65; PSYCH 10; COUN 174; approved statistics course

General Education requirements (51 units)
(Includes 12 upper-division units, to be taken no sooner than the term in which 60 units of coursework are completed.)

Total units (120)

* This total indicates that 6 units for CHEM 3A and PSYCH 10 are being used to satisfy the General Education requirement of 51 units.

Advising Notes

1. Students should contact the program coordinator to schedule an academic advising appointment each semester. Since many courses are sequential in nature, it is important for new, transfer, or returning students to contact the program coordinator one semester prior to intended enrollment.
2. CR/NC grading is not permitted for courses included in the major and additional requirements, except work experience (FSC 193; FSM 193; and NUTR 193).
3. Grade Policy - all courses listed under major and additional requirements require a grade of C or better.
4. General Education courses designated as required by the department are prerequisite to many courses in the program of study.
5. The upper-division writing skills requirement can be met by passing the university upper-division writing examination or by passing an approved upper-division writing skills course. One unit of credit (in ENGL 100W) may be earned for passing the examination if requested by the student; by obtaining a letter grade of C or higher in an approved course (e.g., PLANT 110W) the student meets the university writing skills requirement.
6. For further information, see the Food Science and Nutrition Department Didactic Program in Dietetics (DPD) Student Handbook: *http://www.fresnostate.edu/jcast/fsn/documents/faculty-staff/DPDHandbookS13-14Final.pdf*.

Food & Nutritional Sciences - Food Science Option, B.S.

Requirements

Bachelor of Science Degree Requirements

Food and Nutritional Sciences Major

Major requirements (41-54 units)

Food Science Option (41-44)*

Core (13 units): FSC 1, 41, 178; NUTR 54

Career Specialties (31 units)
- General Food Science (31 units): FSC 100, 112, 115, 120, 125, 141, 142, 144
- Food Agribusiness Career Specialty (31 units): CULG 50; FSC 100; FSM 60, 131; AGBS 1, 31, 71, 76, 117, 120, 160
- Food Plant Operation and Management Career Specialty (28 units): FSC 120, 141, 142, 144; IT 52, 92, 112, 118

Additional requirements (4-25 units)
Food Science (7-25 units)
General Food Science (25 units)*: CHEM 1A, 1AL, 1B, 1BL, 8, 150; MATH 11, 75; BIOL 20; PHYS 2A
Food Agribusiness Career Specialty (4 units): FSC 141 or 142
Food Plant Operation and Management Career Specialty (14 units)***: CHEM 1A, 1AL; MATH 11, 75; BIOL 20; PHYS 2A

Elective Units
General Food Science (0 units)
Food Agribusiness Career Specialty (choose 21 units from the following): AGBS 5, 28, 100, 124, 164; ENTR 81, 151, 161, 163S, 165; CULG 55, 152; FSC 112, 115, 120, 125, 144
Food Plant Operation and Management Career Specialty (choose 14 units from the following): IT 104, 107, 114, 115, 117, 131, 148, 190

General Education requirements (51 units)
(Includes 12 upper-division units, to be taken no sooner than the term in which 60 units of coursework are completed.)

Total units (120)

* This total indicates that 6 units for MATH 75 and PHYS 2A or CHEM 1A are being used to satisfy the General Education requirement of 51 units.

Advising Notes

1. Students should contact the program coordinator to schedule an academic advising appointment each semester. Since many courses are sequential in nature, it is important for new, transfer, or returning students to contact the program coordinator one semester prior to intended enrollment.
2. CR/NC grading is not permitted for courses included in the major and additional requirements, except work experience (FSC 193; FSM 193; and NUTR 193).
3. Grade Policy - all courses listed under major and additional requirements require a grade of C or better.
4. General Education courses designated as required by the department are prerequisite to many courses in the program of study.
5. The upper-division writing skills requirement can be met by passing the university upper-division writing examination or by passing an approved upper-division writing skills course. One unit of credit (in ENGL 100W) may be earned for passing the examination if requested by the student; by obtaining a letter grade of C or higher in an approved course (e.g., PLANT 110W) the student meets the university writing skills requirement.
6. For further information, see the Food Science and Nutrition Department Didactic Program in Dietetics (DPD) Student Handbook: *http://www.fresnostate.edu/jcast/fsn/documents/faculty-staff/DPDHandbookS13-14Final.pdf*.

French, B.A.

Requirements

Bachelor of Arts Degree Requirements

French Major

Major requirements (30-44 units)
(see Advising Notes 1, 2, and 3 below)

Lower division (14 units)
FREN 1A, 1B; select two from FREN 2A, 2B, 4, 5 (see Advising Notes 3 and 4)

Upper division (30 units)
FREN 103 (6 units)
FREN 109 (3 units)
Select three from FREN 110, 111, 112, 113 (9 units)
Select four from FREN 120T (3-6 units), 132 (3-6 units), 149, 150, 160T (3 units) (see Advising Notes 4 and 5) (12 units)

General Education requirements (51 units)
(see Advising Notes 2 and 5)

Electives* (25-39 units)
including other lower- and upper-division French courses, and remaining degree requirements (see Degree Requirements) may be used toward a double major or a minor

Total (120 units)

* This total indicates that a maximum of two courses (6 units) in G.E. Breadth C2 also may be applied to the French major: FREN 1B, 2A, and 2B. Consult a French major adviser for additional details.

Advising Notes

1. CR/NC grading is not permitted for courses in the French major.
2. Students must receive a minimum grade of C in each upper-division course used toward the French major.
3. French majors who have studied French in high school or who by culture or experience can speak French at a certain level of proficiency must consult with a French adviser to determine which required lower-division courses, if any, may be waived. (Also see Credit Allowance in Foreign Language.) French majors who are eligible to enroll immediately in FREN 1B, 2A, 2B, 4, 5, or in an upper-division French course are not required to make up the lower-division units waived. Waiver of required units for the major does not reduce the total number of units required for the awarding of the bachelor's degree.
4. Only 3 units of courses taught in English may be applied to the French major.
5. A maximum of two courses from one department may be used simultaneously to satisfy the General Education requirement and the major requirements. If the French major is the secondary major in a double major (see double major), this limitation does not apply. Consult a faculty adviser for additional details.
6. Students majoring in French cannot count French courses for G.E. Integration IC.

Geography - City and Regional Planning Option, B.A.

Requirements

Bachelor of Arts Degree Requirements

Geography Major: City and Regional Planning Option

The Bachelor of Arts degree in geography with the option in city and regional planning requires the completion of 120 units.

Major requirements (38-39 units)

Lower-Division Core courses (12 units)
GEOG 4, 5, 7, 30

Upper-Division Core Courses (18 units)
Geographic Information Systems (GIS): GEOG 141 (3 units)
International Development Studies: GEOG 160 (3 units)
Global and Regional Studies: GEOG 173 or 178 (3 units)
Urban and Regional Planning: GEOG 132, 181, 184 (9 units)

Electives in Planning (8 to 9 units)*
BA 154; CE 150; EES 104, 168; GEOG 115, 118, 122, 127, 128, 132, 142, 143, 152, 167, 184, 187T; IT 198W; PH 161; PLSI 175; SOC 144, 184S; SSCI 185

General Education requirements (51 units)**

Additional requirements (19 units)
ECON 40, EES 4, HIST 4, IS 52, IS 52L, PLSI 150, PLSI 181, SOC 163 (13 units)**
and one of the following: PLSI 160 or PLSI 163 (3 units)
and one of the following: ECON 119, ECON 131, or FIN 185 (3 units)

Electives and remaining degree requirements (11-12 units)
(See Degree Requirements); may be used toward a double major or minor.

Total (120 units)

* Some of these courses have one, or more, prerequisite courses that must be taken.
** Of the required General Education units, 9 units will be satisfied by the following three courses in additional requirements: 3 units of EES 4 in G.E. Breadth B1, 3 units of ECON 40 in G.E. Breadth D3, and 3 units of SOC 163 in G.E. Area ID.

Advising Notes

1. No General Education Integration or Multicultural/International course offered by the Department of Geography may be used to satisfy the General Education requirements for geography majors.
2. CR/NC grading is not permitted in the geography major.
3. General Education and elective units may be applied to a second major or a minor (see double major or departmental minor). Consult the appropriate department chair, program coordinator, or faculty adviser for further information.
4. Students must complete 40 upper-division units as part of the requirements to earn a B.A.
5. Students must regularly consult with their academic adviser. Such consultation will facilitate course selection and enable the student to develop a program consistent with individual interests and needs.
6. The selection of electives within the major should be strongly influenced by career goals, interests in graduate study, and related matters. Whether one's interest focuses on environmental protection, planning, cartography, GIS, locational analysis, or any one of a wide array of geographic competencies, the department can provide current applicable information. Inquiries are welcomed.

Geography, B.A.

Requirements

Bachelor of Arts Degree Requirements

Geography Major

The Bachelor of Arts degree with a major in geography requires the completion of 120 units, at least 42 of which shall be in geography.

Major requirements (42 units)

Core courses (12 units)
GEOG 4, 5, 7, 30

Areas of Concentration (18 units)

Majors should complete 3 units in each area.

Atmospheric Sciences: GEOG 111, 112, 114, 115, 118

Environmental Studies: GEOG 127, 128, 135, 139T

Geographic Information Systems (GIS) and Remote Sensing: GEOG 140, 141, 142, 143, 149, 150, 151, 152

International Development Studies: GEOG 160, 161, 162, 163, 164, 165, 166, 167

Global and Regional Studies: GEOG 170T, 171T, 173, 174, 175T, 177T, 178, 179

Urban and Regional Planning: GEOG 181, 184, 187T

Approved geography electives (12 units)
upper-division courses

Additional requirements (3 units)
3 units from one of the following: IS 52 (with 52L), SOC 172

General Education requirements (51 units)

Electives and remaining degree requirements (24 units)*
(See Degree Requirements); may be used toward a double major or minor

Total (120 units)

*This total reflects the use of GEOG 4 in G.E. Breadth D3. Consult the department chair or faculty adviser for additional details.

Advising Notes

1. No more than 3 units of GEOG 195 may be applied to the geography major.
2. No General Education Integration or Multicultural/International course offered by the Department of Geography may be used to satisfy the General Education requirements for geography majors.
3. CR/NC grading is not permitted in the geography major with the exception of GEOG 192 and 195.
4. General Education and elective units may be applied to a second major or a minor (see double major or departmental minor). Consult the appropriate department chair, program coordinator, or faculty adviser for further information.
5. Students must complete 40 upper-division units as part of the requirements to earn a B.A.
6. It is strongly recommended that students interested in professional careers in geography select the emphasis in Geographic Information Systems and Remote Sensing and complete a minor in a related field.
7. Students must regularly consult with their academic adviser. Such consultation will facilitate course selection and enable the student to develop a program consistent with individual interests and needs.
8. The selection of electives within the major should be strongly influenced by career goals, interests in graduate study, and related matters. Whether one's interest focuses on environmental protection, planning, cartography, GIS, locational analysis, or any one of a wide array of geographic competencies, the department can provide current applicable information. Inquiries are welcomed.

Geology, B.S.

Requirements

Bachelor of Science Degree Requirements

Geology Major

Major requirements (49 units)
Lower-division requirements EES 1, 2, 12, and 30 (13 units)
Upper-division requirements

EES 100, 101, 102, 104, 106, 107, 178, 199; two of the following: EES 105, 110, 122; one of the following: EES 114, 117, 118, 124 (33 units)
Upper-division geology elective (see Note 2) (3 units)

Additional requirements (22 units)
CHEM 1A, 1AL, 1B, 1BL; MATH 75; PHYS 2A, 2B

Remaining General Education requirements (45 units)*

Electives and remaining degree requirements (4 units)
Upper-division writing skills; (see Degree Requirements); may be used toward a minor

Total (120 units)

* Of the 51 required General Education units, 6 units will be satisfied by the following two courses in additional requirements: 3 units of CHEM 1A/1AL in G.E. Breadth B1 and 3 units of MATH 75 in G.E. Foundation B4. Consult the department chair or faculty adviser for details.

Advising Notes

1. "Additional requirements" courses may be applied to satisfy requirements of General Education, or a minor, as appropriate. They also may be taken CR/NC (see Credit/No Credit Grading).
2. No more than 1 unit of EES 160 may be used to fulfill the upper-division elective requirement. EES 154, 155, and 168 are not applicable toward geology major requirements.
3. No General Education Integration course offered by the Department of Earth and Environmental Sciences may be used to satisfy the General Education requirements for geology majors.
4. CR/NC is not permitted in the geology major with the exception of EES 3, 30, and 160.
5. No more than 1 unit of EES 3 will be permitted.
6. General Education and elective units may be used toward a double major or minor (see double major or departmental minor). Consult the appropriate department chair, program coordinator, or faculty adviser for further information.
7. Students planning to pursue graduate study in geology are strongly encouraged to take MATH 76 or EES 177.

Geomatics Engineering, B.S.

Requirements

Bachelor of Science Degree Requirements

Geomatics Engineering Major

Major requirements (69 units)
GME 1, 15, 15L, 16, 16L, 23L, 34, 40, 50, 61, 66, 102, 108, 123, 125, 126, 135, 143, 159, 173, 180, 181 (55 units)
CE 150, 161 (5 units)

Technical Courses (9 units)
Select mandatory technical courses from the following list subject to the Design Courses statement listed below: GME 73, 114, 145, 152, 153, 161, 174, 175, 190, 191T; CSCI 115, 124, 150, 172; CM 180B(formerly 114), 122, 124; BA 154; GEOG 181; FIN 180, 181; MATH 101, 121; PHYS 110

Design Courses: At least 6 units of technical courses must be selected from the following design courses: GME 145, 153, 161, 175

Other requirements (60 units)
General Education
Select one course from each of the G.E. areas: Area A1, A2, B2, C1, D1, D2, D3. (See G.E. listings.)

The following courses are required to satisfy both G.E. and major requirements: MATH 75 [B4], CHEM 3A [B1], PHIL 1 or 10 [C2], GME 151 [IB], PHIL 120 [IC], PLSI 120 [M/I]

Additional requirements
MATH 76, 77; PHYS 4A, 4AL, 4B; EES 1

Total (129 units)

Note: Engineering majors are exempt from G.E. Area A3, third course Area C, Area E, and Area ID.

Advising Notes

1. Courses in engineering, mathematics, the physical sciences, and mandatory technical courses taken CR/NC are not counted toward fulfillment of degree requirements in geomatics engineering.
2. All geomatics engineering students must consult with their academic advisers at least once each year.
3. The Upper-Division Writing Skills requirement can be met by passing the university examination or by completing a "W" course with a letter grade of C or better no sooner than the term in which 60 units of coursework are completed.

Graphic Design, B.F.A.

Requirements

Bachelor of Fine Arts Requirements

The Bachelor of Fine Arts in Graphic Design is a professional program providing directed studies and is designed for students seeking in-depth preparation for specialized educational and career goals.

The curriculum explores the many aspects of graphic design, including the physical, cognitive, social, and cultural human factors. It will also explore theories, principles, and practice in relation to typography, illustration, computer graphics, Web design, motion graphics, history of graphic design, and creative critical visual thinking skills that are applicable to professional practice and to meet entrance requirements to graduate school.

Graphic Design Fine Arts Major

Major requirements (72 units)

Art and Design Core (18 units)
ARTH 10 and 11 (6 units)
ART 13 (3 units)
ART 20 or ID 43 (3 units)
ART 24 or 30 or 40 (3 units)
ART 50 or 60 or 70 (3 units)

GD lower-division requirements (21 units)
GD 35, 37, 39, 41, 42, 50, 60

GD upper-division requirements (15 units)
GD 135, 179, 180; ART 116; ARTH 132 or 136

Area of Emphasis (I, II or III) (18 units)

I. Graphic Design
GD 170, 171, 174, 175, 176, 178

II. Illustration*
GD 163, 165, 167, 169

III. Interactive Multimedia Design**
GD 150, 153, 155, 157; ART 107, 180

General Education requirements (51 units)***

Total (120 units)***

* Illustration candidates - see adviser.
** Interactive Multimedia Design candidates - see adviser.
*** In Art and Design Core, 6 units of required courses can be counted towards G.E. (ART 10 or 11, and ART 13). The G.E. requirements are therefore effectively reduced to 45 units. Students are also required to take an Upper-Division Writing course (for a total of 120 units).

Advising Notes

1. A portfolio is required to continue in the B.F.A. in Graphic Design.
2. The portfolio needs to be submitted for review only after the student has completed the art and design core courses and all the lower-division graphic design required courses.
3. The student must PASS the portfolio review to continue in the B.F.A. in Graphic Design.
4. For continuation in the B.F.A. in Graphic Design, all courses required for the major must receive a letter grade of C or higher.
5. Student work may be retained for a limited period for display and accreditation visits.
6. The upper-division writing skills requirement can be met by passing the university examination or by completing a W course with a letter grade of C or higher, to be taken no sooner than the term in which 60 units are completed.

Health Science - Community Health Option, B.S.

Requirements

Bachelor of Science Requirements

Health Science Major

The Health Science Bachelor of Science curriculum consists of a core of five courses providing a foundation of knowledge and skills critical to the theory and practice of the health professional. In addition, students complete a specialized cluster of courses in an option that provides the depth and breadth for the area. A variety of combinations between and within options is possible to meet professional goals. However, university policy allows only one option to appear on the transcript and diploma.

To complete the health science major for the B.S., students must complete General Education requirements (51 units), the health science core (15 units), one of three options (21-27 units), and any additional requirements to the option selected (11-33 units), the upper-division writing skills requirement, and additional electives. Students are encouraged to complete the additional requirements prior to the major courses as the courses may meet General Education requirements, and they provide a foundation for the courses in health science. Elective units also may be used toward earning a certificate.

Health science students are advised to obtain the advising booklet from the department office. The booklet includes the list of required courses. It is strongly recommended that students follow the coursework shown in the booklet. Students need to consult with their advisers for decisions regarding major and minor courses. All substitutions must be approved by the department chair. Classes offered in the Health Science Department may require field assignments.

Health Science Major

Health Science Core for Community Health Option (15 units)
PH 92, 100, 109, 161, 163

Community Health Option (42 units)
See option below.

General Education requirements (51 units)

Electives (0-12 units)

Total (120 units)*

The curriculum is designed to permit admission to master's and doctoral degree programs in health science and public health at major universities throughout the country.

* This total indicates that 9 units for BIOL 1A, CHEM 1A/1AL or PHYS 2A, and DS 71 are used to satisfy the G.E. requirement in the Environmental/Occupational Health and Safety Option.

Community Health Option

Due to the increasing number of opportunities in the area of health, we have structured courses in epidemiology, community and environmental health to complement basic courses in health behavior, health education methods, contemporary health issues, disease, drugs, and human sexuality. The curriculum is designed to prepare individuals not only to be competent instructors in the health areas, but to be health educators in many segments of our society. Upon completion of the degree, students would be eligible to take the certified test to become a Certified Health Education Specialist (CHES).

Industry, business, labor, and the military all seek knowledgeable individuals to plan and direct health delivery and information services. Advanced study in health systems and evaluation techniques of health systems is available to qualified undergraduate and graduate students.

Requirements (31-32 units)
Option requirements: PH 90, 91, 110, 114, 131, 133, 135 (21 units)
Option elective requirements (select from): PH 48, 104, 105, 111, 112, 115, 127, 129, 130, 152T, 182; NUTR 53, 54 (6 units)

Additional requirements (15 units)
BIOL 10, 33 or 110; CHEM 3A, 3B

Total for option (42 units)

- A minimum GPA of 2.75 is required for acceptance into the Community Health Option.
- A minimum grade of C is required in all Health Science core courses (PH 92, 100, 109, 161, 163) and core option courses (PH 90, 91, 110, 114, 131, 133, 135).

Advising Note

Health science majors may not apply CR/NC grading toward major requirements for a baccalaureate degree, except for PH 175, PH 185F, and PH 188, which are mandatory CR/NC courses.

Health Science - Environmental/Occupational Health & Safety Option, B.S.

Requirements

Bachelor of Science Requirements

Health Science Major

The Health Science Bachelor of Science curriculum consists of a core of five courses providing a foundation of knowledge and skills critical to the theory and practice of the health professional. In addition, students complete a specialized cluster of courses in an option that provides the depth and breadth for the area. A variety of combinations between and within options is possible to meet professional goals. However, university policy allows only one option to appear on the transcript and diploma.

To complete the health science major for the B.S., students must complete General Education requirements (51 units), the health science core (15 units), one of three options (21-27 units), and any additional requirements to the option selected (11-33 units), the upper-division writing skills requirement, and additional electives. Students are encouraged to complete the additional requirements prior to the major courses as the courses may meet General Education requirements, and they provide a foundation for the courses in health science. Elective units also may be used toward earning a certificate.

Health science students are advised to obtain the advising booklet from the department office. The booklet includes the list of required courses. It is strongly recommended that students follow the coursework shown in the booklet. Students need to consult

with their advisers for decisions regarding major and minor courses. All substitutions must be approved by the department chair. Classes offered in the Health Science Department may require field assignments.

Health Science Major

Health Science Core for Environmental/Occupational Health and Safety Option (15 units)
PH 92, 135, 109, 161, 163

Environmental/Occupational Health and Safety Option (59-63 units)
See option below.

General Education requirements (51 units)

Electives (0-12 units)

Total (120 units)*

The curriculum is designed to permit admission to master's and doctoral degree programs in health science and public health at major universities throughout the country.

* This total indicates that 9 units for BIOL 1A, CHEM 1A/1AL or PHYS 2A, and DS 71 are used to satisfy the G.E. requirement in the Environmental/Occupational Health and Safety Option.

Environmental/Occupational Health and Safety Option

This degree program provides a balanced approach between the theoretical concepts and applied principles of environmental health, occupational health, and safety. The curriculum builds on a scientific base (biology, chemistry, physics) and includes core courses in health science, foundation courses in environmental and occupational health, and elective courses that allow for specialization. Students are academically prepared to make significant contributions to society by anticipating, evaluating, and controlling environmental and occupational health hazards. Career opportunities abound in government agencies, private industry, consulting, and research organizations. The program also provides preparation for graduate studies and acceptance into professional schools (medicine, dentistry, pharmacy, optometry, veterinary medicine).

The option is approved by the California Department of Health Services. Students in the major are eligible for the following:

1. paid internships with federal agencies such as the U.S. Public Health Service,
2. national and state scholarships, and
3. entrance to the Registered Environmental Health Specialist (REHS) exam immediately following graduation (without having to serve an 18-month traineeship).

Requirements (21 units)
Option requirements: PH 160, 143, 162A, 168A (12 units)
Option elective requirements (select minimum of three courses):
PH 105, 135, 141, 143, 145, 151, 162B, 166T, 168B, 170 (9 units)

Additional requirements (38-42 units)
Basic Sciences: BIOL 1A and 1B, 1BL (or BIOL 33 or 65); CHEM 1A/1AL, 1B/1BL, and CHEM 8 (or 128A); MATH 6 or 70 or 75 or DS 71, 71L; BIOL 20 (or 140); PHYS 2A, 2B (34-38 units)
Internship: PH 175 (4 units)

Total for option (59-63 units)

Advising Note

Health science majors may not apply CR/NC grading toward major requirements for a baccalaureate degree, except for PH 175, PH 185F, and PH 188, which are mandatory CR/NC courses.

Health Science - Health Administration Option, B.S.

Requirements

Bachelor of Science Requirements

Health Science Major

The Health Science Bachelor of Science curriculum consists of a core of five courses providing a foundation of knowledge and skills critical to the theory and practice of the health professional. In addition, students complete a specialized cluster of courses in an option that provides the depth and breadth for the area. A variety of combinations between and within options is possible to meet professional goals. However, university policy allows only one option to appear on the transcript and diploma.

To complete the health science major for the B.S., students must complete General Education requirements (51 units), the health science core (15 units), one of three options (21-27 units), and any additional requirements to the option selected (11-33 units), the upper-division writing skills requirement, and additional electives. Students are encouraged to complete the additional requirements prior to the major courses as the courses may meet General Education requirements, and they provide a foundation for the courses in health science. Elective units also may be used toward earning a certificate.

Health science students are advised to obtain the advising booklet from the department office. The booklet includes the list of required courses. It is strongly recommended that students follow the coursework shown in the booklet. Students need to consult with their advisers for decisions regarding major and minor courses. All substitutions must be approved by the department chair. Classes offered in the Health Science Department may require field assignments.

Health Science Major

Health Science Core for Health Administration Option (15 units)
PH 92, 100, 109, 161, 163

Health Administration Option (43-44 units)
See option below.

General Education requirements (51 units)

Electives (0-12 units)

Total (120 units)*

The curriculum is designed to permit admission to master's and doctoral degree programs in health science and public health at major universities throughout the country.

* This total indicates that 9 units for BIOL 1A, CHEM 1A/1AL or PHYS 2A, and DS 71 are used to satisfy the G.E. requirement in the Environmental/Occupational Health and Safety Option.

Health Administration Option

The health administration option provides a broad based program to prepare the student for positions within the health care system. The curriculum is designed with an emphasis on exposing the student to the principles of health services administration and the application of these principles. For more information, see the departmental adviser.

Requirements (27 units)
Option requirements: PH 90, 151; PH 154 or PLSI 181 or MGT 104; ECON 162; MKTG 100S (16 units)
Option elective requirements (select from): PH 104, 114, 115, 129, 143, 168A, 185F; HRM 150; MKTG 132; SOC 147 (15-16 units)

Additional requirements (12 units)
ACCT 3; ECON 40 and 50; IS 52 and 52L

Total for option (43-44 units)

Advising Note

Health science majors may not apply CR/NC grading toward major requirements for a baccalaureate degree, except for PH 175, PH 185F, and PH 188, which are mandatory CR/NC courses.

History, B.A.

Requirements

Bachelor of Arts Degree Requirements

History Major

A grade of C or higher is required for all courses to be counted toward the major.

Major requirements (45 units)
Lower-division requirements: HIST 4, 20, and 21 (9 units)
Select two: HIST 3, 5, 6, 7, 8, 9 (6 units)

Upper-division requirements:
HIST 100W (3 units)
Select nine courses from the fields listed on this page (27 units)

General Education requirements (51 units)

Electives and remaining degree requirements* (27 units)
(see Degree Requirements); may be used toward a double major or minor

Total (120 units)

Advising Notes

1. HIST 4 is required before enrollment in HIST 100W for all students catalog year 2004-05 to present.
2. It is strongly recommended that history majors take both HIST 11 and 12.
3. No General Education Integration or Multicultural/International course offered by the Department of History may be used to satisfy the General Education requirements for history majors.
4. History majors are not permitted to take history courses by CR/NC grading.
5. General Education and elective units may be used toward a double major or minor (see double major or departmental minor). Consult the appropriate department chair, program coordinator, or faculty adviser for further information.
6. Students who are planning to do graduate work in history are advised to take a foreign language as an undergraduate in consultation with the History Department.
7. HIST 100W should be scheduled in consultation with faculty.
8. All majors must take a total of 27 units from the three fields listed below, taking into account the following requirements:
    - Students must take a minimum of two courses (6 units) in each field, with at least one from A and one from B in the European History Field.
    - Up to 3 units of HIST 190 may be applied toward the major.
    - HIST 190 may not be taken in lieu of a course offered by the department. Students should have taken courses in the appropriate field prior to taking HIST 190.
    - No more than 3 units of HIST 193 can be applied to any one field.

Fields

United States History: HIST 101, 102T, 146, 153, 156, 158, 159, 170, 171, 172, 173, 174, 175, 177, 178, 179T, 180, 182, 183, 186, 187, 188, 190, 193,194.

European History: (A) HIST 103, 111, 112, 116, 117, 118, 119T, 121, 122, 124T, 125, 126, 127, 130, 131, 150, 181, 190, 193. (B) HIST 104, 129T, 132, 133, 134, 135, 138, 139, 140, 141, 142, 143, 144, 145, 149T, 151, 152, 190, 193.

World Regions: HIST 102T, 105, 106, 107, 108A, 108B, 109T, 110, 115, 157, 160, 161, 162, 164, 165, 166, 167, 168, 169T, 176, 190, 191, 192, 193, 199T.

Industrial Technology - Agricultural Systems Management Option, B.S.

Requirements

Bachelor of Science Degree Requirements

Industrial Technology Major, Agricultural Systems Management Option

Major requirements (68 units)

Agricultural Business (9 units)
AGBS 31, 71, 120

Agricultural Mechanics (10 units)
MEAG 3, 5, 20, 103

Animal Sciences and Ag Education (3 units)
ASCI 175

Industrial Technology (25 units)
IT 52, 74, 110, 116, 117, 118, 186, 196, 199 or 194

Plant Science (3 units)
SW 2

Electives (15 units)
Consult with adviser for selection of courses within JCAST departments

Additional requirements (3 units)
IT 198W
AGBS 1 (***Note:*** This satisfies G.E. Area D3 requirements)

General Education requirements (52 units)
(Includes 12 upper-division units, to be taken no sooner than the term in which 60 units of coursework are completed)

Total (120 units)

Industrial Technology, B.S.

Requirements

Bachelor of Science Degree Requirement

Industrial Technology Major

Major requirements (68 units)

Technical Core (32 units)
IT 52, 74, 102, 104, 106, 114, 115, 196, 199; DS 73 or MATH 11; CHEM 3A

Management Core (21 units)
IT 92, 107, 117, 118, 137, 148, 184

Electives (15 units)
Consult with a department adviser to develop 15 units of electives. Electives should be chosen from the following list with advis-

er's approval: IT 12, 30, 41, 58, 63, 71, 80, 110, 112, 116, 120, 127, 129, 131, 133, 134, 146, 147, 164, 165, 190, 191T, 194

General Education requirements (51 units)
(Includes 12 upper-division units, to be taken no sooner than the term in which 60 units of coursework are completed.)

Additional requirements (1 unit)
Upper-division writing skills: Students must pass the Upper-Division Writing Exam or complete IT 198W (recommended); PHYS 2A, IT 20 either MATH 75 or DS 71 (***Note:*** PHYS 2A and IT 20 satisfy two G.E. area requirements [B1 and D3]. MATH 75 or DS 71 satisfies G.E. area B4 requirements and meets the core course prerequisites. Consult the Class Schedule for a current list of approved G.E. courses).

Total units (120 units)*

* This total indicates that PHYS 2A and IT 20 also may be applied to G.E. area requirements, and it presumes that the student has fulfilled the Upper Division Writing Skills requirement by passing the Upper Division Writing Exam for zero units. Contact the department chair or faculty adviser for additional details.

Advising Notes

1. All courses (except IT 194) required for the major must receive a letter grade.
2. Students must pass the upper-division writing exam or complete IT 198W with a grade of C or higher (to be taken no sooner than the term in which 60 units are completed) to fulfill the upper-division writing skills graduation requirement.

Interior Design, B.A.

Requirements

Interior Design Major Requirements

Major requirements (73-74 units)
Art and Design Core (15 units)
ARTH 10 or 11 (3 units)
ART 13 (3 units)
ART 20 or ID 43 (3 units)
ART 24 or 30 or 40 or GD 37 (3 units)
ART 50 or 60 or 70 (3 units)

Interior Design requirements (58-59 units)
ID 7, 70, 71, 77, 110, 111, 112, 113; ID 116 or IT 115; ID 120, 130, 131, 133, 134 or 137 or 145, 136, 138, 149, 150, 152, 155

General Education requirements (51 units)
(Including 12 upper-division units, to be taken no sooner than the term in which 60 units of coursework are completed.) Note that a maximum of three courses (9 units) in G.E. Breadth C1 and E1 may be applied to the interior design major. ARTH 10 or 11; ART 20, 40, 50 (G.E. C1); and/or ART 13 (G.E. E1). Consult the department chair or faculty adviser for additional details.

Electives and remaining requirements (4-5 units)*
If the maximum three courses (9 units) in G.E. Breadth C1 and E are taken that apply to the Interior Design major requirement, AND students choose to take and pass the W exam to meeting the university's writing requirement (1 unit credit), 4 to 5 elective units in any field will need to be completed to meet the 120 units requirement for graduation.

* These elective units may be reduced if students choose to meet the university writing requirement by taking an upper division W course (3 or 4 units)

Total units (120)
(including 40 upper-division units)

Advising Notes

1. All courses required for the major must receive a letter grade.
2. Student work may be retained for a limited period for display and accreditation visits.
3. The upper-division writing skills requirement can be met by passing the university examination or by completing a W course with a letter grade of C or higher, to be taken no sooner than the term in which 60 units are completed.
4. The General Education requirement of 51 units may be exceeded depending upon the selection of courses.
5. No General Education Integration course offered by the Department of Art and Design may be used to satisfy the General Education requirements for majors in the department.
6. A grade of C or higher in all Interior Design coursework is necessary for successful completion of the major. Any course required as a prerequisite must be completed with grade of C or better before registration in the subsequent course.

Kinesiology - Exercise Science Option, B.S.

Requirements

Bachelor of Science Degree Requirements

Kinesiology Major, Exercise Science Option

Major requirements (47-85 units)
(Combined core and option requirements.)

Core Program (15 units)
(required of all options)
KINES 1, 32*, 33, 116, 118

Exercise Science Option (37-54 units)
KINES 109 or 110, 119, 121, 137, 163, 165, 167; BIOL 67A, 67B

Select any KAC course or ATHL 100

Select 24 elective units (16 units for associate degree for transfer) from:
- Any KINES academic course, other than those required for the option;
- Any KAC activity course (no more than 3 additional KAC courses can be applied to the major; repeated KAC course cannot be counted);
- PH 48, 92, 109, 114, 128, 141; PSYCH 10, 42, 66, 155, 169; BIOL 1A, 1B, 1BL, 10, 20, 102, 103, 144, 166, 167; CHEM 1A and 1AL, 1B and 1BL, 3A, 3B, 3BL, 8, 128A, 129A, 128B, 129B, 150, 155A; PHYS 2A, 2B; MATH 11; NUTR 53, 54, 147, 153

General Education requirements (51 units)

Major requirements (47-85 units)**

Electives (0-24 units)**

Total (120 units)**

Advising Notes

1. With the assistance of the department adviser, students may choose a program that will prepare them for working with specific age groups or special populations, coaching, athletic training, teaching physical education, or professional applications in the exercise sciences and fitness-related industries.
2. Students majoring in kinesiology may count a maximum of 12 units of activity courses (ATHL, KAC, DANCE) toward the 120 units required for a bachelor's degree. Repeat credit towards the kinesiology major is not allowed in any of these activity courses.
3. CR/NC grading is not permitted in courses for the kinesiology major, except in those courses which are designated CR/NC grading only.

4. General Education and elective units may be used toward a minor (see departmental minors) or supplemental credential. Consult the ap-propriate department chair, program coordinator, or faculty adviser for further information.
5. Students interested in the athletic training option should consult the department regarding criteria for selection into this program.
6. A grade of C or higher in all required coursework is necessary for successful completion of the major. Any course required as a prerequisite must be completed with a grade of C or better before registration in the subsequent course.
7. Lower-division courses taken at other institutions may be accepted as being equivalent to lower-division requirements in the department. Petitions to have courses accepted should be completed during the first semester in the major.
8. No General Education Integration and Multicultural/International course offered by the Kinesiology Department may be used to satisfy the General Education requirements for majors in the department.
9. The Kinesiology Exercise Science Option complies with university policy regarding the re-taking of courses. Exercise science students who fail a course (D or F) in the Kinesiology core may retake the class for a second time. If they earn a failing grade (D or F) a second time, they will not be allowed to petition to repeat the course for a third time. These students will not be able to complete the Kinesiology Exercise Science Option requirements and will be required to declare a new major.

Kinesiology - Physical Education Blended Option, B.S.

Requirements

Bachelor of Science Degree Requirements

Kinesiology Major, PE Teacher Education Option

Major requirements (47-85 units)
(Combined core and option requirements.)

Core Program (15 units)
(required of all options)
KINES 1, 32*, 33, 116, 118

Physical Education Teacher Education Option (32-35 units)**
KINES 31, 35 (or BIOL 33), 110, 120, 122, 123, 126, 131, 144, 159
Select one from: KAC 40, 41, 43, 44, 47, 49, 50
Select one from: KAC 10, 12, 13; DANCE 115, 117A, 155A, 158A; CLAS 107

General Education requirements (51 units)

Major requirements (47-85 units)**

Electives (0-24 units)**

Total (120 units)**

Advising Notes for PETE

1. Students enrolled in the PETE must confer with the department's physical education option adviser during every semester they are enrolled in the program.
2. Students in the PETE must maintain a grade point average of 3.0 (GPA) in all blended physical education option courses (32 units + core of 17 units). If the student falls below 3.0 GPA in the PETE for two consecutive semesters, he/she will be automatically disqualified. A student that achieves a GPA of 3.0 or higher fulfills Subject Matter Competency (SMC) and therefore is exempt from taking the California Subject Examinations for Teachers (CSET). Verification of SMC and recommendation for admission into the professional preparation program are the responsibility of the department credential adviser.
3. Transfer students must see the departments program adviser regarding an accelerated three-year program.
4. Students must apply and be admitted to the Kremen School of Education and Human Development (Credential Program) during Year 3 - Semester 5 of the PETE.
5. Students must also maintain a GPA of 3.0 or higher throughout their credential coursework (Kremen School of Education

requirement).
6. Students may be able to double count KINES 32 with Core and General Education Area E.
7. PETE majors are required to take KAC 103 as the activity component with KINES 32.
8. Students are required to maintain current certification for Adult/Child CPR and First Aid.

Kinesiology - Sport Administration, B.S.

Requirements

Bachelor of Science Degree Requirements

Kinesiology Major, Sport Administration Option

Major requirements (47-85 units)
(Combined core and option requirements.)

Core Program (15 units)
(required of all options)
KINES 1, 32*, 33, 116, 118

Sport Administration Option (54 units)
KINES 45, 146, 147, 150; RA 150, 154
Select 26 units from: KINES 111; RA 152; COMM 170; ECON 144; ACCT 3, 4A; BA 179; FIN 120, 143; MGT 104, 106, 127; MKTG 100S, 150, 153, 160

General Education requirements (51 units)

Major requirements (47-85 units)**

Electives (0-24 units)**

Total (120 units)**

Advising Notes

1. Students majoring in Kinesiology may count a maximum of 12 units of activity courses (ATHL, KAC, DANCE) toward the 120 units required for a bachelor's degree. Repeat credit towards the Kinesiology major is not allowed in any of these activity courses.
2. CR/NC grading is not permitted in courses for the Kinesiology major, except in those courses which are designated CR/NC grading only.
3. A grade of C or higher in all required coursework is necessary for successful completion of the major. Any course required as a prerequisite must be completed with a grade of C or better before registration in the subsequent course.
4. Lower-division courses taken at other institutions may be accepted as being equivalent to lower-division requirements in the department. Petitions to have courses accepted should be completed during the first semester in the major.
5. No General Education Integration and Multicultural/International course offered by the Kinesiology Department may be used to satisfy the General Education requirements for majors in the department.

Latin American Studies, B.A.

Requirements

Bachelor of Arts Degree Requirements

Latin American Studies Major

The Bachelor of Arts in Latin American Studies requires a minimum of 120 units, which includes courses for the major, General Education, electives, and all university requirements. Students seeking a bachelor's degree in Latin American Studies must be in good standing with the university and must maintain a minimum GPA of 2.75. Before enrolling in upper-division courses, students must complete designated lower-division courses.

The B.A. in Latin American Studies is an interdisciplinary degree designed to give students an understanding of the region from diverse disciplines and perspectives. Students are strongly encouraged to spend a semester abroad studying in Latin America, Spain, or Portugal. Majors should also develop proficiency in either Spanish or Portuguese by graduation. High school students preparing to enter the program should not have less than three years of study in either Spanish or Portuguese.

The B.A. in Latin American Studies prepares students for graduate studies or employment in government services or international organizations. It also provides a strong foundation for students who wish to teach at the secondary school level, at a two-year college, or at the university level. Students are also prepared for careers in the private sector with an emphasis in international business or specialized focus on Latin America.

Latin American Studies Major

Major requirements (33 units)

Core (15 units)
15 units to be selected from the following:
Chicano and Latin American Studies: CLAS 70, CLAS 72, CLAS 128, CLAS 170, CLAS 171, CLAS 173
Economics: ECON 181
History: HIST 8, HIST 166

Senior Project (3 units)
Choose among: CLAS 172S, CLAS 150, HIST 169T, ECON 190

Electives (15 units)
AIS 103, ANTH 130, ANTH 141, ANTH 143, CLAS 112, CLAS 114, CLAS 115, CLAS 128, CLAS 171, CLAS 172S, CLAS 173,ECON 114, ECON 179, GEOG 170T, GEOG 172, HIST 145, HIST 160, HIST 162, HIST 165, HIST 167, HIST 169T, HIST 183, PLSI 146T, PLSI 148, ARTH 170, ARTH 173, ARTH 175, HUM 130, SPAN 125, SPAN 129, SPAN 143, SPAN 145, SPAN 147

General Education (51 units)

Electives and remaining degree requirements (36 units)

Total (120 units)

* ***Note:*** A semester abroad in Spain, Portugal or a Latin American country can replace the senior project. The academic components of such a study abroad progam would include application of key concepts, comparative analysis of the culture, description and discussion of current political/social issues, and analysis of the impact of globalization on the country visited.

Liberal Studies, B.A.

Requirements

Bachelor of Arts Degree Requirements

Liberal Studies Blended Program

The Blended Program blends or integrates three elements - the General Education program, the courses required in the liberal studies major, and the courses required for teacher preparation - which can result in a B.A. in Liberal Studies and a preliminary Multiple Subject Teaching Credential or Educational Specialist Credential. All liberal studies students complete the same program of 99-103 units of general education and major courses but then have several ways in which they may complete their degree. For those pursuing a Multiple Subject or Educational Specialist Credential, most of the credential courses may be included

in a carefully planned four-year program.

Attention: The liberal studies degree and credential listed here are correct as of the time of publication of this catalog. As teacher education programs are subject to state and system legislative control, it is recommended that students interested in the credential consult the Education Student Services Center of the Kremen School of Education and Human Development for current program requirements.

Those intending to complete the bachelor's degree and not teach, should enroll only in the courses listed in the major requirements below. However, they will have units remaining for elective or double major work. Those intending to teach should enroll in both the major requirements and each of the courses listed under the credential requirements.

Bachelor of Arts Degree Requirements

Liberal Studies Major

Major requirements (91-92 units)

General Education Areas (52-53 units)
[A1] COMM 3, 7, or 8 (3 units)
[A2] ENGL 5B or 10 (3 units)
[A3] Any A3 course (3 units)
[B1] NSCI 1A (3-4 units)
[B2] BIOL 10 (3 units)
[B4] MATH 10A (3 units)
[C1] ART 1; ARTH 10 and 11; MUSIC 9, 74; or DRAMA 62 (3 units)
[C1 or C2] ENGL 20, 30; HUM 10, 11 (3-4 units)
[C2] HIST 20* (3 units)
[D1] HIST 11 (3 units)
[D2] PLSI 2 (3 units)
[D3] GEOG 4 (3 units)
[E] CFS 39 (3 units)
[IB] NSCI 115 (3 units)
[IC] IAS 108 (3 units)
[ID] SSCI 110 (3 units)
[MI] SSCI 180 or SOC 111 (3 units)

Other Major Requirements (39 units)
CSCI 5 or IS 52 and 52L (3 units)
KINES 152 (3 units)
LING 11 (3 units)
MATH 10B (3 units)
PSYCH 169, SPED 120, or RA 125 (3 units)
ART 179, MUSIC 153, DRAMA 136S, 137, or DANCE 160 (3 units)
ENGL 117W (3 units)
CI 100 (3 units)
COMM 114 (3 units)
ECON 165 (3 units)
LING 132 (3 units)
MATH 100 (3 units)
EES 9 (3 units)

Additional requirements (9-12 units)
(Select one.) Consult your adviser for a list of concentrations. All concentrations require a total of 12 units. In most cases, the initial 3 units are fulfilled by the "lead-in" course which is found in the major. Courses taken for G.E. credit cannot count toward the concentration.

Electives and remaining degree requirements (16-21 units)
Electives may be used to satisfy Multiple Subject or Education Specialist Credential Program requirements as listed below.

Total (120 units)

* HIST 20 is G.E. Area C2 for liberal studies students only. (For all other students, HIST 20 is G.E. Area D3.)

Visual and Performing Arts Requirement Note

Selection of a visual and performing arts course in the major (ART 179, MUSIC 153, DRAMA 136,136S, 137 or DANCE 160) must be from a discipline that is different from that taken to meet G.E. Area C1.

Multiple Subject Credential

Prerequisite: EHD 50.
Prerequisite or corequisite*: CI 100.
For students pursuing a credential and a liberal studies degree simultaneously, the California Subject Examinations for Teachers (CSET) must be passed prior to enrollment in final student teaching (EHD 170 or SPED 175/176). For students pursuing a Multiple Subject Education/Specialist Credential after completion of a degree, the CSET must be passed as one condition for admission to the program.
Courses
CI 171, 175, 176; EHD 170, 174, 178; LEE 172, 173, 177; SPED 179
Total (51 units)
Note: Consult adviser for sequencing of courses.

* CI 100 may be taken concurrently with Phase 1 courses. CI 100 must be completed prior to beginning Phase 2 courses.

Education Specialist Credential

Prerequisite: EHD 50.
Prerequisite or corequisite*: CI 100
For students pursuing a credential and a liberal studies degree simultaneously, the California Subject Examinations for Teachers (CSET) must be passed prior to enrollment in final student teaching (EHD 170 or SPED 175/176). For students pursuing a Multiple Subject Education/Specialist Credential after completion of a degree, the CSET must be passed as one condition for admission to the program.
Courses
CI 171, 175, 176; LEE 172, 173, 177;; EHD 174, 178; SPED 125, 130, 156, 171/172, 175/176;
Mild/Moderate
SPED 126, 136, 137
Moderate/Severe
SPED 145, 146, 147
Other approved courses
Total (51 units)

* CI 100 may be taken concurrently with Phase 1 courses. CI 100 must be completed prior to beginning Phase 2 courses.

For additional information regarding admission to the Multiple Subject or Education Specialist Credential programs, contact the Education Student Services Center in ED 100 or visit the KSOEHD Web site at *http://www.fresnostate.edu/kremen/*.

Liberal Studies majors who plan to obtain a credential should attend an orientation by signing up in the Education Student Services Center in ED 100 during the semester prior to entering the credential program.

Linguistics - Computational Linguistics Option, B.A.

Requirements

Bachelor of Arts Degree Requirements

Linguistics Major, Computational Linguistics Option

A B.A. with a major in linguistics requires 36-46 units completed in one of the options outlined below, the General Education requirement, specific course/skill requirements, and electives and remaining degree requirements totaling at least the 120 units required for a B.A.

The B.A. program in Linguistics is diversified but integrated. Four options are available: (1) Teaching English as a Second Language, (2) General Linguistics, (3) Computational Linguistics, and (4) Interdisciplinary Language Studies. In each option, students receive a basic grounding in the nature and structure of human language.

Major requirements (36-46 units)
--- A. Core (18 units) ---
LING 100, 139, 142, 143, 148, 165

--- B. Options (18-28 units) ---

III. Computational Linguistics (27-28 units)
Prerequisites: CSCI 40, 41, 60; MATH 75 (16 units)
CSCI 117, 119 (8 units)
Elective: select from LING 144, 145, 151, 153, 154; CGSCI 100 or CSCI 115, 130, 164, 166, 186 (3-4 units)

General Education requirements (51 units)

Approved electives and remaining degree requirements (23-33 units)
(See Degree Requirements); may be used toward a double major or minor

Total (120 units)

Advising Notes

1. No General Education Integration course offered by the Department of Linguistics may be used to satisfy the General Education requirements for linguistics majors.
2. CR/NC grading is not permitted in the linguistics major.
3. General Education and elective units can be used toward a double major or minor. (See double major or departmental minor.) Consult the appropriate department chair, program coordinator, or faculty adviser for further information.
4. See adviser for list of approved electives.
5. Students who have studied a language in high school or community college, or who by culture and experience have a certain level of proficiency, must consult with an adviser in the language to determine their placement in lower- or upper-division coursework.
6. Students must fulfill the 18 units by taking language courses in a minimum of two languages and not more than three languages. Students must maintain a B average in the languages taken.
7. Literature courses in the language may be used with permission of adviser. Except for LING 120, courses taught in English do not count toward the required courses for Plan A or Plan B.

Linguistics - General Linguistics Option, B.A.

Requirements

Bachelor of Arts Degree Requirements

Linguistics Major, General Option

A B.A. with a major in linguistics requires 36-46 units completed in one of the options outlined below, the General Education requirement, specific course/skill requirements, and electives and remaining degree requirements totaling at least the 120 units required for a B.A.

The B.A. program in Linguistics is diversified but integrated. Four options are available: (1) Teaching English as a Second Language, (2) General Linguistics, (3) Computational Linguistics, and (4) Interdisciplinary Language Studies. In each option, students receive a basic grounding in the nature and structure of human language.

Major requirements (36-46 units)
--- A. Core (18 units) ---
LING 100, 139, 142, 143, 148, 165

--- B. Options (18-28 units) ---

II. General Linguistics (19 units)

LING 144, 145, 151, 153, 154; CGSCI 100

General Education requirements (51 units)

Approved electives and remaining degree requirements (23-33 units)
(See Degree Requirements); may be used toward a double major or minor

Total (120 units)

Advising Notes

1. No General Education Integration course offered by the Department of Linguistics may be used to satisfy the General Education requirements for linguistics majors.
2. CR/NC grading is not permitted in the linguistics major.
3. General Education and elective units can be used toward a double major or minor. (See double major or departmental minor.) Consult the appropriate department chair, program coordinator, or faculty adviser for further information.
4. See adviser for list of approved electives.
5. Students who have studied a language in high school or community college, or who by culture and experience have a certain level of proficiency, must consult with an adviser in the language to determine their placement in lower- or upper-division coursework.
6. Students must fulfill the 18 units by taking language courses in a minimum of two languages and not more than three languages. Students must maintain a B average in the languages taken.
7. Literature courses in the language may be used with permission of adviser. Except for LING 120, courses taught in English do not count toward the required courses for Plan A or Plan B.

Linguistics - Interdisciplinary Language Studies Option, B.A.

Requirements

Bachelor of Arts Degree Requirements

Linguistics Major, Interdisciplinary Language Studies Option

A B.A. with a major in linguistics requires 36-46 units completed in one of the options outlined below, the General Education requirement, specific course/skill requirements, and electives and remaining degree requirements totaling at least the 120 units required for a B.A.

The B.A. program in Linguistics is diversified but integrated. Four options are available: (1) Teaching English as a Second Language, (2) General Linguistics, (3) Computational Linguistics, and (4) Interdisciplinary Language Studies. In each option, students receive a basic grounding in the nature and structure of human language.

Major requirements (36-46 units)
--- A. Core (18 units) ---
LING 100, 139, 142, 143, 148, 165

--- B. Options (18-28 units) ---

IV. Interdisciplinary Language Studies (21-23 units)
Required: LING 151. See advising note 6.
Choose Plan A or Plan B
-- A. Depth Plan in one language ---
(Spanish, French, Japanese, or German)
Required for Spanish: SPAN 130, 137, 139. Electives approved by the adviser (9 units).
Required for French: FREN 103 (6 units), 132. Electives approved by the adviser (9 units).
Required for Japanese: JAPN 1A, 1B, 2A, 2B, 100; LING 120
Required for German: GERM 1A, 1B, 2A, 2B, GERM 101, 150
See advising notes 5 and 7.

---B. Breadth Plan lower-division and/or upper-division courses in various languages ---
(American Sign Language, Armenian, Chinese, French, German, Greek, Hmong, Italian, Japanese, Latin, Portuguese, Sanskrit, and/or Spanish.) See advising notes 5, 6, and 7.

General Education requirements (51 units)

Approved electives and remaining degree requirements (23-33 units)
(See Degree Requirements); may be used toward a double major or minor

Total (120 units)

Advising Notes

1. No General Education Integration course offered by the Department of Linguistics may be used to satisfy the General Education requirements for linguistics majors.
2. CR/NC grading is not permitted in the linguistics major.
3. General Education and elective units can be used toward a double major or minor. (See double major or departmental minor.) Consult the appropriate department chair, program coordinator, or faculty adviser for further information.
4. See adviser for list of approved electives.
5. Students who have studied a language in high school or community college, or who by culture and experience have a certain level of proficiency, must consult with an adviser in the language to determine their placement in lower- or upper-division coursework.
6. Students must fulfill the 18 units by taking language courses in a minimum of two languages and not more than three languages. Students must maintain a B average in the languages taken.
7. Literature courses in the language may be used with permission of adviser. Except for LING 120, courses taught in English do not count toward the required courses for Plan A or Plan B.

Linguistics - Teaching English as a Second Language Option, B.A.

Requirements

Bachelor of Arts Degree Requirements

Linguistics Major, Teaching English as a Second Language Option

A B.A. with a major in linguistics requires 36-46 units completed in one of the options outlined below, the General Education requirement, specific course/skill requirements, and electives and remaining degree requirements totaling at least the 120 units required for a B.A.

The B.A. program in Linguistics is diversified but integrated. Four options are available: (1) Teaching English as a Second Language, (2) General Linguistics, (3) Computational Linguistics, and (4) Interdisciplinary Language Studies. In each option, students receive a basic grounding in the nature and structure of human language.

Major requirements (36-46 units)
--- A. Core (18 units) ---
LING 100, 139, 142, 143, 148, 165

--- B. Options (18-28 units) ---

I. Teaching English as a Second Language (18 units)
LING 132, 141, 146, 155, 171 (15 units)
Elective: any upper-division course in linguistics except LING 110W, 111W, 115, or 130 (3 units)

General Education requirements (51 units)

Approved electives and remaining degree requirements (23-33 units)
(See Degree Requirements); may be used toward a double major or minor

Total (120 units)

Advising Notes

1. No General Education Integration course offered by the Department of Linguistics may be used to satisfy the General Education requirements for linguistics majors.
2. CR/NC grading is not permitted in the linguistics major.
3. General Education and elective units can be used toward a double major or minor. (See double major or departmental minor.) Consult the appropriate department chair, program coordinator, or faculty adviser for further information.
4. See adviser for list of approved electives.
5. Students who have studied a language in high school or community college, or who by culture and experience have a certain level of proficiency, must consult with an adviser in the language to determine their placement in lower- or upper-division coursework.
6. Students must fulfill the 18 units by taking language courses in a minimum of two languages and not more than three languages. Students must maintain a B average in the languages taken.
7. Literature courses in the language may be used with permission of adviser. Except for LING 120, courses taught in English do not count toward the required courses for Plan A or Plan B.

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Mass Communication & Journalism - Advertising Option, B.A.

Requirements

Bachelor of Arts Degree Requirements

Mass Communication and Journalism Major

Majors must complete a minimum of 33 semester units of mass communication and journalism courses with a grade of C or better in each course. To ensure that students obtain a broad academic background, additional coursework outside of the department is required.

In addition to completing the university's General Education requirement of 51 units, students must also complete 15 units from the department's Liberal Arts and Sciences Course List. The Liberal Arts and Sciences Course List is available from the student's faculty adviser and on the MCJ website.

The department's requirements for study outside the major meet the communications industries' preference for graduates with strong grounding in the liberal arts and sciences.

Degree Summary
General Education requirements (51 units)*
Major requirements (33 units)
Liberal Arts and Sciences block (15 units)
General Electives (21 units)
(Units may come from courses taken in the major and/or outside the major.)
Total (120 units)

Specializing within the major

Each MCJ major must select an option, which is an area of specialization within the major. The options are advertising, broadcast journalism, print journalism, multimedia production, and public relations. The courses required for each option are listed under Major Requirements.

Advising Notes

In addition to the above requirements, MCJ majors must observe the following:

1. Before enrolling in any of the department's writing or editing courses, all students must have passed the Department Qualification Exam (DQE). The DQE is administered by the department and tests fundamentals of grammar, spelling, and punctuation. Students are permitted three attempts to pass the DQE but after two unsuccessful attempts, they must take MCJ 5.
2. MCJ majors are not permitted to enroll for CR/NC grading in MCJ courses applied to the major, except for courses that require such grading.
3. No General Education course offered by the Department of Media, Communications, and Journalism may be used to satisfy the General Education requirements for MCJ majors. MCJ courses which may not be used for General Education are MCJ 1, 175, 176, 178, and 179. Consult the Schedule of Courses for a current list of approved General Education courses.
4. Students must meet all university graduation requirements. This includes the Upper-Division Writing requirement, which may be met by taking MCJ 102W, a "W" course from another department, or the Upper-Division Writing Exam.

Major Requirements for the Degree

Major Requirements (33 units)

Advertising Option

MCJ 1, 10, 142, 143, 144, 146, 148, 172 or 173 (24 units)
One MCJ elective numbered between 163 and 179 (3 units)
Two additional MCJ course electives selected from MCJ 30, 104, 105, 106, 115, 124, 131, 152S, 158S, 159S, 164, 191 (6 units)

Mass Communication and Journalism - Broadcast Journalism Option, B.A.

Requirements

Bachelor of Arts Degree Requirements

Mass Communication and Journalism Major

Majors must complete a minimum of 33 semester units of mass communication and journalism courses with a grade of C or better in each course. To ensure that students obtain a broad academic background, additional coursework outside of the department is required.

In addition to completing the university's General Education requirement of 51 units, students must also complete 15 units from the department's Liberal Arts and Sciences Course List. The Liberal Arts and Sciences Course List is available from the student's faculty adviser and on the MCJ website.

The department's requirements for study outside the major meet the communications industries' preference for graduates with strong grounding in the liberal arts and sciences.

Degree Summary
General Education requirements (51 units)*
Major requirements (33 units)
Liberal Arts and Sciences block (15 units)
General Electives (21 units)
(Units may come from courses taken in the major and/or outside the major.)
Total (120 units)

Specializing within the major

Each MCJ major must select an option, which is an area of specialization within the major. The options are advertising, broadcast journalism, print journalism, multimedia production, and public relations. The courses required for each option are listed under Major Requirements.

Advising Notes

In addition to the above requirements, MCJ majors must observe the following:

1. Before enrolling in any of the department's writing or editing courses, all students must have passed the Department Qualifi-

cation Exam (DQE). The DQE is administered by the department and tests fundamentals of grammar, spelling, and punctuation. Students are permitted three attempts to pass the DQE but after two unsuccessful attempts, they must take MCJ 5.
2. MCJ majors are not permitted to enroll for CR/NC grading in MCJ courses applied to the major, except for courses that require such grading.
3. No General Education course offered by the Department of Media, Communications, and Journalism may be used to satisfy the General Education requirements for MCJ majors. MCJ courses which may not be used for General Education are MCJ 1, 175, 176, 178, and 179. Consult the Schedule of Courses for a current list of approved General Education courses.
4. Students must meet all university graduation requirements. This includes the Upper-Division Writing requirement, which may be met by taking MCJ 102W, a "W" course from another department, or the Upper-Division Writing Exam.

Major Requirements for the Degree

Major Requirements (33 units)

Broadcast Journalism Option

MCJ 1, 10, 30, 102W, 115, 124, 126, 128, 172, 173 (30 units)
MCJ 17, MCJ 191, or other upper-level MCJ course (3 units)

Mass Communication & Journalism - Multimedia Production Option, B.A.

Requirements

Bachelor of Arts Degree Requirements

Mass Communication and Journalism Major

Majors must complete a minimum of 33 semester units of mass communication and journalism courses with a grade of C or better in each course. To ensure that students obtain a broad academic background, additional coursework outside of the department is required.

In addition to completing the university's General Education requirement of 51 units, students must also complete 15 units from the department's Liberal Arts and Sciences Course List. The Liberal Arts and Sciences Course List is available from the student's faculty adviser and on the MCJ website.

The department's requirements for study outside the major meet the communications industries' preference for graduates with strong grounding in the liberal arts and sciences.

Degree Summary
General Education requirements (51 units)*
Major requirements (33 units)
Liberal Arts and Sciences block (15 units)
General Electives (21 units)
(Units may come from courses taken in the major and/or outside the major.)
Total (120 units)

Specializing within the major

Each MCJ major must select an option, which is an area of specialization within the major. The options are advertising, broadcast journalism, print journalism, multimedia production, and public relations. The courses required for each option are listed under Major Requirements.

Advising Notes

In addition to the above requirements, MCJ majors must observe the following:

1. Before enrolling in any of the department's writing or editing courses, all students must have passed the Department Qualification Exam (DQE). The DQE is administered by the department and tests fundamentals of grammar, spelling, and punctuation. Students are permitted three attempts to pass the DQE but after two unsuccessful attempts, they must take MCJ 5.
2. MCJ majors are not permitted to enroll for CR/NC grading in MCJ courses applied to the major, except for courses that require such grading.
3. No General Education course offered by the Department of Media, Communications, and Journalism may be used to satisfy the General Education requirements for MCJ majors. MCJ courses which may not be used for General Education are MCJ 1, 175, 176, 178, and 179. Consult the Schedule of Courses for a current list of approved General Education courses.
4. Students must meet all university graduation requirements. This includes the Upper-Division Writing requirement, which may be met by taking MCJ 102W, a "W" course from another department, or the Upper-Division Writing Exam.

Major Requirements for the Degree

Major Requirements (33 units)

Multimedia Production Option

MCJ 1, 10, 17, 30, 102W or 124, 115 (18 units)
One MCJ elective numbered between 163 and 179 (3 units)
Three MCJ advanced production courses selected from 106, 112, 113, 116, 118S, 120 and 131S (9 units)
One additional MCJ course elective selected from 104, 105, 106, 112, 113, 116, 118S, 120, 124, 126, 128, 131S, 163, 190, 191 (3 units)

Mass Communication and Journalism - Print Journalism Option, B.A.

Requirements

Bachelor of Arts Degree Requirements

Mass Communication and Journalism Major

Majors must complete a minimum of 33 semester units of mass communication and journalism courses with a grade of C or better in each course. To ensure that students obtain a broad academic background, additional coursework outside of the department is required.

In addition to completing the university's General Education requirement of 51 units, students must also complete 15 units from the department's Liberal Arts and Sciences Course List. The Liberal Arts and Sciences Course List is available from the student's faculty adviser and on the MCJ website.

The department's requirements for study outside the major meet the communications industries' preference for graduates with strong grounding in the liberal arts and sciences.

Degree Summary
General Education requirements (51 units)*
Major requirements (33 units)
Liberal Arts and Sciences block (15 units)
General Electives (21 units)
(Units may come from courses taken in the major and/or outside the major.)
Total (120 units)

Specializing within the major

Each MCJ major must select an option, which is an area of specialization within the major. The options are advertising, broadcast journalism, print journalism, multimedia production, and public relations. The courses required for each option are listed under Major Requirements.

Advising Notes

In addition to the above requirements, MCJ majors must observe the following:

1. Before enrolling in any of the department's writing or editing courses, all students must have passed the Department Qualification Exam (DQE). The DQE is administered by the department and tests fundamentals of grammar, spelling, and punctuation. Students are permitted three attempts to pass the DQE but after two unsuccessful attempts, they must take MCJ 5.
2. MCJ majors are not permitted to enroll for CR/NC grading in MCJ courses applied to the major, except for courses that require such grading.
3. No General Education course offered by the Department of Media, Communications, and Journalism may be used to satisfy the General Education requirements for MCJ majors. MCJ courses which may not be used for General Education are MCJ 1, 175, 176, 178, and 179. Consult the Schedule of Courses for a current list of approved General Education courses.
4. Students must meet all university graduation requirements. This includes the Upper-Division Writing requirement, which may be met by taking MCJ 102W, a "W" course from another department, or the Upper-Division Writing Exam.

Major Requirements for the Degree

Major Requirements (33 units)

Print Journalism Option

MCJ 1, 10, 30, 102W, 104,105, 108, 172, 173 (27 units)
MCJ 17, MCJ 106, or MCJ 174 (3 units)
Upper-level MCJ course (3 units)

Mass Communication & Journalism - Public Relations Option, B.A.

Requirements

Bachelor of Arts Degree Requirements

Mass Communication and Journalism Major

Majors must complete a minimum of 33 semester units of mass communication and journalism courses with a grade of C or better in each course. To ensure that students obtain a broad academic background, additional coursework outside of the department is required.

In addition to completing the university's General Education requirement of 51 units, students must also complete 15 units from the department's Liberal Arts and Sciences Course List. The Liberal Arts and Sciences Course List is available from the student's faculty adviser and on the MCJ website.

The department's requirements for study outside the major meet the communications industries' preference for graduates with strong grounding in the liberal arts and sciences.

Degree Summary
General Education requirements (51 units)*
Major requirements (33 units)
Liberal Arts and Sciences block (15 units)
General Electives (21 units)
(Units may come from courses taken in the major and/or outside the major.)
Total (120 units)

Specializing within the major

Each MCJ major must select an option, which is an area of specialization within the major. The options are advertising, broadcast journalism, print journalism, multimedia production, and public relations. The courses required for each option are listed under Major Requirements.

Advising Notes

In addition to the above requirements, MCJ majors must observe the following:

1. Before enrolling in any of the department's writing or editing courses, all students must have passed the Department Qualification Exam (DQE). The DQE is administered by the department and tests fundamentals of grammar, spelling, and punctuation. Students are permitted three attempts to pass the DQE but after two unsuccessful attempts, they must take MCJ 5.
2. MCJ majors are not permitted to enroll for CR/NC grading in MCJ courses applied to the major, except for courses that require such grading.
3. No General Education course offered by the Department of Media, Communications, and Journalism may be used to satisfy the General Education requirements for MCJ majors. MCJ courses which may not be used for General Education are MCJ 1, 175, 176, 178, and 179. Consult the Schedule of Courses for a current list of approved General Education courses.
4. Students must meet all university graduation requirements. This includes the Upper-Division Writing requirement, which may be met by taking MCJ 102W, a "W" course from another department, or the Upper-Division Writing Exam.

Major Requirements for the Degree

Major Requirements (33 units)

Public Relations Option

MCJ 1, 10, 102W, 152S, 158S, 159S, 164, 172 or 173, 191 (27 units)
One MCJ elective numbered between 163 and 179 (3 units)
One additional MCJ course elective selected from MCJ 30, 104, 105, 106, 115, 124, 131, 142, 144, 146, 148 (3 units)

Mathematics, B.A.

Requirements

Bachelor of Arts Degree Requirements

Mathematics Major

The requirement for entrance to the major and minor programs is completion of two years of algebra as well as courses in geometry and trigonometry, or a sequence of courses containing their equivalents, such as MATH 4R and 5.

It is strongly recommended that such study be completed before entrance to the university.

Total Course Requirements for the Bachelor's Degree: 120 units. See Baccalaureate Degree Requirements for complete details on general degree requirements. A minimum of 40 units must be upper division, including those required for the major, General Education, and upper-division writing skills.

Major requirements (48-54 units)
Core curriculum (30 units)
MATH 75 (or 75A and B), 76, 77, 81 (15 units)
MATH 111 (3 units)
MATH 151, 152 (8 units)
MATH 171 (4 units)

Elective curriculum (18-24 units)
Six mathematics courses, upper-division or graduate (see note 1), minimum of 3 units per course, excluding MATH 100, 133, 134, 137, 138, 139

Additional requirements (7 units)
CSCI 40 (4 units)
PHYS 4A (see note 2) (3 units)

General Education requirements (51 units) (see note 3)

Electives and remaining degree requirements (8-14 units)

Total (120 units)

Major Advising Notes

1. Special conditions apply for graduate courses; see department adviser.
2. PHYS 4AL is not required for the math major. If students wish to include PHYS 4A as a General Education Breadth course, they must also take PHYS 4AL.
3. Three units of MATH 75 (or MATH 75A) also will satisfy the G.E. Foundation B4 requirement.
4. See Mathematics Road Map at *http://www.fresnostate.edu/degreeroadmap/*

Advising Requirements. Mandatory advising at least once a semester is required of all majors in the degree programs. Students can find their assigned adviser in the Student Services Center on MyFresnoState at https://my.fresnostate.edu.

Grade Requirements. All courses required as prerequisites for a mathematics course must be completed with a grade of C or better before registration will be permitted. All courses taken to fulfill major or minor requirements must be completed with a grade of C or better.

Duplication of Courses

No credit will be allowed for: MATH 5
If taken after the completion of: MATH 75 (or 75A and B)

No credit will be allowed for: MATH 6
If taken after the completion of: MATH 75 (or 75A and B)

No credit will be allowed for: MATH 70
If taken after the completion of: MATH 75 (or 75A and B)

No credit will be allowed for: MATH 75 (or 75A and B)
If taken after the completion of: MATH 76

No credit will be allowed for: MATH 76
If taken after the completion of: MATH 77

No credit will be allowed for: MATH 77
If taken after the completion of: MATH 81

No credit will be allowed for: MATH 101
If taken after the completion of: MATH 108

Mechanical Engineering, B.S.

Requirements

Bachelor of Science Degree Requirements

Mechanical Engineering Major

Major requirements (66 units)

ME 1, 2, 26, 31, 32, 95, 112, 115, 116, 118, 125, 135, 136, 140, 145, 154, 156 (40 units)
CE 20, 121 (6 units)
ECE 70 or CSCI 40, 91, 91L (7 units)

Design Applications (7 units)

ME 155, 159, 166

Technical Area Courses (6 units)
Take a minimum of 3 units in Group A (ME 122, 137, 142, 144, 146, 162, or 164)
A maximum of 3 units in Group B (ME 180, 190, 191T; ECE 121, 121L, 155) may be substituted for a course in Group A with faculty adviser's approval.

Other requirements (57 units)
1. General Education (36 units)
COMM 3, 7, or 8 (GE Area A1); ENGL 10 (GE Area A2); HIST 11 or 12 (GE Area D1); select one course from each of the following GE Areas: B2 and D3; for C1 requirement, no additional course is necessary because the following ME major courses are double counted to satisfy this (ME 26, ME 95 and ME 135).

The following courses are required to satisfy both G.E. and major requirements:
CHEM 1A/1AL (GE Area B1)
MATH 75 (GE Area B4)
PHIL 20 (GE Area C2)
PLSI 2 (GE Area D2)
ME 134 (GE Area IB)
PLSI 120 (GE Area M/I)
For PHIL 120 (GE Area IC) requirement, no additional course is necessary because the following ME major courses are double counted to satisfy this (ME 135, ME 155 and ME166).

2. Additional requirements (21 units)
MATH 76, 77, 81* (see Advising Note 6), PHYS 4A, 4AL, 4B, 4C

Total (123 units)

* ENGR 101 may be taken as an alternative with faculty adviser's approval.

Note: Engineering majors are exempt from G.E. areas A3, E, ID, and the third course in Area C.

Advising Notes

1. Courses in mathematics, the physical sciences, or engineering taken CR/NC are not counted toward fulfillment of degree requirements in mechanical engineering.
2. Mechanical engineering majors might consider a math, physics, or business minor.
3. Since the mechanical engineering major curriculum is very demanding, many students, especially those not fully prepared in mathematics, chemistry, and/or physics, take 4 1/2 or more years to graduate rather than the traditional 4 years.
4. Advising is mandatory in the Lyles College of Engineering. A registration hold will be placed on students who fail to see their adviser at least once per academic year.
5. The Upper-Division Writing Skills requirement has to be completed no sooner than the term in which 60 units of coursework are completed or no later than the term in which 90 units are completed. This requirement can be met by passing the university writing examination or by taking ENGR 105W or a department-approved writing course. Must be taken and passed with a letter grade of C or better in the junior year if the student fails the writing exam requirement.
6. With faculty adviser approval, ENGR 101 may be taken instead of MATH 81.

Music - Composition Option, B.A.

Requirements

Bachelor of Arts Degree Requirements

Music Major

Each student seeking a Bachelor of Arts degree with a major in music must fulfill the Basic Core Requirements and all requirements listed under the music degree option which is the student's major field of study. Students must also fulfill the university's General Education Requirements (51 units), including remaining music degree requirements (e.g. it is strongly recommended that vocal performance majors pass two semesters of university-level foreign language study in either French, German, or Italian) and Other Departmental Requirements to complete the B.A. (minimum 120 units). Each music major must consult with a

designated music faculty adviser each semester before they may enroll in music classes.

Please note: Entrance examinations in music theory and aural skills and auditions in the declared performing medium are required of all freshmen and transfer music majors. Admission to the B.A. in Music is contingent upon audition and availability. Detailed information regarding entrance and degree requirements is available in the Department of Music Undergraduate Student Handbook.

Music Major

Major requirements (69 units)

---Core (28 units) ---
(required of all music majors regardless of option)
MUSIC 1A, 1B, 1C, 1D, 40, 41, 42, 43, 58, 161A, 161B (24 units)
MUSIC 4B, 4C [Keyboard students: MUSIC 14 and 114] (see note 1) (4 units)
MUSIC 20 - Convocation (8 semesters) (0 units)

---Options (41 units)---
I. Music as a Liberal Art (41 units)
II. Music Education (41 units)
III. Instrumental Performance (41 units)
IV. Vocal Performance (41 units)
V. Composition (41 units)
VI. Jazz Studies (41 units)

Additional requirements (0 units)
Music majors must take the following courses, which also satisfy 9 units of General Education requirements: BREADTH (Area C1) MUSIC 9* and MUSIC 74; INTEGRATION (Area IC) MUSIC 171

General Education requirement (51 units)

Total (120 units)

* Music major sections only.

Degree Option

V. Composition

MUSIC 144 (3 units)
MUSIC 47 (2 units)
MUSIC 48 (4 units)
MUSIC 148 (5 units)
MUSIC 31/131 through 39/139 (4 units)
MUSIC 141 or 142 (3 units)
MUSIC 182, 183, and 184 (8 units)
Four semesters in MUSIC 103 appropriate to declared performing medium (instrument or voice) (4 units)
Select from MUSIC 102, 117, 118 (4 units)
Other music electives (with adviser's approval) (2 units)
MUSIC 198 (Senior Recital) (2 units)
Total (41 units)

** See Other Departmental Requirements. Units accumulated while fullfilling Other Departmental Requirements may satisfy elective units required to complete the B.A.

Notes

1. Music students must pass a piano proficiency examination after completion of MUSIC 4C. Passing MUSIC 4C does not constitute passing the proficiency exam. MUSIC 4B and 4C may be waived by passing the designated Piano Proficiency Exam. Pianists must substitute MUSIC 14 and 114 for Music 4B and 4C. Successful completion of MUSIC 14 and 114 satisfies piano proficiency requirement for piano students. (See Department of Music Undergraduate Student Handbook for details. Students for whom any of these courses are waived should fulfill the minimum unit requirements with elective courses.)
2. See Other Departmental Requirements.

3. Advanced standing designation is granted after passing Jury II.

Other Departmental Requirements

1. Undergraduate music majors must select a degree option from the following: Music as a Liberal Art; Music Education: Choral, General or Instrumental Emphasis; Instrumental Performance; Vocal Performance; Composition; or Jazz Studies. ***Note:*** All students majoring in music are automatically enrolled in Music as a Liberal Art until they have been officially admitted to another degree option. All entering students (freshmen and transfer) must take a diagnostic examination in music theory. Other degree options have audition or other admission requirements which must be fulfilled before a student is officially recognized as enrolled in that option.
2. Music education and performance degree options require students to declare a primary concentration (e.g. an instrument or voice).
3. Upon conclusion of the second semester of MUSIC 31-39, 48 or 110, students must attempt Jury I in their declared area of concentration before being permitted to continue their major. Students are allowed two attempts, taken in consecutive semesters, to pass Jury I.
4. Students majoring in music must enroll in a piano class (MUSIC 9, 4B, and 4C) until the departmental piano proficiency examination has been passed. (See Department of Music Undergraduate Student Handbook for details.)
5. Passing of the piano proficiency examination and successful completion of MUSIC 1B are required before attempting Jury II.
6. Jury II must be passed for advanced standing for students enrolled in the Music Education, Vocal Performance, Instrumental Performance, and Composition options. Jury II is not required of students enrolled in the Music as a Liberal Art Option. Students are allowed two attempts, taken in consecutive semesters, to pass Jury II. Failure to pass a second attempt will result in the student being dropped from the Music Education, Vocal Performance, Instrumental Performance, Jazz Studies, and Composition options. These students may continue the major in the Music as a Liberal Art option.
7. Guitar and piano students will fulfill 50 percent of the major ensemble requirement by enrolling in Guitar Ensemble, Keyboard Ensemble, Chamber Music Ensemble, Music Accompanying, or MUSIC 130T (as specified by their studio instructor). The remaining 50 percent must be fulfilled by enrolling in either Symphony Orchestra, Wind Orchestra, Symphonic Band, Jazz Orchestra, Concert Choir, or Marching Band.
8. Music Education Option students must pass a conducting proficiency examination after completion of MUSIC 158. Passing MUSIC 158 does not constitute passing the proficiency examination.
9. Students in MUSIC 31 and 131 through 39 and 139 (private studio instruction) will perform in student recitals when assigned by their instructor.
10. Music students must earn a grade of C or better in each course used to satisfy the requirements of the major, including the core and specific option. No course taken for the music major can be graded on a CR/NC basis except for courses with mandatory CR/NC grading.
11. Vocal performance majors must take two consecutive semesters of the same foreign language approved by the vocal instructor. One course can be used for G.E. credit where applicable.

Music - Instrumental Music Education Emphasis, B.A.

Requirements

Bachelor of Arts Degree Requirements

Music Major

Each student seeking a Bachelor of Arts degree with a major in music must fulfill the Basic Core Requirements and all requirements listed under the music degree option which is the student's major field of study. Students must also fulfill the university's General Education Requirements (51 units), including remaining music degree requirements (e.g. it is strongly recommended that vocal performance majors pass two semesters of university-level foreign language study in either French, German, or Italian) and Other Departmental Requirements to complete the B.A. (minimum 120 units). Each music major must consult with a designated music faculty adviser each semester before they may enroll in music classes.

Please note: Entrance examinations in music theory and aural skills and auditions in the declared performing medium are required of all freshmen and transfer music majors. Admission to the B.A. in Music is contingent upon audition and availability. Detailed information regarding entrance and degree requirements is available in the Department of Music Undergraduate Student Handbook.

Music Major

Major requirements (69 units)

---Core (28 units) ---
(required of all music majors regardless of option)
MUSIC 1A, 1B, 1C, 1D, 40, 41, 42, 43, 58, 161A, 161B (24 units)
MUSIC 4B, 4C [Keyboard students: MUSIC 14 and 114] (see note 1) (4 units)
MUSIC 20 - Convocation (8 semesters) (0 units)

---Options (41 units)---
I. Music as a Liberal Art (41 units)
II. Music Education (41 units)
III. Instrumental Performance (41 units)
IV. Vocal Performance (41 units)
V. Composition (41 units)
VI. Jazz Studies (41 units)

Additional requirements (0 units)
Music majors must take the following courses, which also satisfy 9 units of General Education requirements: BREADTH (Area C1) MUSIC 9* and MUSIC 74; INTEGRATION (Area IC) MUSIC 171

General Education requirement (51 units)

Total (120 units)

* Music major sections only.

Degree Option

II. Music Education

The following 37 units are required of all music education majors regardless of emphasis.

MUSIC 122A, 124A, 126, 127A, 154, 169, 179, 179L, 182 (18 units)
MUSIC 158A or B (2 units)
Eight semesters in MUSIC 103 appropriate to music education emphasis (see note 2) (8 units)
Eight semesters in MUSIC 31 and 131 through 39 and 139 including two semesters with advanced standing (see note 3) (8 units)
MUSIC 198 (Senior Recital) (1 unit)
Total (37 units)

Select one of the following Music Education emphases:

--- Choral/Vocal Music Education Emphasis ---
MUSIC 185A (2 units)
Other music electives (with adviser's approval) (2 units)

--- General Music Education Emphasis ---
MUSIC 115 (2 units)
MUSIC 119 (1 unit)
Select one from MUSIC 102CC, 102MC, 102CS, 102WC, 103CC (1 unit)

--- Instrumental Music Education Emphasis ---
MUSIC 119 (1 unit)
MUSIC 159 (2 units)
Select one from MUSIC 102CC, 102MC, 102CS, 102WC, 103CC (1 unit)
Total (4 units)

** See Other Departmental Requirements. Units accumulated while fullfilling Other Departmental Requirements may satisfy elective units required to complete the B.A.

Notes

1. Music students must pass a piano proficiency examination after completion of MUSIC 4C. Passing MUSIC 4C does not con-

stitute passing the proficiency exam. MUSIC 4B and 4C may be waived by passing the designated Piano Proficiency Exam. Pianists must substitute MUSIC 14 and 114 for Music 4B and 4C. Successful completion of MUSIC 14 and 114 satisfies piano proficiency requirement for piano students. (See Department of Music Undergraduate Student Handbook for details. Students for whom any of these courses are waived should fulfill the minimum unit requirements with elective courses.)
2. See Other Departmental Requirements.
3. Advanced standing designation is granted after passing Jury II.

Other Departmental Requirements

1. Undergraduate music majors must select a degree option from the following: Music as a Liberal Art; Music Education: Choral, General or Instrumental Emphasis; Instrumental Performance; Vocal Performance; Composition; or Jazz Studies. ***Note:*** All students majoring in music are automatically enrolled in Music as a Liberal Art until they have been officially admitted to another degree option. All entering students (freshmen and transfer) must take a diagnostic examination in music theory. Other degree options have audition or other admission requirements which must be fulfilled before a student is officially recognized as enrolled in that option.
2. Music education and performance degree options require students to declare a primary concentration (e.g. an instrument or voice).
3. Upon conclusion of the second semester of MUSIC 31-39, 48 or 110, students must attempt Jury I in their declared area of concentration before being permitted to continue their major. Students are allowed two attempts, taken in consecutive semesters, to pass Jury I.
4. Students majoring in music must enroll in a piano class (MUSIC 9, 4B, and 4C) until the departmental piano proficiency examination has been passed. (See Department of Music Undergraduate Student Handbook for details.)
5. Passing of the piano proficiency examination and successful completion of MUSIC 1B are required before attempting Jury II.
6. Jury II must be passed for advanced standing for students enrolled in the Music Education, Vocal Performance, Instrumental Performance, and Composition options. Jury II is not required of students enrolled in the Music as a Liberal Art Option. Students are allowed two attempts, taken in consecutive semesters, to pass Jury II. Failure to pass a second attempt will result in the student being dropped from the Music Education, Vocal Performance, Instrumental Performance, Jazz Studies, and Composition options. These students may continue the major in the Music as a Liberal Art option.
7. Guitar and piano students will fulfill 50 percent of the major ensemble requirement by enrolling in Guitar Ensemble, Keyboard Ensemble, Chamber Music Ensemble, Music Accompanying, or MUSIC 130T (as specified by their studio instructor). The remaining 50 percent must be fulfilled by enrolling in either Symphony Orchestra, Wind Orchestra, Symphonic Band, Jazz Orchestra, Concert Choir, or Marching Band.
8. Music Education Option students must pass a conducting proficiency examination after completion of MUSIC 158. Passing MUSIC 158 does not constitute passing the proficiency examination.
9. Students in MUSIC 31 and 131 through 39 and 139 (private studio instruction) will perform in student recitals when assigned by their instructor.
10. Music students must earn a grade of C or better in each course used to satisfy the requirements of the major, including the core and specific option. No course taken for the music major can be graded on a CR/NC basis except for courses with mandatory CR/NC grading.
11. Vocal performance majors must take two consecutive semesters of the same foreign language approved by the vocal instructor. One course can be used for G.E. credit where applicable.

Music - Instrumental Performance Keyboard Option, B.A.

Requirements

Bachelor of Arts Degree Requirements

Music Major

Each student seeking a Bachelor of Arts degree with a major in music must fulfill the Basic Core Requirements and all requirements listed under the music degree option which is the student's major field of study. Students must also fulfill the university's General Education Requirements (51 units), including remaining music degree requirements (e.g. it is strongly recommended that vocal performance majors pass two semesters of university-level foreign language study in either French, German, or Italian) and Other Departmental Requirements to complete the B.A. (minimum 120 units). Each music major must consult with a designated music faculty adviser each semester before they may enroll in music classes.

Please note: Entrance examinations in music theory and aural skills and auditions in the declared performing medium are required of all freshmen and transfer music majors. Admission to the B.A. in Music is contingent upon audition and availability. Detailed information regarding entrance and degree requirements is available in the Department of Music Undergraduate Stu-

dent Handbook.

Music Major

Major requirements (69 units)

---Core (28 units) ---
(required of all music majors regardless of option)
MUSIC 1A, 1B, 1C, 1D, 40, 41, 42, 43, 58, 161A, 161B (24 units)
MUSIC 4B, 4C [Keyboard students: MUSIC 14 and 114] (see note 1) (4 units)
MUSIC 20 - Convocation (8 semesters) (0 units)

---Options (41 units)---
I. Music as a Liberal Art (41 units)
II. Music Education (41 units)
III. Instrumental Performance (41 units)
IV. Vocal Performance (41 units)
V. Composition (41 units)
VI. Jazz Studies (41 units)

Additional requirements (0 units)
Music majors must take the following courses, which also satisfy 9 units of General Education requirements: BREADTH (Area C1) MUSIC 9* and MUSIC 74; INTEGRATION (Area IC) MUSIC 171

General Education requirement (51 units)

Total (120 units)

* Music major sections only.

Degree Option

III. Instrumental Performance

MUSIC 144 (3 units)
MUSIC 31/131 through MUSIC 38 (four semesters with advanced standing) (see note 3) (8 units)
Select from MUSIC 140T, 141, 142, 160T, 170A, 170B, 186, 187 (6 units)
Keyboard students: MUSIC 166 and 167. Guitar students: MUSIC 175T and either 111 or 112. For all other instrumentalists: MUSIC 175T and 2 units of additional pedagogy, literature, or performance courses (not including studio lessons) (4 units)
Eight semesters in MUSIC 103 appropriate to major (see note 2) (8 units)
If MUSIC 198 has not been completed by the end of the eight semesters, the student will continue in MUSIC 103 until the completion of MUSIC 198.
Other music electives (with adviser's approval) (10 units)
MUSIC 198 (Senior Recital) (2 units)
Total (41 units)

** See Other Departmental Requirements. Units accumulated while fullfilling Other Departmental Requirements may satisfy elective units required to complete the B.A.

Notes

1. Music students must pass a piano proficiency examination after completion of MUSIC 4C. Passing MUSIC 4C does not constitute passing the proficiency exam. MUSIC 4B and 4C may be waived by passing the designated Piano Proficiency Exam. Pianists must substitute MUSIC 14 and 114 for Music 4B and 4C. Successful completion of MUSIC 14 and 114 satisfies piano proficiency requirement for piano students. (See Department of Music Undergraduate Student Handbook for details. Students for whom any of these courses are waived should fulfill the minimum unit requirements with elective courses.)
2. See Other Departmental Requirements.
3. Advanced standing designation is granted after passing Jury II.

Other Departmental Requirements

1. Undergraduate music majors must select a degree option from the following: Music as a Liberal Art; Music Education: Choral, General or Instrumental Emphasis; Instrumental Performance; Vocal Performance; Composition; or Jazz Studies. ***Note:***

All students majoring in music are automatically enrolled in Music as a Liberal Art until they have been officially admitted to another degree option. All entering students (freshmen and transfer) must take a diagnostic examination in music theory. Other degree options have audition or other admission requirements which must be fulfilled before a student is officially recognized as enrolled in that option.
2. Music education and performance degree options require students to declare a primary concentration (e.g. an instrument or voice).
3. Upon conclusion of the second semester of MUSIC 31-39, 48 or 110, students must attempt Jury I in their declared area of concentration before being permitted to continue their major. Students are allowed two attempts, taken in consecutive semesters, to pass Jury I.
4. Students majoring in music must enroll in a piano class (MUSIC 9, 4B, and 4C) until the departmental piano proficiency examination has been passed. (See Department of Music Undergraduate Student Handbook for details.)
5. Passing of the piano proficiency examination and successful completion of MUSIC 1B are required before attempting Jury II.
6. Jury II must be passed for advanced standing for students enrolled in the Music Education, Vocal Performance, Instrumental Performance, and Composition options. Jury II is not required of students enrolled in the Music as a Liberal Art Option. Students are allowed two attempts, taken in consecutive semesters, to pass Jury II. Failure to pass a second attempt will result in the student being dropped from the Music Education, Vocal Performance, Instrumental Performance, Jazz Studies, and Composition options. These students may continue the major in the Music as a Liberal Art option.
7. Guitar and piano students will fulfill 50 percent of the major ensemble requirement by enrolling in Guitar Ensemble, Keyboard Ensemble, Chamber Music Ensemble, Music Accompanying, or MUSIC 130T (as specified by their studio instructor). The remaining 50 percent must be fulfilled by enrolling in either Symphony Orchestra, Wind Orchestra, Symphonic Band, Jazz Orchestra, Concert Choir, or Marching Band.
8. Music Education Option students must pass a conducting proficiency examination after completion of MUSIC 158. Passing MUSIC 158 does not constitute passing the proficiency examination.
9. Students in MUSIC 31 and 131 through 39 and 139 (private studio instruction) will perform in student recitals when assigned by their instructor.
10. Music students must earn a grade of C or better in each course used to satisfy the requirements of the major, including the core and specific option. No course taken for the music major can be graded on a CR/NC basis except for courses with mandatory CR/NC grading.
11. Vocal performance majors must take two consecutive semesters of the same foreign language approved by the vocal instructor. One course can be used for G.E. credit where applicable.

Music - Instrumental Performance Option, B.A.

Requirements

Bachelor of Arts Degree Requirements

Music Major

Each student seeking a Bachelor of Arts degree with a major in music must fulfill the Basic Core Requirements and all requirements listed under the music degree option which is the student's major field of study. Students must also fulfill the university's General Education Requirements (51 units), including remaining music degree requirements (e.g. it is strongly recommended that vocal performance majors pass two semesters of university-level foreign language study in either French, German, or Italian) and Other Departmental Requirements to complete the B.A. (minimum 120 units). Each music major must consult with a designated music faculty adviser each semester before they may enroll in music classes.

Please note: Entrance examinations in music theory and aural skills and auditions in the declared performing medium are required of all freshmen and transfer music majors. Admission to the B.A. in Music is contingent upon audition and availability. Detailed information regarding entrance and degree requirements is available in the Department of Music Undergraduate Student Handbook.

Music Major

Major requirements (69 units)

---Core (28 units) ---
(required of all music majors regardless of option)
MUSIC 1A, 1B, 1C, 1D, 40, 41, 42, 43, 58, 161A, 161B (24 units)

MUSIC 4B, 4C [Keyboard students: MUSIC 14 and 114] (see note 1) (4 units)
MUSIC 20 - Convocation (8 semesters) (0 units)

---Options (41 units)---
I. Music as a Liberal Art (41 units)
II. Music Education (41 units)
III. Instrumental Performance (41 units)
IV. Vocal Performance (41 units)
V. Composition (41 units)
VI. Jazz Studies (41 units)

Additional requirements (0 units)
Music majors must take the following courses, which also satisfy 9 units of General Education requirements: BREADTH (Area C1) MUSIC 9* and MUSIC 74; INTEGRATION (Area IC) MUSIC 171

General Education requirement (51 units)

Total (120 units)

* Music major sections only.

Degree Option

III. Instrumental Performance

MUSIC 144 (3 units)
MUSIC 31/131 through MUSIC 38 (four semesters with advanced standing) (see note 3) (8 units)
Select from MUSIC 140T, 141, 142, 160T, 170A, 170B, 186, 187 (6 units)
Keyboard students: MUSIC 166 and 167. Guitar students: MUSIC 175T and either 111 or 112. For all other instrumentalists: MUSIC 175T and 2 units of additional pedagogy, literature, or performance courses (not including studio lessons) (4 units)
Eight semesters in MUSIC 103 appropriate to major (see note 2) (8 units)
If MUSIC 198 has not been completed by the end of the eight semesters, the student will continue in MUSIC 103 until the completion of MUSIC 198.
Other music electives (with adviser's approval) (10 units)
MUSIC 198 (Senior Recital) (2 units)
Total (41 units)

** See Other Departmental Requirements. Units accumulated while fullfilling Other Departmental Requirements may satisfy elective units required to complete the B.A.

Notes

1. Music students must pass a piano proficiency examination after completion of MUSIC 4C. Passing MUSIC 4C does not constitute passing the proficiency exam. MUSIC 4B and 4C may be waived by passing the designated Piano Proficiency Exam. Pianists must substitute MUSIC 14 and 114 for Music 4B and 4C. Successful completion of MUSIC 14 and 114 satisfies piano proficiency requirement for piano students. (See Department of Music Undergraduate Student Handbook for details. Students for whom any of these courses are waived should fulfill the minimum unit requirements with elective courses.)
2. See Other Departmental Requirements.
3. Advanced standing designation is granted after passing Jury II.

Other Departmental Requirements

1. Undergraduate music majors must select a degree option from the following: Music as a Liberal Art; Music Education: Choral, General or Instrumental Emphasis; Instrumental Performance; Vocal Performance; Composition; or Jazz Studies. ***Note:*** All students majoring in music are automatically enrolled in Music as a Liberal Art until they have been officially admitted to another degree option. All entering students (freshmen and transfer) must take a diagnostic examination in music theory. Other degree options have audition or other admission requirements which must be fulfilled before a student is officially recognized as enrolled in that option.
2. Music education and performance degree options require students to declare a primary concentration (e.g. an instrument or voice).
3. Upon conclusion of the second semester of MUSIC 31-39, 48 or 110, students must attempt Jury I in their declared area of concentration before being permitted to continue their major. Students are allowed two attempts, taken in consecutive

semesters, to pass Jury I.
4. Students majoring in music must enroll in a piano class (MUSIC 9, 4B, and 4C) until the departmental piano proficiency examination has been passed. (See Department of Music Undergraduate Student Handbook for details.)
5. Passing of the piano proficiency examination and successful completion of MUSIC 1B are required before attempting Jury II.
6. Jury II must be passed for advanced standing for students enrolled in the Music Education, Vocal Performance, Instrumental Performance, and Composition options. Jury II is not required of students enrolled in the Music as a Liberal Art Option. Students are allowed two attempts, taken in consecutive semesters, to pass Jury II. Failure to pass a second attempt will result in the student being dropped from the Music Education, Vocal Performance, Instrumental Performance, Jazz Studies, and Composition options. These students may continue the major in the Music as a Liberal Art option.
7. Guitar and piano students will fulfill 50 percent of the major ensemble requirement by enrolling in Guitar Ensemble, Keyboard Ensemble, Chamber Music Ensemble, Music Accompanying, or MUSIC 130T (as specified by their studio instructor). The remaining 50 percent must be fulfilled by enrolling in either Symphony Orchestra, Wind Orchestra, Symphonic Band, Jazz Orchestra, Concert Choir, or Marching Band.
8. Music Education Option students must pass a conducting proficiency examination after completion of MUSIC 158. Passing MUSIC 158 does not constitute passing the proficiency examination.
9. Students in MUSIC 31 and 131 through 39 and 139 (private studio instruction) will perform in student recitals when assigned by their instructor.
10. Music students must earn a grade of C or better in each course used to satisfy the requirements of the major, including the core and specific option. No course taken for the music major can be graded on a CR/NC basis except for courses with mandatory CR/NC grading.
11. Vocal performance majors must take two consecutive semesters of the same foreign language approved by the vocal instructor. One course can be used for G.E. credit where applicable.

Music - Jazz Studies, B.A.

Requirements

Bachelor of Arts Degree Requirements

Music Major

Each student seeking a Bachelor of Arts degree with a major in music must fulfill the Basic Core Requirements and all requirements listed under the music degree option which is the student's major field of study. Students must also fulfill the university's General Education Requirements (51 units), including remaining music degree requirements (e.g. it is strongly recommended that vocal performance majors pass two semesters of university-level foreign language study in either French, German, or Italian) and Other Departmental Requirements to complete the B.A. (minimum 120 units). Each music major must consult with a designated music faculty adviser each semester before they may enroll in music classes.

Please note: Entrance examinations in music theory and aural skills and auditions in the declared performing medium are required of all freshmen and transfer music majors. Admission to the B.A. in Music is contingent upon audition and availability. Detailed information regarding entrance and degree requirements is available in the Department of Music Undergraduate Student Handbook.

Music Major

Major requirements (69 units)

---Core (28 units) ---
(required of all music majors regardless of option)
MUSIC 1A, 1B, 1C, 1D, 40, 41, 42, 43, 58, 161A, 161B (24 units)
MUSIC 4B, 4C [Keyboard students: MUSIC 14 and 114] (see note 1) (4 units)
MUSIC 20 - Convocation (8 semesters) (0 units)

---Options (41 units)---
I. Music as a Liberal Art (41 units)
II. Music Education (41 units)
III. Instrumental Performance (41 units)
IV. Vocal Performance (41 units)
V. Composition (41 units)
VI. Jazz Studies (41 units)

Additional requirements (0 units)

Music majors must take the following courses, which also satisfy 9 units of General Education requirements: BREADTH (Area C1) MUSIC 9* and MUSIC 74; INTEGRATION (Area IC) MUSIC 171

General Education requirement (51 units)

Total (120 units)

* Music major sections only.

Degree Option

VI. Jazz Studies

MUSIC 31 through MUSIC 38 (2 units)
MUSIC 131J through MUSIC 135J (must complete Jury II in jazz by the end of the second unit) (6 units)
MUSIC 162 (2 units)
MUSIC 163 (3 units)
MUSIC 164 (3 units)
MUSIC 165 (3 units)
MUSIC 181 (3 units)
Four semesters in MUSIC 103 (4 units)
Four semesters in MUSIC 103JO or 102JE (4 units)
MUSIC 117JC (2 units)
Other music electives (with adviser's approval) (7 units)
MUSIC 198 (Senior Recital) (2 units)
Total (41 units)

Notes

1. Music students must pass a piano proficiency examination after completion of MUSIC 4C. Passing MUSIC 4C does not constitute passing the proficiency exam. MUSIC 4B and 4C may be waived by passing the designated Piano Proficiency Exam. Pianists must substitute MUSIC 14 and 114 for Music 4B and 4C. Successful completion of MUSIC 14 and 114 satisfies piano proficiency requirement for piano students. (See Department of Music Undergraduate Student Handbook for details. Students for whom any of these courses are waived should fulfill the minimum unit requirements with elective courses.)
2. See Other Departmental Requirements.
3. Advanced standing designation is granted after passing Jury II.

Other Departmental Requirements

1. Undergraduate music majors must select a degree option from the following: Music as a Liberal Art; Music Education: Choral, General or Instrumental Emphasis; Instrumental Performance; Vocal Performance; Composition; or Jazz Studies. ***Note:*** All students majoring in music are automatically enrolled in Music as a Liberal Art until they have been officially admitted to another degree option. All entering students (freshmen and transfer) must take a diagnostic examination in music theory. Other degree options have audition or other admission requirements which must be fulfilled before a student is officially recognized as enrolled in that option.
2. Music education and performance degree options require students to declare a primary concentration (e.g. an instrument or voice).
3. Upon conclusion of the second semester of MUSIC 31-39, 48 or 110, students must attempt Jury I in their declared area of concentration before being permitted to continue their major. Students are allowed two attempts, taken in consecutive semesters, to pass Jury I.
4. Students majoring in music must enroll in a piano class (MUSIC 9, 4B, and 4C) until the departmental piano proficiency examination has been passed. (See Department of Music Undergraduate Student Handbook for details.)
5. Passing of the piano proficiency examination and successful completion of MUSIC 1B are required before attempting Jury II.
6. Jury II must be passed for advanced standing for students enrolled in the Music Education, Vocal Performance, Instrumental Performance, and Composition options. Jury II is not required of students enrolled in the Music as a Liberal Art Option. Students are allowed two attempts, taken in consecutive semesters, to pass Jury II. Failure to pass a second attempt will result in the student being dropped from the Music Education, Vocal Performance, Instrumental Performance, Jazz Studies, and Composition options. These students may continue the major in the Music as a Liberal Art option.
7. Guitar and piano students will fulfill 50 percent of the major ensemble requirement by enrolling in Guitar Ensemble, Keyboard Ensemble, Chamber Music Ensemble, Music Accompanying, or MUSIC 130T (as specified by their studio instructor). The remaining 50 percent must be fulfilled by enrolling in either Symphony Orchestra, Wind Orchestra, Symphonic Band, Jazz Orchestra, Concert Choir, or Marching Band.
8. Music Education Option students must pass a conducting proficiency examination after completion of MUSIC 158. Passing

MUSIC 158 does not constitute passing the proficiency examination.
9. Students in MUSIC 31 and 131 through 39 and 139 (private studio instruction) will perform in student recitals when assigned by their instructor.
10. Music students must earn a grade of C or better in each course used to satisfy the requirements of the major, including the core and specific option. No course taken for the music major can be graded on a CR/NC basis except for courses with mandatory CR/NC grading.
11. Vocal performance majors must take two consecutive semesters of the same foreign language approved by the vocal instructor. One course can be used for G.E. credit where applicable.

Music - Music As A Liberal Art Option, B.A.

Requirements

Bachelor of Arts Degree Requirements

Music Major

Each student seeking a Bachelor of Arts degree with a major in music must fulfill the Basic Core Requirements and all requirements listed under the music degree option which is the student's major field of study. Students must also fulfill the university's General Education Requirements (51 units), including remaining music degree requirements (e.g. it is strongly recommended that vocal performance majors pass two semesters of university-level foreign language study in either French, German, or Italian) and Other Departmental Requirements to complete the B.A. (minimum 120 units). Each music major must consult with a designated music faculty adviser each semester before they may enroll in music classes.

Please note: Entrance examinations in music theory and aural skills and auditions in the declared performing medium are required of all freshmen and transfer music majors. Admission to the B.A. in Music is contingent upon audition and availability. Detailed information regarding entrance and degree requirements is available in the Department of Music Undergraduate Student Handbook.

Music Major

Major requirements (69 units)

---Core (28 units) ---
(required of all music majors regardless of option)
MUSIC 1A, 1B, 1C, 1D, 40, 41, 42, 43, 58, 161A, 161B (24 units)
MUSIC 4B, 4C [Keyboard students: MUSIC 14 and 114] (see note 1) (4 units)
MUSIC 20 - Convocation (8 semesters) (0 units)

---Options (41 units)---
I. Music as a Liberal Art (41 units)
II. Music Education (41 units)
III. Instrumental Performance (41 units)
IV. Vocal Performance (41 units)
V. Composition (41 units)
VI. Jazz Studies (41 units)

Additional requirements (0 units)
Music majors must take the following courses, which also satisfy 9 units of General Education requirements: BREADTH (Area C1) MUSIC 9* and MUSIC 74; INTEGRATION (Area IC) MUSIC 171

General Education requirement (51 units)

Total (120 units)

* Music major sections only.

Degree Option

I. Music as a Liberal Art

Select from MUSIC 140T, 141, 142, 144, 147, 154, 158A, 158B, 159, 160T, 162, 163, 164, 165, 170A, 170B, 182, 183, 184, 186, 187, 191, 198(17 units)
Four semesters in MUSIC 103 appropriate to major emphasis (see note 2) (4 units)
Four semesters in MUSIC 31/131 through 39/139(4 units)
Other music electives (with adviser's approval) (7 units)
Approved electives from outside the Music Department (consult adviser) (9 units)
Total (41 units)

Notes

1. Music students must pass a piano proficiency examination after completion of MUSIC 4C. Passing MUSIC 4C does not constitute passing the proficiency exam. MUSIC 4B and 4C may be waived by passing the designated Piano Proficiency Exam. Pianists must substitute MUSIC 14 and 114 for Music 4B and 4C. Successful completion of MUSIC 14 and 114 satisfies piano proficiency requirement for piano students. (See Department of Music Undergraduate Student Handbook for details. Students for whom any of these courses are waived should fulfill the minimum unit requirements with elective courses.)
2. See Other Departmental Requirements.
3. Advanced standing designation is granted after passing Jury II.

Other Departmental Requirements

1. Undergraduate music majors must select a degree option from the following: Music as a Liberal Art; Music Education: Choral, General or Instrumental Emphasis; Instrumental Performance; Vocal Performance; Composition; or Jazz Studies. ***Note:*** All students majoring in music are automatically enrolled in Music as a Liberal Art until they have been officially admitted to another degree option. All entering students (freshmen and transfer) must take a diagnostic examination in music theory. Other degree options have audition or other admission requirements which must be fulfilled before a student is officially recognized as enrolled in that option.
2. Music education and performance degree options require students to declare a primary concentration (e.g. an instrument or voice).
3. Upon conclusion of the second semester of MUSIC 31-39, 48 or 110, students must attempt Jury I in their declared area of concentration before being permitted to continue their major. Students are allowed two attempts, taken in consecutive semesters, to pass Jury I.
4. Students majoring in music must enroll in a piano class (MUSIC 9, 4B, and 4C) until the departmental piano proficiency examination has been passed. (See Department of Music Undergraduate Student Handbook for details.)
5. Passing of the piano proficiency examination and successful completion of MUSIC 1B are required before attempting Jury II.
6. Jury II must be passed for advanced standing for students enrolled in the Music Education, Vocal Performance, Instrumental Performance, and Composition options. Jury II is not required of students enrolled in the Music as a Liberal Art Option. Students are allowed two attempts, taken in consecutive semesters, to pass Jury II. Failure to pass a second attempt will result in the student being dropped from the Music Education, Vocal Performance, Instrumental Performance, Jazz Studies, and Composition options. These students may continue the major in the Music as a Liberal Art option.
7. Guitar and piano students will fulfill 50 percent of the major ensemble requirement by enrolling in Guitar Ensemble, Keyboard Ensemble, Chamber Music Ensemble, Music Accompanying, or MUSIC 130T (as specified by their studio instructor). The remaining 50 percent must be fulfilled by enrolling in either Symphony Orchestra, Wind Orchestra, Symphonic Band, Jazz Orchestra, Concert Choir, or Marching Band.
8. Music Education Option students must pass a conducting proficiency examination after completion of MUSIC 158. Passing MUSIC 158 does not constitute passing the proficiency examination.
9. Students in MUSIC 31 and 131 through 39 and 139 (private studio instruction) will perform in student recitals when assigned by their instructor.
10. Music students must earn a grade of C or better in each course used to satisfy the requirements of the major, including the core and specific option. No course taken for the music major can be graded on a CR/NC basis except for courses with mandatory CR/NC grading.
11. Vocal performance majors must take two consecutive semesters of the same foreign language approved by the vocal instructor. One course can be used for G.E. credit where applicable.

Music - Music Education Option, B.A.

Requirements

Bachelor of Arts Degree Requirements

Music Major

Each student seeking a Bachelor of Arts degree with a major in music must fulfill the Basic Core Requirements and all requirements listed under the music degree option which is the student's major field of study. Students must also fulfill the university's General Education Requirements (51 units), including remaining music degree requirements (e.g. it is strongly recommended that vocal performance majors pass two semesters of university-level foreign language study in either French, German, or Italian) and Other Departmental Requirements to complete the B.A. (minimum 120 units). Each music major must consult with a designated music faculty adviser each semester before they may enroll in music classes.

Please note: Entrance examinations in music theory and aural skills and auditions in the declared performing medium are required of all freshmen and transfer music majors. Admission to the B.A. in Music is contingent upon audition and availability. Detailed information regarding entrance and degree requirements is available in the Department of Music Undergraduate Student Handbook.

Music Major

Major requirements (69 units)

---Core (28 units) ---
(required of all music majors regardless of option)
MUSIC 1A, 1B, 1C, 1D, 40, 41, 42, 43, 58, 161A, 161B (24 units)
MUSIC 4B, 4C [Keyboard students: MUSIC 14 and 114] (see note 1) (4 units)
MUSIC 20 - Convocation (8 semesters) (0 units)

---Options (41 units)---
I. Music as a Liberal Art (41 units)
II. Music Education (41 units)
III. Instrumental Performance (41 units)
IV. Vocal Performance (41 units)
V. Composition (41 units)
VI. Jazz Studies (41 units)

Additional requirements (0 units)
Music majors must take the following courses, which also satisfy 9 units of General Education requirements: BREADTH (Area C1) MUSIC 9* and MUSIC 74; INTEGRATION (Area IC) MUSIC 171

General Education requirement (51 units)

Total (120 units)

* Music major sections only.

Degree Option

II. Music Education

The following 37 units are required of all music education majors regardless of emphasis.

MUSIC 122A, 124A, 126, 127A, 154, 169, 179, 179L, 182 (18 units)
MUSIC 158A or B (2 units)
Eight semesters in MUSIC 103 appropriate to music education emphasis (see note 2) (8 units)
Eight semesters in MUSIC 31 and 131 through 39 and 139 including two semesters with advanced standing (see note 3) (8 units)
MUSIC 198 (Senior Recital) (1 unit)
Total (37 units)

Select one of the following Music Education emphases:

--- Choral/Vocal Music Education Emphasis ---
MUSIC 185A (2 units)
Other music electives (with adviser's approval) (2 units)

--- General Music Education Emphasis ---

MUSIC 115 (2 units)
MUSIC 119 (1 unit)
Select one from MUSIC 102CC, 102MC, 102CS, 102WC, 103CC (1 unit)

--- Instrumental Music Education Emphasis ---
MUSIC 119 (1 unit)
MUSIC 159 (2 units)
Select one from MUSIC 102CC, 102MC, 102CS, 102WC, 103CC (1 unit)
Total (4 units)

Notes

1. Music students must pass a piano proficiency examination after completion of MUSIC 4C. Passing MUSIC 4C does not constitute passing the proficiency exam. MUSIC 4B and 4C may be waived by passing the designated Piano Proficiency Exam. Pianists must substitute MUSIC 14 and 114 for Music 4B and 4C. Successful completion of MUSIC 14 and 114 satisfies piano proficiency requirement for piano students. (See Department of Music Undergraduate Student Handbook for details. Students for whom any of these courses are waived should fulfill the minimum unit requirements with elective courses.)
2. See Other Departmental Requirements.
3. Advanced standing designation is granted after passing Jury II.

Other Departmental Requirements

1. Undergraduate music majors must select a degree option from the following: Music as a Liberal Art; Music Education: Choral, General or Instrumental Emphasis; Instrumental Performance; Vocal Performance; Composition; or Jazz Studies. ***Note:*** All students majoring in music are automatically enrolled in Music as a Liberal Art until they have been officially admitted to another degree option. All entering students (freshmen and transfer) must take a diagnostic examination in music theory. Other degree options have audition or other admission requirements which must be fulfilled before a student is officially recognized as enrolled in that option.
2. Music education and performance degree options require students to declare a primary concentration (e.g. an instrument or voice).
3. Upon conclusion of the second semester of MUSIC 31-39, 48 or 110, students must attempt Jury I in their declared area of concentration before being permitted to continue their major. Students are allowed two attempts, taken in consecutive semesters, to pass Jury I.
4. Students majoring in music must enroll in a piano class (MUSIC 9, 4B, and 4C) until the departmental piano proficiency examination has been passed. (See Department of Music Undergraduate Student Handbook for details.)
5. Passing of the piano proficiency examination and successful completion of MUSIC 1B are required before attempting Jury II.
6. Jury II must be passed for advanced standing for students enrolled in the Music Education, Vocal Performance, Instrumental Performance, and Composition options. Jury II is not required of students enrolled in the Music as a Liberal Art Option. Students are allowed two attempts, taken in consecutive semesters, to pass Jury II. Failure to pass a second attempt will result in the student being dropped from the Music Education, Vocal Performance, Instrumental Performance, Jazz Studies, and Composition options. These students may continue the major in the Music as a Liberal Art option.
7. Guitar and piano students will fulfill 50 percent of the major ensemble requirement by enrolling in Guitar Ensemble, Keyboard Ensemble, Chamber Music Ensemble, Music Accompanying, or MUSIC 130T (as specified by their studio instructor). The remaining 50 percent must be fulfilled by enrolling in either Symphony Orchestra, Wind Orchestra, Symphonic Band, Jazz Orchestra, Concert Choir, or Marching Band.
8. Music Education Option students must pass a conducting proficiency examination after completion of MUSIC 158. Passing MUSIC 158 does not constitute passing the proficiency examination.
9. Students in MUSIC 31 and 131 through 39 and 139 (private studio instruction) will perform in student recitals when assigned by their instructor.
10. Music students must earn a grade of C or better in each course used to satisfy the requirements of the major, including the core and specific option. No course taken for the music major can be graded on a CR/NC basis except for courses with mandatory CR/NC grading.
11. Vocal performance majors must take two consecutive semesters of the same foreign language approved by the vocal instructor. One course can be used for G.E. credit where applicable.

Music - Music Education, Choral/Vocal Music Education Emphasis, B.A.

Requirements

Bachelor of Arts Degree Requirements

Music Major

Each student seeking a Bachelor of Arts degree with a major in music must fulfill the Basic Core Requirements and all requirements listed under the music degree option which is the student's major field of study. Students must also fulfill the university's General Education Requirements (51 units), including remaining music degree requirements (e.g. it is strongly recommended that vocal performance majors pass two semesters of university-level foreign language study in either French, German, or Italian) and Other Departmental Requirements to complete the B.A. (minimum 120 units). Each music major must consult with a designated music faculty adviser each semester before they may enroll in music classes.

Please note: Entrance examinations in music theory and aural skills and auditions in the declared performing medium are required of all freshmen and transfer music majors. Admission to the B.A. in Music is contingent upon audition and availability. Detailed information regarding entrance and degree requirements is available in the Department of Music Undergraduate Student Handbook.

Music Major

Major requirements (69 units)

---Core (28 units) ---
(required of all music majors regardless of option)
MUSIC 1A, 1B, 1C, 1D, 40, 41, 42, 43, 58, 161A, 161B (24 units)
MUSIC 4B, 4C [Keyboard students: MUSIC 14 and 114] (see note 1) (4 units)
MUSIC 20 - Convocation (8 semesters) (0 units)

---Options (41 units)---
I. Music as a Liberal Art (41 units)
II. Music Education (41 units)
III. Instrumental Performance (41 units)
IV. Vocal Performance (41 units)
V. Composition (41 units)
VI. Jazz Studies (41 units)

Additional requirements (0 units)
Music majors must take the following courses, which also satisfy 9 units of General Education requirements: BREADTH (Area C1) MUSIC 9* and MUSIC 74; INTEGRATION (Area IC) MUSIC 171

General Education requirement (51 units)

Total (120 units)

* Music major sections only.

Degree Option

II. Music Education

The following 37 units are required of all music education majors regardless of emphasis.

MUSIC 122A, 124A, 126, 127A, 154, 169, 179, 179L, 182 (18 units)
MUSIC 158A or B (2 units)
Eight semesters in MUSIC 103 appropriate to music education emphasis (see note 2) (8 units)
Eight semesters in MUSIC 31 and 131 through 39 and 139 including two semesters with advanced standing (see note 3) (8 units)
MUSIC 198 (Senior Recital) (1 unit)
Total (37 units)

Select one of the following Music Education emphases:

--- Choral/Vocal Music Education Emphasis ---
MUSIC 185A (2 units)
Other music electives (with adviser's approval) (2 units)

--- General Music Education Emphasis ---

MUSIC 115 (2 units)
MUSIC 119 (1 unit)
Select one from MUSIC 102CC, 102MC, 102CS, 102WC, 103CC (1 unit)

--- Instrumental Music Education Emphasis ---
MUSIC 119 (1 unit)
MUSIC 159 (2 units)
Select one from MUSIC 102CC, 102MC, 102CS, 102WC, 103CC (1 unit)
Total (4 units)

Notes

1. Music students must pass a piano proficiency examination after completion of MUSIC 4C. Passing MUSIC 4C does not constitute passing the proficiency exam. MUSIC 4B and 4C may be waived by passing the designated Piano Proficiency Exam. Pianists must substitute MUSIC 14 and 114 for Music 4B and 4C. Successful completion of MUSIC 14 and 114 satisfies piano proficiency requirement for piano students. (See Department of Music Undergraduate Student Handbook for details. Students for whom any of these courses are waived should fulfill the minimum unit requirements with elective courses.)
2. See Other Departmental Requirements.
3. Advanced standing designation is granted after passing Jury II.

Other Departmental Requirements

1. Undergraduate music majors must select a degree option from the following: Music as a Liberal Art; Music Education: Choral, General or Instrumental Emphasis; Instrumental Performance; Vocal Performance; Composition; or Jazz Studies. ***Note:*** All students majoring in music are automatically enrolled in Music as a Liberal Art until they have been officially admitted to another degree option. All entering students (freshmen and transfer) must take a diagnostic examination in music theory. Other degree options have audition or other admission requirements which must be fulfilled before a student is officially recognized as enrolled in that option.
2. Music education and performance degree options require students to declare a primary concentration (e.g. an instrument or voice).
3. Upon conclusion of the second semester of MUSIC 31-39, 48 or 110, students must attempt Jury I in their declared area of concentration before being permitted to continue their major. Students are allowed two attempts, taken in consecutive semesters, to pass Jury I.
4. Students majoring in music must enroll in a piano class (MUSIC 9, 4B, and 4C) until the departmental piano proficiency examination has been passed. (See Department of Music Undergraduate Student Handbook for details.)
5. Passing of the piano proficiency examination and successful completion of MUSIC 1B are required before attempting Jury II.
6. Jury II must be passed for advanced standing for students enrolled in the Music Education, Vocal Performance, Instrumental Performance, and Composition options. Jury II is not required of students enrolled in the Music as a Liberal Art Option. Students are allowed two attempts, taken in consecutive semesters, to pass Jury II. Failure to pass a second attempt will result in the student being dropped from the Music Education, Vocal Performance, Instrumental Performance, Jazz Studies, and Composition options. These students may continue the major in the Music as a Liberal Art option.
7. Guitar and piano students will fulfill 50 percent of the major ensemble requirement by enrolling in Guitar Ensemble, Keyboard Ensemble, Chamber Music Ensemble, Music Accompanying, or MUSIC 130T (as specified by their studio instructor). The remaining 50 percent must be fulfilled by enrolling in either Symphony Orchestra, Wind Orchestra, Symphonic Band, Jazz Orchestra, Concert Choir, or Marching Band.
8. Music Education Option students must pass a conducting proficiency examination after completion of MUSIC 158. Passing MUSIC 158 does not constitute passing the proficiency examination.
9. Students in MUSIC 31 and 131 through 39 and 139 (private studio instruction) will perform in student recitals when assigned by their instructor.
10. Music students must earn a grade of C or better in each course used to satisfy the requirements of the major, including the core and specific option. No course taken for the music major can be graded on a CR/NC basis except for courses with mandatory CR/NC grading.
11. Vocal performance majors must take two consecutive semesters of the same foreign language approved by the vocal instructor. One course can be used for G.E. credit where applicable.

Music - Vocal Performance Option, B.A.

Requirements

Bachelor of Arts Degree Requirements

Music Major

Each student seeking a Bachelor of Arts degree with a major in music must fulfill the Basic Core Requirements and all requirements listed under the music degree option which is the student's major field of study. Students must also fulfill the university's General Education Requirements (51 units), including remaining music degree requirements (e.g. it is strongly recommended that vocal performance majors pass two semesters of university-level foreign language study in either French, German, or Italian) and Other Departmental Requirements to complete the B.A. (minimum 120 units). Each music major must consult with a designated music faculty adviser each semester before they may enroll in music classes.

Please note: Entrance examinations in music theory and aural skills and auditions in the declared performing medium are required of all freshmen and transfer music majors. Admission to the B.A. in Music is contingent upon audition and availability. Detailed information regarding entrance and degree requirements is available in the Department of Music Undergraduate Student Handbook.

Music Major

Major requirements (69 units)

---Core (28 units) ---
(required of all music majors regardless of option)
MUSIC 1A, 1B, 1C, 1D, 40, 41, 42, 43, 58, 161A, 161B (24 units)
MUSIC 4B, 4C [Keyboard students: MUSIC 14 and 114] (see note 1) (4 units)
MUSIC 20 - Convocation (8 semesters) (0 units)

---Options (41 units)---
I. Music as a Liberal Art (41 units)
II. Music Education (41 units)
III. Instrumental Performance (41 units)
IV. Vocal Performance (41 units)
V. Composition (41 units)
VI. Jazz Studies (41 units)

Additional requirements (0 units)
Music majors must take the following courses, which also satisfy 9 units of General Education requirements: BREADTH (Area C1) MUSIC 9* and MUSIC 74; INTEGRATION (Area IC) MUSIC 171

General Education requirement (51 units)

Total (120 units)

* Music major sections only.

Degree Option

IV. Vocal Performance

MUSIC 144 (3 units)
MUSIC 39 and 139 (four semesters with advanced standing) (see note 3) (8 units)
MUSIC 113 (2 units)
MUSIC 158B (2 units)
MUSIC 172 (2 units)
MUSIC 185A and B (4 units)
Select from MUSIC 140T, 141, 142, 160T, 170A, 170B, 186, 187 (6 units)
Eight semesters in MUSIC 103 appropriate to major (see note 2) (8 units)
If MUSIC 198 has not been completed by the end of the eight semesters, the student will continue in MUSIC 103 until the completion of MUSIC 198.
Foreign Language (4 units)
MUSIC 198 (Senior Recital) (2 units)
Total (41 units)

Notes

1. Music students must pass a piano proficiency examination after completion of MUSIC 4C. Passing MUSIC 4C does not constitute passing the proficiency exam. MUSIC 4B and 4C may be waived by passing the designated Piano Proficiency Exam. Pianists must substitute MUSIC 14 and 114 for Music 4B and 4C. Successful completion of MUSIC 14 and 114 satisfies piano proficiency requirement for piano students. (See Department of Music Undergraduate Student Handbook for details. Students for whom any of these courses are waived should fulfill the minimum unit requirements with elective courses.)
2. See Other Departmental Requirements.
3. Advanced standing designation is granted after passing Jury II.

Other Departmental Requirements

1. Undergraduate music majors must select a degree option from the following: Music as a Liberal Art; Music Education: Choral, General or Instrumental Emphasis; Instrumental Performance; Vocal Performance; Composition; or Jazz Studies. ***Note:*** All students majoring in music are automatically enrolled in Music as a Liberal Art until they have been officially admitted to another degree option. All entering students (freshmen and transfer) must take a diagnostic examination in music theory. Other degree options have audition or other admission requirements which must be fulfilled before a student is officially recognized as enrolled in that option.
2. Music education and performance degree options require students to declare a primary concentration (e.g. an instrument or voice).
3. Upon conclusion of the second semester of MUSIC 31-39, 48 or 110, students must attempt Jury I in their declared area of concentration before being permitted to continue their major. Students are allowed two attempts, taken in consecutive semesters, to pass Jury I.
4. Students majoring in music must enroll in a piano class (MUSIC 9, 4B, and 4C) until the departmental piano proficiency examination has been passed. (See Department of Music Undergraduate Student Handbook for details.)
5. Passing of the piano proficiency examination and successful completion of MUSIC 1B are required before attempting Jury II.
6. Jury II must be passed for advanced standing for students enrolled in the Music Education, Vocal Performance, Instrumental Performance, and Composition options. Jury II is not required of students enrolled in the Music as a Liberal Art Option. Students are allowed two attempts, taken in consecutive semesters, to pass Jury II. Failure to pass a second attempt will result in the student being dropped from the Music Education, Vocal Performance, Instrumental Performance, Jazz Studies, and Composition options. These students may continue the major in the Music as a Liberal Art option.
7. Guitar and piano students will fulfill 50 percent of the major ensemble requirement by enrolling in Guitar Ensemble, Keyboard Ensemble, Chamber Music Ensemble, Music Accompanying, or MUSIC 130T (as specified by their studio instructor). The remaining 50 percent must be fulfilled by enrolling in either Symphony Orchestra, Wind Orchestra, Symphonic Band, Jazz Orchestra, Concert Choir, or Marching Band.
8. Music Education Option students must pass a conducting proficiency examination after completion of MUSIC 158. Passing MUSIC 158 does not constitute passing the proficiency examination.
9. Students in MUSIC 31 and 131 through 39 and 139 (private studio instruction) will perform in student recitals when assigned by their instructor.
10. Music students must earn a grade of C or better in each course used to satisfy the requirements of the major, including the core and specific option. No course taken for the music major can be graded on a CR/NC basis except for courses with mandatory CR/NC grading.
11. Vocal performance majors must take two consecutive semesters of the same foreign language approved by the vocal instructor. One course can be used for G.E. credit where applicable.

Natural Sciences - Biology Option, B.A.

Requirements

Bachelor of Arts Degree Requirements

Natural Sciences Major

Teaching Credential - Biology Option

The B.A. in Natural Sciences serves as a waiver program for the Single Subject Teaching Credential in Science. This degree program is designed for students who wish to become high school science teachers. Students may also complete the credential requirements while obtaining a B.S. in biology. Please contact Mr. Jaime Arvizu, College of Science and Mathematics counselor, for advising and more information at 559.278.5173. The B.A. in Natural Sciences with the Biology Option is as follows:

Core requirements (36 units)

Biology (12 units)
BIOL 1A, 1B, 1BL, 101

Chemistry (10 units)
CHEM 1A, 1AL, 1B, 1BL

Geology (7 units)
EES 1 and 168

Natural Science (3 units)
NSCI 106

Physical Science (4 units)
PSCI 21

Biology Option (39-41 units)
CHEM 8 or 128A (3 units)
PHYS 2A, 2B (see note 1) (8 units)
MATH 75 (4 units)
MATH 101 or PSYCH 42 (4 units)
BIOL 102, 103, 104, 105 (10 units)
BIOL 120 (4 units)
Select one course: BIOL 122, 124, 125, 130, 131, 132, 133, 134, 135, 136, 171, 172S (3-4 units)
Select one course: BIOL 160, 161, 162 and 162L, 163 (3-4 units)

General Education requirements (51 units) (See note 2)

Electives and remaining degree requirements (see notes 2,3) (4-6 units)

Total (120 units)

Advising Notes for all Options within the Natural Sciences Major

1. Substitutions may be made with the permission of the appropriate department chair. PHYS 4A-B-C with labs 4AL, 4BL is recommended instead of PHYS 2A-B for those students well-prepared for physics.
2. This total assumes that students in this option will maximize the 12 units required for the major that also may be applied to fulfill General Education requirements as follows: CHEM 1A (3 units), BIOL 1A (3 units), EES 168 (3 units) and, depending on emphasis and choice, MATH 75 (3 units). Consult your major adviser for details.
3. Students should be sure to take sufficient upper-division units in their General Education courses and electives to satisfy the graduation requirements of 40 upper-division units and Upper-division Writing Skills.
4. No physical science Integration B course may be used to satisfy the General Education requirements for majors in physical science.

Natural Sciences - Chemistry Option, B.A.

Requirements

Bachelor of Arts Degree Requirements

Natural Sciences Major

David M. Andrews,
Program Coordinator
559.278.5174

Chemistry Option

The B.A. in Natural Sciences serves as a waiver program for the Single Subject Teaching Credential in Science. Please contact Mr. Jaime Arvizu, College of Science and Mathematics counselor, for advising and more information at 278-5173.

Core requirements (36 units)

Biology (12 units)
BIOL 1A, 1B, 1BL, 101

Chemistry (10 units)
CHEM 1A, 1AL, 1B, 1BL

Geology (7 units)
EES 1 and 168

Natural Science (3 units)
NSCI 106

Physical Science (4 units)
PSCI 21

Chemistry Option (35-36 units)
PHYS 2A, 2B (see note 1) (8 units)
MATH 75 (4 units)
MATH 76 (4 units)
CHEM 128A (3 units)
CHEM 102 or 105, 108, 128B, 129A, 150 or 155A* (16-17 units)

General Education requirements (51 units) (See note 2)

Electives and remaining degree requirements (see notes 2,3) (4-6 units)

Total (120 units)

* Offered fall semester only.

Advising Notes for all Options within the Natural Sciences Major

1. Substitutions may be made with the permission of the appropriate department chair. PHYS 4A-B-C with labs 4AL, 4BL is recommended instead of PHYS 2A-B for those students well-prepared for physics.
2. This total assumes that students in this option will maximize the 12 units required for the major that also may be applied to fulfill General Education requirements as follows: CHEM 1A (3 units), BIOL 1A (3 units), EES 168 (3 units) and, depending on emphasis and choice, MATH 75 (3 units). Consult your major adviser for details.
3. Students should be sure to take sufficient upper-division units in their General Education courses and electives to satisfy the graduation requirements of 40 upper-division units and Upper-division Writing Skills.
4. No physical science Integration B course may be used to satisfy the General Education requirements for majors in physical science.

Natural Sciences - Earth Science Option, B.A.

Requirements

Bachelor of Arts Degree Requirements

Natural Sciences Major

Earth Science Option

The B.A. in Natural Sciences serves as a waiver program for the Single Subject Teaching Credential in Science. Please contact Mr. Jaime Arvizu, College of Science and Mathematics counselor, for advising and more information at 278-5173.

The degree is also a suitable choice for students with a general interest in earth science and interest in pursuing a career in environmental science, law, medicine, dentistry, optometry, and other areas for which the breadth of scientific coverage of this degree is advantageous.

The B.A. in Natural Sciences with the Earth Science Emphasis is as follows:

Core requirements (36 units)

Biology (12 units)
BIOL 1A, 1B, 1BL, 101

Chemistry (10 units)
CHEM 1A, 1AL, 1B, 1BL

Geology (7 units)
EES 1 and 168

Natural Science (3 units)
NSCI 106

Physical Science (4 units)
PSCI 21

Earth Science Option (43 units)
PHYS 2A, 2B (see note 1) (8 units)
MATH 75 (4 units)
EES 12, 30, 100, 101, 102, 105, 112, 155 (24 units)
Select two courses: EES 110, 114, 117, 124; GEOG 111 (6 units)
EES 3 (1 unit)

General Education requirements (51 units)

Electives and remaining degree requirements (2 units)

Total (120 units)

Advising Notes for all Options within the Natural Sciences Major

1. Substitutions may be made with the permission of the appropriate department chair. PHYS 4A-B-C with labs 4AL, 4BL is recommended instead of PHYS 2A-B for those students well-prepared for physics.
2. This total assumes that students in this option will maximize the 12 units required for the major that also may be applied to fulfill General Education requirements as follows: CHEM 1A (3 units), BIOL 1A (3 units), EES 168 (3 units) and, depending on emphasis and choice, MATH 75 (3 units). Consult your major adviser for details.
3. Students should be sure to take sufficient upper-division units in their General Education courses and electives to satisfy the graduation requirements of 40 upper-division units and Upper-division Writing Skills.
4. No physical science Integration B course may be used to satisfy the General Education requirements for majors in physical science.

Natural Sciences - Physics Option, B.A.

Requirements

Bachelor of Arts Degree Requirements

Natural Sciences Major

Physics Option

The B.A. in Natural Sciences serves as a waiver program for the Single Subject Teaching Credential in Science. Please contact Mr. Jaime Arvizu, College of Science and Mathematics counselor, for advising and more information at 559.278.5173.

The degree is also a suitable choice for students with a general interest in physics and interest in pursuing a career in law, medicine, dentistry, optometry, and other areas for which the breadth of scientific coverage of this degree is advantageous.

The B.A. in Natural Sciences with the Physics Emphasis is as follows:

Core requirements (36 units)

Biology (12 units)
BIOL 1A, 1B, 1BL, 101

Chemistry (10 units)
CHEM 1A, 1AL, 1B, 1BL

Geology (7 units)
EES 1 and 168

Natural Science (3 units)
NSCI 106

Physical Science (4 units)
PSCI 21

Physics Option (41 units)
CHEM 128A (3 units)
PSCI 168 (3 units)
MATH 75, 76, 77, 81 (15 units)
PHYS 4A, 4AL, 4B, 4BL, 4C (11 units)
PHYS 102, 105A, 107A (9 units)

General Education requirements (see notes 1,2) (51 units)

Electives and remaining degree requirements (4 units)

Total (120 units)

Advising Notes for all Options within the Natural Sciences Major

1. Substitutions may be made with the permission of the appropriate department chair. PHYS 4A-B-C with labs 4AL, 4BL is recommended instead of PHYS 2A-B for those students well-prepared for physics.
2. This total assumes that students in this option will maximize the 12 units required for the major that also may be applied to fulfill General Education requirements as follows: CHEM 1A (3 units), BIOL 1A (3 units), EES 168 (3 units) and, depending on emphasis and choice, MATH 75 (3 units). Consult your major adviser for details.
3. Students should be sure to take sufficient upper-division units in their General Education courses and electives to satisfy the graduation requirements of 40 upper-division units and Upper-division Writing Skills.
4. No physical science Integration B course may be used to satisfy the General Education requirements for majors in physical science.

Nursing - R.N.-B.S.N.

Requirements

Bachelor of Science Degree Requirements

Nursing Major

Major requirements (57 units)
Select one program:

Generic students (57 units)
NURS 10, 10A, 10L, 110, 110A, 110L, 111, 112, 121, 121L, 123, 123L, 124, 131, 131L, 132, 132L, 140, 140L, 141, 141LS, 142, 145, 150, 150L, 151

RN students only (57 units)
NURS 134, 135, 136, 137, 141, 141LS, 145, 150, 151, 153;
31 transfer units

Prerequisite requirements (28 units)
(See prerequisites listed under Eligibility to Apply to the Program. [18 units may be applied to G.E.])

Additional course requirements (15 units)
CFS 38; PHIL 20 or 120; PSYCH 10; SOC 3; NUTR 53. [9 units may be applied to G.E.]

General Education requirements (48 units)
(48 units minimum less 27 units counted above in prerequisite requirements and additional requirements to the major leaves 21 units)

Upper-Division Writing Skills (0-4 units)

Total (121-125 units)

For the B.S. in Nursing, MATH 11 or PH 92 are approved to count for G.E. Area B4.

Advising Notes

1. The following prerequisite and additional requirement courses to the nursing major also may be applied to fulfill a maximum of 27 units of General Education requirements: COMM 8 preferred (or COMM 3 or 7) in G.E. Foundation A1; ENGL 5B or 10 in G.E. Foundation A2; SOC 3 for G.E. Area A3; 3 units of CHEM 3A in G.E. Breadth B1; 3 units of BIOL 20 for G.E. Breadth B2 (for nursing majors only); Math 11 or PH 92 for G.E. Area B4;; PHIL 20 in G.E. Breadth C2; or PHIL 120 in G.E. Area IC; PSYCH 10 for G.E. Breadth D3; and CFS 38 or NUTR 53 in G.E. Breadth E1. Critical Thinking course for G.E. Area A3, Quantitative Reasoning (Math) course for G.E. Area B4.
2. Students must complete CFS 38 and NUTR 53 no later than the first semester of the nursing major.
3. Introduction to Psychology (PSYCH 10) and SOC 3 must be completed no later than the second semester of the nursing major.
4. Major courses must be taken for a letter grade; CR/NC grading is not permitted in the nursing major.
5. Students are strongly encouraged to seek academic advising every semester.
6. All practicum courses (with suffix “A” or “L”) require a minimum of three hours of clinical work per unit of credit as a minimum to meet course objectives.

Please see Web site at *www.fresnostate.edu/nursing* for specific G.E. classes designated for nursing.

RN-BSN (Post-licensure) Degree Requirements

Major requirements (21 units)
NURS 138, 141, 141LS, 145, 152, 154

NCLEX Credit (20 units)

Prerequisite requirements (28 units)
(See prerequisites listed under Eligibility to Apply to the Program. (18 units may be applied to G.E.)

Additional course requirements (15 units)
PHIL 20 (C2) or PHIL 120 (IC); SOC 3 (A3); PSYCH 10 (D3); MATH 11 or PH 92 (B4)

General Education requirements (48 units)

Electives and remaining degree requirements (21 units)

Total (120 units)

———————

If SOC 3 is not taken, then SOC 1 or ANTH 2 must be completed.

Per Executive Order 1084 “one unit of academic credit for every unit of the required pre-licensure community college nursing course credits” (not transferred to California State University, Fresno) may be applied “toward the baccalaureate nursing degree” (maximum of 30 semester units) “through the NCLEX provision.”

All California State University, Fresno graduation requirements must be met (e.g., Upper-Division Writing Exam or course, lower- and upper-division GE coursework).

Policies and Procedures for B.S.N. Admission

Admission to the program is a two-step process: (1) admission to the university and (2) admission to the nursing major. For fall entry all prerequisites must be completed by June and for spring entry all prerequisites must be completed by the preceding fall semester. Applicants must meet all criteria for admission to the university and to the nursing major. Students not in the major may apply to the university as prenursing majors.

Specific health criteria must be met. Students with recurrent infections or physical limitations who cannot meet clinical course objectives may be unable to satisfactorily complete the requirements for a B.S. in Nursing. Contact the Nursing Department regarding specific requirements.

Background Checks

All state Boards of Nursing require an individual to possess a professional license to practice as a registered nurse (RN). Students are advised to investigate all background requirements for RN licensure (e.g., criminal background checks, verification of employment eligibility, and verification of citizenship or immigration status). Likewise, clinical nursing courses typically require criminal background checks and drug screening for clinical placement and course enrollment.

Eligibility to Apply to the Program

Students must have an overall GPA of 3.0. Prior to applying to the Nursing Program, students must pass the ATI Test of Essential Academic Skills (TEAS) with a score of 75%. Students receiving a score of less than 75% will be allowed to retake the exam twice, but this must be done prior to their application. For TEAS information, see www.atitesting.com.

The following eight prerequisite courses must be completed prior to entry into the nursing program.

G.E. Area A1 (COMM 3, 7, or 8) (3 units)
G.E. Area A2 (ENGL 5B or 10) (3 units)
G.E. Area A3* (SOC 3) (3 units)
G.E. Area B4* (MATH 11 or PH 92) (3 units)
Anatomy and Physiology I (BIOL 67A) (4 units)
Anatomy and Physiology II (BIOL 67B) (4 units)
Chemistry (CHEM 3A) (4 units)
Microbiology (BIOL 20) (4 units)
Total (28 units)

* See G.E. list for approved courses.

- Each prerequisite must be completed with a minimum C grade - CR/NC grades are not acceptable
- A GPA of 3.0 is required in the eight prerequisite courses

- Maximum of two prerequisite courses may be repeated once to improve grade
- Online, Web-based or distance learning science and laboratory courses taken at other institutions must be approved by the nursing admissions coordinator.

Selection Criteria. The program is on impacted status (the number of applications received is greater than the number of vacancies for the program). Therefore, admission into the nursing major is very competitive; there is no waiting list. Only applicants with the highest composite scores in the eight prerequisite courses will be admitted. Applicants must reapply each time and compete with the entire applicant pool if not selected.

Selection for the nursing program:
(a.) Students will be ranked by grade point average in the eight prerequisites courses (prerequisites GPA).
(b.) Preference will be given to U.S. military veterans who meet minimum requirements for admission and who submit a DD214 showing a discharge date no more than four years prior to date application is submitted. Remaining applicants will be ranked by prerequisite GPA and admitted as enrollment quotas allow.

Application Filing Period
Fall admission: School of Nursing applications are available March 1-31; university applications are available February 1 at *www.csumentor.com*.

Spring admission: School of Nursing applications are available August 1-31; university applications are available July 1 at *www.csumentor.com*.

Dates are subject to change. Additional information and applications can be obtained online at *www.fresnostate.edu/nursing* or by calling the nursing admissions coordinator at 559.278.6579.

The program application includes additional instructions and deadlines. The program application includes additional instructions and deadlines. The university application form can be obtained online at www.csumentor.edu.

Note: Students who have been admitted to the major, have made no arrangements with the school, and fail to attend the first day of class will be dropped from the major and not considered for future admission.

Admission to the RN-BSN Program
Registered nurses are in a separate admission pool from the generic nursing applicants. Program applicants must meet the following minimum criteria:

1. Graduate from a BRN approved, regionally accredited ADN program. Must be in good standing at last university attended.
2. Possess a current, active, and clear California RN license.
3. Complete eight prerequisite courses (see below) with a minimum grade of C.
4. Admission to California State University, Fresno either before or during the term RN-BSN application is accepted.
5. Submission of a completed RN-BSN application with official transcripts, copy of RN license and other requested materials before deadline.

Policies and Procedures for Direct Transfer into the Nursing Major
1. Students must have completed at least two semesters or 12 semester units of nursing courses in the major (all other students must follow the admission procedures for basic or advanced placement majors).
2. Students must submit all transcripts, course descriptions of nursing courses, and two letters of recommendation from their current school to be considered for transfer.
3. Students must meet all California State University, Fresno criteria for admission and continuation in the major to be eligible for transfer.
4. Students are admitted and placed in the major at the discretion of the chair of nursing.
5. Transfer students who have written notification of acceptance into the program enter the major on a space-available basis and must receive school permission to enroll in classes.
6. Applicant Deadline:
   Fall Admission - February 1
   Spring Admission - July 1

Leave of Absence from Nursing Program
1. Request for leave of absence:
a. Students must request a leave of absence (LOA) in writing from the chair of nursing. Students who don't request a LOA may not be readmitted into the major.

b. Leaves will be granted only for students who have completed at least one semester in the program and are in good standing.

2. Request to return from leave of absence:
a. Students must request in writing to be reinstated in the program specifying:
   Date of LOA
   Reason for LOA
   Disposition of circumstances requiring the LOA
   Activities (e.g., working in hospital) engaged in during LOA
b. Students will be notified in writing of requirements for returning to program, denial, or reinstatement.
c. Requirements for return may include any or all of the following, based on the discretion of the chair of nursing:
   Letters of recommendation from individuals such as counselors or physicians
   Enrolling in up to 5 units of Independent Study to update theoretical and/or clinical skills
d. Students who receive written notice of reinstatement in the major return on a space-available basis and must receive permission from the school to enroll in classes.

Progression in the Major. Criteria for retention, progression, and graduation from the program include a minimum grade of C in each required course and each nursing course offered for a grade, and credit in courses offered for CR/NC grading only. Nursing and required courses may be repeated only once to achieve a C or credit grade. Any student who receives less than a C grade (or no credit) in two nursing courses will not be permitted to continue in the major. Refer to the Student Handbook, Baccalaureate Degree Nursing Program, for complete progression and retention policies.

Expenses. Students must be prepared to incur any additional cost such as uniforms, malpractice insurance, health insurance, stethoscopes, course materials, lab fees, background check, drug screening, etc., and be responsible for transportation to clinical facilities. A current CPR certification, a physical examination, and specific immunizations are required.

Nursing, B.S.N.

Requirements

Bachelor of Science Degree Requirements

Nursing Major

Bachelor of Science Degree Requirements

Nursing Major

Major requirements (57 units)
Select one program:

Generic students (57 units)
NURS 10, 10A, 10L, 110, 110A, 110L, 111, 112, 121, 121L, 123, 123L, 124, 131, 131L, 132, 132L, 140, 140L, 141, 141LS, 142, 145, 150, 150L, 151

RN students only (57 units)
NURS 134, 135, 136, 137, 141, 141LS, 145, 150, 151, 153;
31 transfer units

Prerequisite requirements (28 units)
(See prerequisites listed under Eligibility to Apply to the Program. [18 units may be applied to G.E.])

Additional course requirements (15 units)
CFS 38; PHIL 20 or 120; PSYCH 10; SOC 3; NUTR 53. [9 units may be applied to G.E.]

General Education requirements (48 units)
(48 units minimum less 27 units counted above in prerequisite requirements and additional requirements to the major leaves 21 units)

Upper-Division Writing Skills (0-4 units)

Total (121-125 units)

For the B.S. in Nursing, MATH 11 or PH 92 are approved to count for G.E. Area B4.

Advising Notes

1. The following prerequisite and additional requirement courses to the nursing major also may be applied to fulfill a maximum of 27 units of General Education requirements: COMM 8 preferred (or COMM 3 or 7) in G.E. Foundation A1; ENGL 5B or 10 in G.E. Foundation A2; SOC 3 for G.E. Area A3; 3 units of CHEM 3A in G.E. Breadth B1; 3 units of BIOL 20 for G.E. Breadth B2 (for nursing majors only); Math 11 or PH 92 for G.E. Area B4;; PHIL 20 in G.E. Breadth C2; or PHIL 120 in G.E. Area IC; PSYCH 10 for G.E. Breadth D3; and CFS 38 or NUTR 53 in G.E. Breadth E1. Critical Thinking course for G.E. Area A3, Quantitative Reasoning (Math) course for G.E. Area B4.
2. Students must complete CFS 38 and NUTR 53 no later than the first semester of the nursing major.
3. Introduction to Psychology (PSYCH 10) and SOC 3 must be completed no later than the second semester of the nursing major.
4. Major courses must be taken for a letter grade; CR/NC grading is not permitted in the nursing major.
5. Students are strongly encouraged to seek academic advising every semester.
6. All practicum courses (with suffix “A” or “L”) require a minimum of three hours of clinical work per unit of credit as a minimum to meet course objectives.

Please see Web site at *www.fresnostate.edu/nursing* for specific G.E. classes designated for nursing.

RN-BSN (Post-licensure) Degree Requirements

Major requirements (21 units)
NURS 138, 141, 141LS, 145, 152, 154

NCLEX Credit (20 units)

Prerequisite requirements (28 units)
(See prerequisites listed under Eligibility to Apply to the Program. (18 units may be applied to G.E.)

Additional course requirements (15 units)
PHIL 20 (C2) or PHIL 120 (IC); SOC 3 (A3); PSYCH 10 (D3); MATH 11 or PH 92 (B4)

General Education requirements (48 units)

Electives and remaining degree requirements (21 units)

Total (120 units)

If SOC 3 is not taken, then SOC 1 or ANTH 2 must be completed.

Per Executive Order 1084 “one unit of academic credit for every unit of the required pre-licensure community college nursing course credits” (not transferred to California State University, Fresno) may be applied “toward the baccalaureate nursing degree” (maximum of 30 semester units) “through the NCLEX provision.”

All California State University, Fresno graduation requirements must be met (e.g., Upper-Division Writing Exam or course, lower- and upper-division GE coursework).

Policies and Procedures for B.S.N. Admission

Admission to the program is a two-step process: (1) admission to the university and (2) admission to the nursing major. For fall entry all prerequisites must be completed by June and for spring entry all prerequisites must be completed by the preceding fall semester. Applicants must meet all criteria for admission to the university and to the nursing major. Students not in the major may apply to the university as prenursing majors.

Specific health criteria must be met. Students with recurrent infections or physical limitations who cannot meet clinical course

objectives may be unable to satisfactorily complete the requirements for a B.S. in Nursing. Contact the Nursing Department regarding specific requirements.

Background Checks

All state Boards of Nursing require an individual to possess a professional license to practice as a registered nurse (RN). Students are advised to investigate all background requirements for RN licensure (e.g., criminal background checks, verification of employment eligibility, and verification of citizenship or immigration status). Likewise, clinical nursing courses typically require criminal background checks and drug screening for clinical placement and course enrollment.

Eligibility to Apply to the Program

Students must have an overall GPA of 3.0. Prior to applying to the Nursing Program, students must pass the ATI Test of Essential Academic Skills (TEAS) with a score of 75%. Students receiving a score of less than 75% will be allowed to retake the exam twice, but this must be done prior to their application. For TEAS information, see www.atitesting.com.

The following eight prerequisite courses must be completed prior to entry into the nursing program.

G.E. Area A1 (COMM 3, 7, or 8) (3 units)
G.E. Area A2 (ENGL 5B or 10) (3 units)
G.E. Area A3* (SOC 3) (3 units)
G.E. Area B4* (MATH 11 or PH 92) (3 units)
Anatomy and Physiology I (BIOL 67A) (4 units)
Anatomy and Physiology II (BIOL 67B) (4 units)
Chemistry (CHEM 3A) (4 units)
Microbiology (BIOL 20) (4 units)
Total (28 units)

* See G.E. list for approved courses.

- Each prerequisite must be completed with a minimum C grade - CR/NC grades are not acceptable
- A GPA of 3.0 is required in the eight prerequisite courses
- Maximum of two prerequisite courses may be repeated once to improve grade
- Online, Web-based or distance learning science and laboratory courses taken at other institutions must be approved by the nursing admissions coordinator.

Selection Criteria. The program is on impacted status (the number of applications received is greater than the number of vacancies for the program). Therefore, admission into the nursing major is very competitive; there is no waiting list. Only applicants with the highest composite scores in the eight prerequisite courses will be admitted. Applicants must reapply each time and compete with the entire applicant pool if not selected.

Selection for the nursing program:
(a.) Students will be ranked by grade point average in the eight prerequisites courses (prerequisites GPA).
(b.) Preference will be given to U.S. military veterans who meet minimum requirements for admission and who submit a DD214 showing a discharge date no more than four years prior to date application is submitted. Remaining applicants will be ranked by prerequisite GPA and admitted as enrollment quotas allow.

Application Filing Period
Fall admission: School of Nursing applications are available March 1-31; university applications are available February 1 at *www.csumentor.com*.

Spring admission: School of Nursing applications are available August 1-31; university applications are available July 1 at *www.csumentor.com*.

Dates are subject to change. Additional information and applications can be obtained online at *www.fresnostate.edu/nursing* or by calling the nursing admissions coordinator at 559.278.6579.

The program application includes additional instructions and deadlines. The program application includes additional instructions and deadlines. The university application form can be obtained online at www.csumentor.edu.

Note: Students who have been admitted to the major, have made no arrangements with the school, and fail to attend the first day of class will be dropped from the major and not considered for future admission.

Admission to the RN-BSN Program
Registered nurses are in a separate admission pool from the generic nursing applicants. Program applicants must meet the following minimum criteria:

1. Graduate from a BRN approved, regionally accredited ADN program. Must be in good standing at last university attended.
2. Possess a current, active, and clear California RN license.
3. Complete eight prerequisite courses (see below) with a minimum grade of C.
4. Admission to California State University, Fresno either before or during the term RN-BSN application is accepted.
5. Submission of a completed RN-BSN application with official transcripts, copy of RN license and other requested materials before deadline.

Policies and Procedures for Direct Transfer into the Nursing Major
1. Students must have completed at least two semesters or 12 semester units of nursing courses in the major (all other students must follow the admission procedures for basic or advanced placement majors).
2. Students must submit all transcripts, course descriptions of nursing courses, and two letters of recommendation from their current school to be considered for transfer.
3. Students must meet all California State University, Fresno criteria for admission and continuation in the major to be eligible for transfer.
4. Students are admitted and placed in the major at the discretion of the chair of nursing.
5. Transfer students who have written notification of acceptance into the program enter the major on a space-available basis and must receive school permission to enroll in classes.
6. Applicant Deadline:
   Fall Admission - February 1
   Spring Admission - July 1

Leave of Absence from Nursing Program
1. Request for leave of absence:
a. Students must request a leave of absence (LOA) in writing from the chair of nursing. Students who don't request a LOA may not be readmitted into the major.

b. Leaves will be granted only for students who have completed at least one semester in the program and are in good standing.

2. Request to return from leave of absence:
a. Students must request in writing to be reinstated in the program specifying:
   Date of LOA
   Reason for LOA
   Disposition of circumstances requiring the LOA
   Activities (e.g., working in hospital) engaged in during LOA
b. Students will be notified in writing of requirements for returning to program, denial, or reinstatement.
c. Requirements for return may include any or all of the following, based on the discretion of the chair of nursing:
   Letters of recommendation from individuals such as counselors or physicians
   Enrolling in up to 5 units of Independent Study to update theoretical and/or clinical skills
d. Students who receive written notice of reinstatement in the major return on a space-available basis and must receive permission from the school to enroll in classes.

Progression in the Major. Criteria for retention, progression, and graduation from the program include a minimum grade of C in each required course and each nursing course offered for a grade, and credit in courses offered for CR/NC grading only. Nursing and required courses may be repeated only once to achieve a C or credit grade. Any student who receives less than a C grade (or no credit) in two nursing courses will not be permitted to continue in the major. Refer to the Student Handbook, Baccalaureate Degree Nursing Program, for complete progression and retention policies.

Expenses. Students must be prepared to incur any additional cost such as uniforms, malpractice insurance, health insurance, stethoscopes, course materials, lab fees, background check, drug screening, etc., and be responsible for transportation to clinical facilities. A current CPR certification, a physical examination, and specific immunizations are required.

Nursing, R.N.-B.S.N. - Continuing & Global Education

Requirements

Global RN to BSN Degree Completion Program Requirements

The California State University, Fresno, School of Nursing offers opportunity for advanced placement in the baccalaureate program for applicants who have earned an Associate Degree in Nursing (ADN) and hold a Registered Nurse (RN) license. The curriculum is designed to emphasize theory-based practice in nursing and provide the foundation for graduate study in nursing.

Individuals holding an RN degree can benefit from earning a BSN degree to:

- facilitate movement up the career ladder
- apply for public health nurse certification
- prepare for admission to school nurse, clinical nurse specialist, and nurse practitioner programs

The Bachelor of Science in Nursing RN-to-BSN program is offered by the expert faculty of the School of Nursing in cooperation with the Division of Undergraduate Studies and the Division of Continuing and Global Education. Courses are offered as hybrids, with some classes delivered via computer-based learning modalities and some held at the practice site. Students progress toward their degree as a cohort, taking 18 months to complete degree requirements.

Admission criteria for the Global RN to BSN program is the same as those of the on-campus RN-to-BSN program. Students must be admitted to the California State University, Fresno, Office of Undergraduate Studies and have a California registered nurse license. In addition, applicants must have current malpractice insurance, and current CPR certification.

Applicants must complete a School of Nursing application and a university application. Students are selected through evaluation of academic performance and work experience. California State University, Fresno has been authorized to admit upper division transfer students, who are qualified but lack the required general education requirements in critical thinking or math and quantitative reasoning, on a case- by-case basis to our nursing program. All program units are taken through the Division of Continuing and Global Education. Students are not required to take any portion of their coursework on the California State University, Fresno campus.

Students may transfer a maximum of 70 units and will earn 57 units in residence for a total of 127 units to earn the BSN degree. Of the 57 units in residence; a typical program consists of:

- 26 units in the nursing major
- 12 units UDGE coursework
- 19 units of upper division units, which are validated credit for equivalent nursing coursework

Fees are $290 per unit.

To inquire about becoming a student or offering the program at your practice site, contact:

Cherie Rector
Global RN to BSN Coordinator
crector@csufresno.edu

Visit the website for program details:
http://fresnostate.edu/chhs/nursing/degrees-programs/rn-bsn.html

Philosophy - Prelaw Option, B.A.

Requirements

Bachelor of Arts Degree Requirements

Students must select from the Philosophy Major, the Prelaw Option, or the Religious Studies Option.

Prelaw Option requirements (33 units)
The Prelaw Option emphasizes critical thinking and analytical skills, as well as ethics and issues related to law. It also includes a law-related intern experience. Law schools do not prefer any specific major, but emphasize critical thinking and general educa-

tion. (See Preprofessional Preparation). Students with a strong interest in philosophy as well as law may find this option valuable. Depend ing upon the interests of the student, courses or minors in political science, business, criminology, and a variety of social sciences would be useful electives for the Prelaw Option.
PHIL 25 or 45 (3 units)
PHIL 101 or 103 (3 units)
PHIL 115 or 118 (3 units)
PHIL 120 or 122 (3 units)
PHIL 121 or 127 (3 units)
Select two: PHIL 140, 146, 150, 151, 156 or 157 (6 units)
PHIL 170T (3 units)
PHIL 199 (3 units)
Approved outside electives: ANTH 119; CRIM 20; AFRS 146; BA 18; PLSI 110, 111, 170, 171; COMM 105, 149, 163, or other approved courses (6 units)

General Education requirements (51 units)

Upper-division writing skills requirement (0 units)
Upper-Division Writing Exam (see Advising Note 6.)

Electives and remaining degree requirements (36-39 units)*
(see Degree Requirements); may be used toward a double major or minor

Total (120 units)

* This total indicates that PHIL 25 or 45 (3 units) in G.E. Foundation A3 also may be applied to the philosophy major.

Advising Notes

1. CR/NC grading is not permitted in courses used to fulfill the philosophy major requirements.
2. General Education and elective units may be used toward a double major or minor (see double major or departmental minor). Consult the appropriate department chair, program coordinator, or faculty adviser for further information.
3. Students intending to pursue graduate study in philosophy, law, or religious studies should seek a faculty adviser's help in planning adequate preparation.
4. Visit the Philosophy Department office or your faculty adviser for the list of approved T classes for the major.
5. No General Education Integration or Multicultural/International course offered by the Philosophy Department may be used to satisfy the General Education requirements for majors in the department.
6. If the upper-division writing skills requirement is not met by passing the university Upper-Division Writing Examination (0 units), then a 3- to 4-unit W course must be passed with a grade of C or higher.

Philosophy - Religious Studies Option, B.A.

Requirements

Bachelor of Arts Degree Requirements

Students must select from the Philosophy Major, the Prelaw Option, or the Religious Studies Option.

Religious Studies Option requirements (33-34 units)
The department has prepared a special program for those who wish to engage in a combined study of philosophy and religion. This option emphasizes the comparative and ecumenical study of religion. Students with a general interest in religion might consider this option. Those who wish to pursue a religious vocation or do graduate work in religious studies will find it especially valuable.
PHIL 25, 45, or 145 (3 units)
PHIL 101, 103, 104, 105, or 107 (3 units)
PHIL 130 and 131 (6 units)
PHIL 133W or 134 (3-4 units)
PHIL 136, 137, or 138 (3 units)

PHIL 139 or 158 (3 units)
PHIL 170T or 172T (3 units)
Approved outside electives: HIST 103, 116, ANTH 116W; SOC 169; WS 148 (3 units)
Two additional upper-level philosophy courses (6 units)

General Education requirements (51 units)

Electives and remaining degree requirements (38-40 units)*
(see Degree Requirements); may be used toward a double major or minor

Total (120 units)

* This total indicates that PHIL 25 or 45 (3 units) in G.E. Foundation A3 also may be applied to the philosophy major.

Advising Notes

1. CR/NC grading is not permitted in courses used to fulfill the philosophy major requirements.
2. General Education and elective units may be used toward a double major or minor (see double major or departmental minor). Consult the appropriate department chair, program coordinator, or faculty adviser for further information.
3. Students intending to pursue graduate study in philosophy, law, or religious studies should seek a faculty adviser's help in planning adequate preparation.
4. Visit the Philosophy Department office or your faculty adviser for the list of approved T classes for the major.
5. No General Education Integration or Multicultural/International course offered by the Philosophy Department may be used to satisfy the General Education requirements for majors in the department.
6. If the upper-division writing skills requirement is not met by passing the university Upper-Division Writing Examination (0 units), then a 3- to 4-unit W course must be passed with a grade of C or higher.

Philosophy, B.A.

Requirements

Bachelor of Arts Degree Requirements

Students must select from the Philosophy Major, the Prelaw Option, or the Religious Studies Option.

Philosophy Major requirements (33 units)
PHIL 25, 45, or 145 (3 units)
PHIL 101 and 103 (6 units)
PHIL 105, 140, 146, 150, 151, 156, or 157 (6 units)
PHIL 115 or 118 (3 units)
PHIL 170T (3 units)
Approved philosophy electives (12 units)

General Education requirements (51 units)

Upper-division writing skills requirement (0 units)
Upper-Division Writing Exam (see Advising Note 6.)

Electives and remaining degree requirements (37-40 units)*
(see Degree Requirements); may be used toward a double major or minor

Total (120 units)

* This total indicates that PHIL 25 or 45 (3 units) in G.E. Foundation A3 also may be applied to the philosophy major.

Advising Notes

1. CR/NC grading is not permitted in courses used to fulfill the philosophy major requirements.
2. General Education and elective units may be used toward a double major or minor (see double major or departmental minor). Consult the appropriate department chair, program coordinator, or faculty adviser for further information.
3. Students intending to pursue graduate study in philosophy, law, or religious studies should seek a faculty adviser's help in planning adequate preparation.
4. Visit the Philosophy Department office or your faculty adviser for the list of approved T classes for the major.
5. No General Education Integration or Multicultural/International course offered by the Philosophy Department may be used to satisfy the General Education requirements for majors in the department.
6. If the upper-division writing skills requirement is not met by passing the university Upper-Division Writing Examination (0 units), then a 3- to 4-unit W course must be passed with a grade of C or higher.

Physics, B.S.

Requirements

Bachelor of Science Degree Requirements

Physics Major

Physics requirements (47 units)
(see note 1)
Physics core (38 units)
PHYS 4A, 4AL, 4B, 4BL, 4C, 102, 104, 105A, 105B, 107A, 110, 115, 140, 171

Upper-division electives (9 units)
Includes courses in physics and, with approval, in related fields. Students planning to pursue graduate study in physics are strongly encouraged to take courses from the following list: PHYS 107B, 135, 136, 137, 162, and 170A (see note 2)

Additional requirements (27-29 units)*
(see notes 1 and 3)
MATH 75, 76, 77, 81; CHEM 1A, 1AL, 1B, 1BL (25 units)

Plus one of the following
IT 52 or CSCI 40 (2-4 units)

General Education requirements (45 units)**

Total (120 units)*

* The 120 unit total assumes students will select IT 52 for this area.
** There are 51 units required for General Education. Of these 51 required units, 6 units will be satisfied by the following two courses in additional requirements: 3 units of CHEM 1A/1AL in G.E. Breadth B1 and 3 units of MATH 75 in G.E. Foundation B4.

Advising Notes

1. CR/NC grading is not permitted in the physics major. Additional requirements, however, may be taken CR/NC (see Credit/No Credit Grading).
2. Courses outside the Department of Physics may be substituted for physics upper-division electives with prior approval of the department chair.
3. Students should be sure to take sufficient upper-division units in their General Education courses and electives to satisfy the university requirement of 40 upper-division units. It is important to fulfill the upper-division writing skills requirement by exam or W class after completing 60 units which a student may request 1 unit of credit.

Suggested Sequence of Courses for the B.S. in Physics

The list below is a suggested schedule of courses for the major for students planning to complete the suggested pregraduate study sequence in four years.

In addition to the specific courses listed below, General Education requirements and electives should be included to bring the average total of units to 15 per semester. A minimum total of 120 units must be completed for the Bachelor of Science degree. (See Degree Requirements.)

1st Year: PHYS 4A, 4AL; CHEM 1A, 1B; MATH 75, 76; Computer Programming
2nd Year: PHYS 4B, 4BL, 4C; MATH 77, 81
3rd Year: PHYS 102, 104, 105A, 105B, 110, 150, 151, 170A
4th Year: PHYS 107A, 107B, 115, 140, 162,171; plus upper-division electives

Plant Science - Crop Production Management Option, B.S.

Requirements

Bachelor of Science Degree Requirements

Plant Science Major, Crop Production Management Option

Recommended curriculum for students interested in a foundation of agronomic, vegetable, tree fruit/nut, or ornamental horticulture crop production combined with a foundation in agricultural business; recommended curriculum for students interested in combining foundations in agricultural equipment, crop production, and agricultural business.

Major requirements (45 units)
PLANT 99, 100; SW 2, 100, 100L

- Choose one from MEAG 3 or 20
- Choose two from PLTH 103, 105, 106
- Choose 2 units from PLANT 180, 190, 194, 196, or VIT 196

After consultation with your adviser, choose courses below that best serve your career objectives. Courses from above cannot be double-counted below. 15 units must be from no more than two prefixes. Select 21 units (minimum 15 upper-division units) from CRSC, HORT, MEAG, OH, PLTH, SW, VIT; PLANT 107, 108, 134, 150.

Additional requirements (22-24 units)*
CHEM 3A, BIOL 11, AGBS 1 (or ECON 40), DS 71 (or MATH 75)

- Select one course from CHEM 3B, CHEM 8, PHYS 2A
- Select 18 units (15 upper-division) from the following:** AGBS 28, 31, 100, 110, 117, 120, 130, 150, 160, 163, 164

General Education requirements (51 units)
(Includes 12 upper-division units, to be taken no sooner than the term in which 60 units of coursework are completed.)

Note: Consult your departmental adviser for other G.E. courses that are recommended for the plant science major. No General Education Integration or Multicultural/International course offered by the Plant Science Department may be used to satisfy the G.E. requirements for majors in the department.

Electives (0-2 units)

Total units (120 units)*

* This total assumes that CHEM 3A, BIOL 11, AGBS 1 (or ECON 40), and DS 71 (or MATH 75) are being used to satisfy 12 units of the G.E. requirement.
** Additional prerequisites may be required for some upper-division AGBS courses.

Advising Notes

1. Students will be assisted in selecting an appropriate faculty adviser and be given the curriculum checksheet(s) from which to select a catalog year.
2. Meet with your academic adviser prior to registration each semester.
3. General Education courses designated as required by the department are prerequisites to many courses in the program of study. The General Education requirement of 51 units may be exceeded depending upon your selection of courses.
4. CR/NC grading is not permitted for courses included in the major unless the course has been designated CR/NC grading only (PLANT 194).
5. Grading policy: all prerequisites for courses listed under the major and additional requirements require a grade of C or better.
6. Upper-division G. E. courses (i.e., 100-level courses) should not be attempted prior to the semester in which 60 lower-division units toward the degree have been completed.
7. The upper-division writing skills requirement can be met by passing the university Upper-Division Writing Examination (UDWE) or by passing an approved upper-division writing skills course. One unit of credit (i.e., ENGL 100W) may be earned for passing the exam; 3 units of credit is earned by obtaining a letter grade of C or higher in an approved course, i.e., PLANT 110W. In either case, the requirement will have been met.
8. One semester prior to graduation, con-tact your academic adviser to prepare and file any necessary course substitutions with the Evaluations Office.
9. Students interested in becoming Certified Professional Agronomists, Crop Scientists/Specialists or Soil Scientists/Specialists should consult with their department faculty adviser for additional requirements for certification.

Plant Science - Plant Health Option, B.S.

Requirements

Bachelor of Science Degree Requirements

Plant Science Major, Plant Health Option

Recommended curriculum for students interested in obtaining a Pest Control Adviser's license, or who are interested in plant biotechnology or pursuing a post-graduate degree in plant science.

Major requirements (57-58 units)
PLANT 99, 100, 150; PLTH 102, 103, 105, 106, 108; SW 2, 100, 100L; MEAG 20

- Choose one from SW 101, PLTH 104
- Choose 3 additional units from PLTH courses
- Select 15 units (minimum 9 upper division) from CRSC, HORT, OH, SW, VIT; PLANT 107, 108, 134
- Choose 2 units from PLANT 180, 190, 194, 196, or VIT 196

Additional requirements (7 units)*
CHEM 3A, BIOL 11, CHEM 8 and 150

General Education requirements (51 units)
(Includes 12 upper-division units, to be taken no sooner than the term in which 60 units of coursework are completed.)

Note: Consult your departmental adviser for other G.E. courses that are recommended for the plant science major. No General Education Integration or Multicultural/International course offered by the Plant Science Department may be used to satisfy the G.E. requirements for majors in the department.

Electives (4-5 units)

Total units (120 units)

* This total assumes that CHEM 3A and BIOL 11 are being used to satisfy 6 units of the G.E. requirement.

Advising Notes

1. Students will be assisted in selecting an appropriate faculty adviser and be given the curriculum checksheet(s) from which to select a catalog year.
2. Meet with your academic adviser prior to registration each semester.
3. General Education courses designated as required by the department are prerequisites to many courses in the program of study. The General Education requirement of 51 units may be exceeded depending upon your selection of courses.
4. CR/NC grading is not permitted for courses included in the major unless the course has been designated CR/NC grading only (PLANT 194).
5. Grading policy: all prerequisites for courses listed under the major and additional requirements require a grade of C or better.
6. Upper-division G. E. courses (i.e., 100-level courses) should not be attempted prior to the semester in which 60 lower-division units toward the degree have been completed.
7. The upper-division writing skills requirement can be met by passing the university Upper-Division Writing Examination (UDWE) or by passing an approved upper-division writing skills course. One unit of credit (i.e., ENGL 100W) may be earned for passing the exam; 3 units of credit is earned by obtaining a letter grade of C or higher in an approved course, i.e., PLANT 110W. In either case, the requirement will have been met.
8. One semester prior to graduation, con-tact your academic adviser to prepare and file any necessary course substitutions with the Evaluations Office.
9. Students interested in becoming Certified Professional Agronomists, Crop Scientists/Specialists or Soil Scientists/Specialists should consult with their department faculty adviser for additional requirements for certification.

Political Science, B.A.

Requirements

Bachelor of Arts Degree Requirements

Political Science Major

Major requirements (36 units)
(see Notes 1 and 2)

Lower-division core:
PLSI 1, 90 (6 units)
(to be completed prior to or concurrently with enrollment in the first 6 units of upper-division major courses)

Upper-division core:
PLSI 110 or 111, 120, 140, 150 (12 units)

Upper-division Political Science electives:
(PLSI exclude 102, 187) (18 units)

General Education requirements (51 units)

Electives and remaining degree requirements (33 units)
(see Degree Requirements); may be used toward a double major or minor

Total (120 units)

Advising Notes

1. CR/NC grading is not permitted in the political science major.
2. No General Education Integration or Multicultural/International course offered by the Political Science Department may be used to satisfy the General Education requirements for public administration majors. In addition, PLSI 120 may not be used to satisfy the General Education Multicultural/International requirement for public administration majors.
3. General Education and elective units may be used toward a double major or minor (in something other than political sci-

ence; see Double Major or departmental minor). Consult the appropriate department chair, program coordinator, or faculty adviser for further information.
4. The department highly recommends that the student select upper-division electives in at least three of the following disciplines: anthropology, African American studies, economics, English, geography, history, Chicano and Latin American studies, philosophy, sociology, or city and regional planning. Consult adviser for specifically recommended courses.
5. Grading Requirement. Students majoring in political science must earn a grade of C or better in each of the six core courses in the major: PLSI 1, 90 (lower-division) and PLSI 110 or 111, 120, 140, and 150 (upper-division).

Pre Veterinary Prerequisites

Requirements

See Animal Sciences and Agricultural Education.

Pre-Athletic Training

Requirements

Athletic Training Major

Policies and Procedures for B.S.A.T. Admission. The Department of Kinesiology offers a program that leads to the Bachelor of Science degree in Athletic Training (BSAT). The degree requires a minimum of 120 semester units. The Athletic Training Program requires four semesters of athletic training and other required courses in addition to the required prerequisite courses. The General Education requirements are the same for all Fresno State students.

Students who are enrolled and/or registered in their final semester prior to graduation or have already graduated are eligible to sit for the Board of Certification exam. The program is accredited by the Commission on Accreditation of Athletic Training Education (CAATE).

Applicants must meet all criteria for admission to the university and to the athletic training major. Admission to the program is a two-step process: (1) admission to the university and then (2) admission to the Athletic Training major. All prerequisites must be completed prior to application to the Athletic Training major.

All students who have been admitted to Fresno State, but have not yet been admitted to the Athletic Training Program, will be admitted to the university as "pre-athletic training" students. Admission to the university does not guarantee admission to the Athletic Training program.

Pre-Business

Requirements

Pre-Business Major

All business students entering California State University, Fresno are considered pre-business majors and are coded as such. In order to select an option in business and enroll in 100-level business courses, pre-business students must do the following:

(a.) Complete IS 52 and 52L or equivalent course(s) with a grade of C or better or achieve a passing score on the CSB computer competency waiver examination. See "computer competency waiver exam" at www.craig.fresnostate.edu/uss_home.aspx.

(b.) Complete the following courses or their equivalents with a grade of C or better in each course: ACCT 4A, 4B; BA 18; DS 71,

73; ECON 40 (or AGBS 1) and ECON 50.

(c.) Have a cumulative and campus grade point average of at least 2.25.

(d.) Submit a request to declare an option in business. Students may obtain this request form from the Craig School of Business Undergraduate Student Services Office, Peters Building, Room 185, or apply online at www.craig.fresnostate.edu/uss_home.aspx.

(e.) CSB 150 may be substituted for CSB 50 for catalog years prior to 2005-2006.

Pre-Child and Family Science

Requirements

Child, Family, and Consumer Sciences

Policies and Procedures for Admission. Applicants must meet all criteria for admission to the university and to the major. Admission to the program is a two-step process: (1) admission to the university and then (2) admission to Family and Consumer Sciences or Child Development major. All prerequisites must be completed prior to application to the major.

All students who have been admitted to Fresno State, but have not yet been admitted to the major, will be admitted to the university as "pre-family and consumer sciences" or "pre-child development" students. Admission to the university does not guarantee admission to the Family and Consumer Sciences or Child Development program.

Pre-Nursing

Requirements

Nursing Major

Policies and Procedures for B.S.N. Admission. Admission to the program is a two-step process: (1) admission to the university and (2) admission to the nursing major.

For fall entry all prerequisites must be completed by June and for spring entry all prerequisites must be completed by the preceding fall semester. Applicants must meet all criteria for admission to the university and to the nursing major. Students not in the major may apply to the university as prenursing majors.

Pre-Psychology

Requirements

Psychology Major

Policies and Procedures for Admission. Applicants must meet all criteria for admission to the university and to the major. Admission to the program is a two-step process: (1) admission to the university and then (2) admission to the Psychology major. All prerequisites must be completed prior to application to the major.

All students who have been admitted to Fresno State, but have not yet been admitted to the major will be admitted to the university as "pre-psychology" students. Admission to the university does not guarantee admission to the Psychology program.

Pre-Social Work

Requirements

Social Work Major

Policies and Procedures for Admission. Applicants must meet all criteria for admission to the university and to the major. Admission to the program is a two-step process: (1) admission to the university and then (2) admission to the Social Work major. All prerequisites must be completed prior to application to the major.

All students who have been admitted to Fresno State, but have not yet been admitted to the major will be admitted to the university as "social work" students. Admission to the university does not guarantee admission to the Social Work program.

Psychology - Pre-M.B.A. Option, B.A.

Requirements

Pre-M.B.A. Option

The pre-M.B.A. psychology major option is intended for students who wish to combine comprehensive training in the field of psychology with coursework preparing them for jobs in business and/or future graduate training in business administration. The option is aimed at two groups of students:

1. Students who wish to complete a major in psychology, while at the same time prepare for jobs in business, industry, and government that emphasize both psychology and business skills upon completion of their B.A.
2. Psychology majors who wish to enter an M.B.A. or other business-related graduate program upon completion of their B.A. The option is designed to allow students to complete many or all of the prerequisite courses required by typical M.B.A. programs, and all of those in the Craig program at Fresno State.

The option is especially designed for psychology majors who wish to apply for the Craig M.B.A. program at California State University, Fresno. By completing the requirements of the pre-M.B.A. option, students will generally be allowed to waive all of the Group 1 coursework usually required for the M.B.A. at Fresno State. Furthermore, students who maintain a GPA of 3.4 or more in their last 60 units and in the major, and who receive a suitable score on the GMAT, are reasonably assured of admission to the Craig M.B.A. program. Students not meeting these requirements will, however, also be considered and are encouraged to apply.

Pre-MBA Major

Major option requirements (63-72 units)

A. Core Courses (all required): PSYCH 10, 42, 144 (12 units)
B. Basic Knowledge and Skills (select 1): PSYCH 145 or IS 52 and 52L and (select 1): PSYCH 36, 60T, or 166 (4-8 units)
C/D. Applications: MKTG 100S and MGT 104; or MGT 110 (6-7 units)
E. Advanced Content (select 2): PSYCH 154, 155, 156 (8 units)
F. Advanced Processes (select 2): PSYCH 121, 122, 124, 125, 128 (8 units)
G. Integration: PSYCH 182 (4 units)
H. Advanced Topics (select 1): PSYCH 120T, 123, 140T, 150T, 160T, 163, 170T, 180T, 184A, 184B (1-5 units)
I. Psychology Electives (see Advising Note 5)
J. Additional pre-business requirements: ECON 40, 50*, ACCT 4A, FIN 120, BA 174, MGT 124 (20 units)

General Education requirements (51 units)

Electives and remaining degree requirements (0-9 units)

Total (120 units)

Psychology, B.A.

Requirements

Bachelor of Arts Degree Requirements

Psychology Major

Major requirements (43-52 units)

A. Core Courses (all required): PSYCH 10, 42, 63, 144 (14 units)
B. Basic Knowledge and Skills (select 1): PSYCH 36, 60T, 66, 145 (1-5 units)
C. Basic Applications (select 1): PSYCH 136, 162, 169, 175, 176 (3-4 units)
D. Advanced Applications (select 1): PSYCH 143, 149, 172, 177, 178S, 179 (4 units)
E. Advanced Content (select 2): PSYCH 154, 155, 156 (8 units)
F. Advanced Processes (select 2): PSYCH 121, 122, 124, 125, 128 (8 units)
G. Integration: PSYCH 182 (4 units)
H. Advanced Topics (select 1): PSYCH 120T, 123, 140T, 150T, 151, 160T, 163, 170T, 180T, 184A, 184B (1-5 units)
I. Psychology Electives (see Advising Note 5)

General Education requirements (51 units)

Electives and remaining degree requirements (17-26 units)*
(See Degree Requirements); may be used toward a double major or minor.

Total (120 units)

* This total indicates that 3 units of PSYCH 10 in G.E. Breadth D3 also may be applied to the psychology major. In addition. G.E. certified courses that are equivalent to PSYCH 10 and PSYCH 42 taken at another CSU campus or a public California community or junior college may be applied to the major. Courses that meet both major and G.E. requirements require adjustment of elective hours to reach the 120 unit total requirement. Consult the department advising office for additional details.

Advising Notes

1. Students desiring to major in psychology must do the following before being permitted to enroll in restricted, 100-level psychology courses (courses with prerequisites):
   a. formally apply to the major, at which time they will be placed in a pre-psychology major category, and
   b. complete PSYCH 10, 42, 63, and 144 (or their equivalents) with grades of C or better and have earned a cumulative grade point average of at least 2.0.
2. Students may apply for upper-division psychology major status in the Psychology Department Office during the semester in which they expect to successfully complete the core course requirements. Approval will be contingent upon satisfactory fulfillment of these requirements.
3. All students, including transfer students and students changing to the psychology major, must request the Psychology Department to screen their transcripts (to be provided by the student) for successful completion of the requirements before enrollment in restricted, 100-level psychology courses will be permitted. Currently enrolled students who wish to change to the psychology major must first obtain the change-of-major form in the north lobby, Joyal Administration Building.
4. Psychology majors may not receive General Education credit for G.E. Integration courses offered by the Department of Psychology.
5. CR/NC grading is not permitted in the psychology major.
6. General Education and elective units may be used toward a double major or minor (see double major or departmental minor). Consult the appropriate department chair, program coordinator, or faculty adviser for further information.
7. Students who complete all courses required in the major may be cleared with a minimum of 44 units for the psychology major or 64 units for the pre-M.B.A. option. Although not required, psychology electives may be applied toward the major and may be used to meet the required minimum total of 44 units for the psychology major or 64 units for the pre-M.B.A. option.

Recreation Administration - Adventure Recreation & Tourism Option, B.S.

Requirements

Bachelor of Science Degree Requirements

Recreation Administration Major

Major requirements (65-69 units)
The following core program courses are required of all candidates for this degree. Additional required courses dependent upon the selected emphasis area.

Courses
RA 55, 60, 73S, 77S, 80, 101, 125, 128, 179, 180 (27 units)

Emphases (38-42 units)

- Adventure Recreation and Tourism Emphasis Area
  Complete RA 131, 133, 135 or MKTG 100S, RA 139, 146, and 184 (27-28 units)
  Select 11 units from the following: COUN 174; ENTR 81; GEOG 135, 139T; EES 3; PH 48; KINES 122; RA 106, 113, 130, 192T (192T repeatable up to 2 units); REC 74, 75, 82, 83, 84, 86, 87, 88 (11 units)

General Education requirements (51 units)

Electives and remaining degree requirements (1-7 units)

Total (120 units)*

* This total indicates that a maximum of 3 units in General Education also may be applied to 3 units of electives in the RA major as follows: RA 80 or GERON 10S in G.E. Breadth E1. Consult the department chair or faculty adviser for additional details.

Advising Notes

1. CR/NC grading is not permitted in the recreation administration major with the exceptions of REC 74, 75, 82, 84, 86, 88; RA 115, and 192T.
2. General Education and elective units may be used toward a minor (see departmental minor below). Consult the appropriate department chair, program coordinator, or faculty adviser for further information.
3. Students who must complete a course to fulfill the Upper-Division Writing Skills requirement are advised to take BA 105W
4. All Recreation Administration courses used in the major must be completed with a grade of C or higher.

Recreation Administration - Commercial Recreation & Event Planning Option, B.S.

Requirements

Bachelor of Science Degree Requirements

Recreation Administration Major

Major requirements (65-69 units)
The following core program courses are required of all candidates for this degree. Additional required courses dependent upon the selected emphasis area.

Courses
RA 55, 60, 73S, 77S, 80, 101, 125, 128, 179, 180 (27 units)

Emphases (38-42 units)

- Commercial Recreation and Event Planning Emphasis Area
  Complete RA 117, 131, 133, 135 or MKTG 100S, RA 139, 184, and ACCT 3 or 4A (30-31 units)
  Select from the following: BA 18; COMM 103; ENTR 81; MCJ 106, 142, 152S; RA 119, 146, 150, 192T (192T repeatable up to 2 units); REC 74 (8 units)

General Education requirements (51 units)

Electives and remaining degree requirements (1-7 units)

Total (120 units)*

* This total indicates that a maximum of 3 units in General Education also may be applied to 3 units of electives in the RA major as follows: RA 80 or GERON 10S in G.E. Breadth E1. Consult the department chair or faculty adviser for additional details

Advising Notes

1. CR/NC grading is not permitted in the recreation administration major with the exceptions of REC 74, 75, 82, 84, 86, 88; RA 115, and 192T.
2. General Education and elective units may be used toward a minor (see departmental minor below). Consult the appropriate department chair, program coordinator, or faculty adviser for further information.
3. Students who must complete a course to fulfill the Upper-Division Writing Skills requirement are advised to take BA 105W
4. All Recreation Administration courses used in the major must be completed with a grade of C or higher.

Recreation Administration - Community Recreation & Youth Services Option, B.S.

Requirements

Bachelor of Science Degree Requirements

Recreation Administration Major

Major requirements (65-69 units)
The following core program courses are required of all candidates for this degree. Additional required courses dependent upon the selected emphasis area.

Courses
RA 55, 60, 73S, 77S, 80, 101, 125, 128, 179, 180 (27 units)

Emphases (38-42 units)

- Community Recreation and Youth Services Emphasis Area
  Complete RA 113, 117, 121, 133, 135 or MKTG 100S, RA 139 and 184 (30-31 units)
  Select from the following: RA 106, 146; REC 74, 75; CFS 39, 136; CRIM 120; EHD 107; GERON 10S, 140; KINES 32; MCJ 106, 152S; MGT 133S; PLSI 163; PSYCH 102; SSCI 150T (150T repeatable up to 2 units) (8-9 units)

General Education requirements (51 units)

Electives and remaining degree requirements (1-7 units)

Total (120 units)*

* This total indicates that a maximum of 3 units in General Education also may be applied to 3 units of electives in the RA major as follows: RA 80 or GERON 10S in G.E. Breadth E1. Consult the department chair or faculty adviser for additional details

Advising Notes

1. CR/NC grading is not permitted in the recreation administration major with the exceptions of REC 74, 75, 82, 84, 86, 88; RA 115, and 192T.
2. General Education and elective units may be used toward a minor (see departmental minor below). Consult the appropriate department chair, program coordinator, or faculty adviser for further information.
3. Students who must complete a course to fulfill the Upper-Division Writing Skills requirement are advised to take BA 105W
4. All Recreation Administration courses used in the major must be completed with a grade of C or higher.

Recreation Administration - Sports & Entertainment Facility Management Option, B.S.

Requirements

Bachelor of Science Degree Requirements

Recreation Administration Major

Major requirements (65-69 units)
The following core program courses are required of all candidates for this degree. Additional required courses dependent upon the selected emphasis area.

Courses
RA 55, 60, 73S, 77S, 80, 101, 125, 128, 179, 180 (27 units)

Emphases (38-42 units)

- Sports and Entertainment Facility Management Emphasis Area
  Complete RA 117, 133, 135 or MKTG 100S; RA 139, 150, 152, 154, and 184; ACCT 3 or ACCT 4A (37-38 units)
  Select from the following: BA 18; COMM 103; PH 143; MCJ 106, 152S; MKTG 150; RA 119 (3-4 units)

General Education requirements (51 units)

Electives and remaining degree requirements (1-7 units)

Total (120 units)*

* This total indicates that a maximum of 3 units in General Education also may be applied to 3 units of electives in the RA major as follows: RA 80 or GERON 10S in G.E. Breadth E1. Consult the department chair or faculty adviser for additional details

Advising Notes

1. CR/NC grading is not permitted in the recreation administration major with the exceptions of REC 74, 75, 82, 84, 86, 88; RA 115, and 192T.
2. General Education and elective units may be used toward a minor (see departmental minor below). Consult the appropriate

department chair, program coordinator, or faculty adviser for further information.
3. Students who must complete a course to fulfill the Upper-Division Writing Skills requirement are advised to take BA 105W
4. All Recreation Administration courses used in the major must be completed with a grade of C or higher.

Recreation Administration - Therapeutic Recreation Option, B.S.

Requirements

Bachelor of Science Degree Requirements

Recreation Administration Major

Major requirements (65-69 units)
The following core program courses are required of all candidates for this degree. Additional required courses dependent upon the selected emphasis area.

Courses
RA 55, 60, 73S, 77S, 80, 101, 125, 128, 179, 180 (27 units)

Emphases (38-42 units)

- Therapeutic Recreation Emphasis Area
  RA 142, 144A, 144B, 148, 149, 187; BIOL 33; PSYCH 66; CFS 38 (38 units)
  Select from the following: RA 106, 113, 146; PSYCH 101, 102; COUN 174; CFS 131, 136; CRIM 100, 120; SOC 143, 147, 168; GERON 103, 132, 161; PHTH 105 (3 units)

General Education requirements (51 units)

Electives and remaining degree requirements (1-7 units)

Total (120 units)*

* This total indicates that a maximum of 3 units in General Education also may be applied to 3 units of electives in the RA major as follows: RA 80 or GERON 10S in G.E. Breadth E1. Consult the department chair or faculty adviser for additional details

Advising Notes

1. CR/NC grading is not permitted in the recreation administration major with the exceptions of REC 74, 75, 82, 84, 86, 88; RA 115, and 192T.
2. General Education and elective units may be used toward a minor (see departmental minor below). Consult the appropriate department chair, program coordinator, or faculty adviser for further information.
3. Students who must complete a course to fulfill the Upper-Division Writing Skills requirement are advised to take BA 105W
4. All Recreation Administration courses used in the major must be completed with a grade of C or higher.

Social Work, B.A.

Requirements

Bachelor of Arts Degree Requirements

Social Work Major

Major requirements (42 units)
SWRK 20, 123, 135, 136, 160, 161 (or 161S), 170, 171, 180, 181, 182, 183
Note: Students must attain a minimum grade of C in each required course in social work major Students who receive a grade of less than C in any of the above courses must meet with their Social Work Education academic adviser and develop a plan for repeating the course and continuing the major. Refer to the Undergraduate Advising Booklet for complete information on policies. See Advising Notes.

Additional requirements (18 units)
May also count toward General Education

- Select one: GERON 100, 103; PHIL 1, 20 (3 units)
- Select one: GERON 134, 139; PHIL 120, 131, 150 (3 units)
- Approved upper-division electives (see list in department office) (9 units)
  Cultural Diversity Ethnic Studies including Africana Studies and American Indian Studies; Chicano and Latin American Studies, Asian American Studies, or Women's Studies (3 units)
  Six units from two of the following areas: Anthropology, Criminology, Psychology, or Sociology (6 units)
- Select three units from the following: SWRK 124, 125, 128, 129, 137, or 152 (3 units)

General Education requirements (51 units)

Electives and remaining degree requirements* (13-24 units)
(see Degree Requirements); may include a double major or minor

Total (120 units)

* This figure takes into consideration that, with proper selection, 15 units of additional requirements for the social work major also may be applied toward fulfilling General Education requirements (see General Education). Consult the social work department chair, program coordinator, or faculty adviser for details.

Advising Notes

1. Foundational social work major courses must be taken in the sequence specified below:
2. Junior year (semester 1): SWRK 123, 135, and 160
3. Junior year (semester 2): SWRK 136, 161/161S, and 170
4. Senior year (semester 1): SWRK 171, 180, 181
5. Senior year (semester 2): SWRK 182, 183, and SWRK elective
6. Approved course listings are available in the department office and on the Web. Consult your faculty adviser for assistance in selecting a pattern of courses to fit your particular interests and goals.
7. CR/NC grading is not permitted in the social work major with the exception of SWRK 181 and 182.
8. General Education, additional requirements, and elective units may be used toward a double major or minor (see Double Major or departmental minor). Consult the appropriate department chair, program coordinator, or faculty adviser for further information.
9. No General Education Multicultural/International course offered by the Social Work Education Department may be used to satisfy the General Education requirements for majors in the department.
10. Senior year internships are arranged by the field coordinator. Applications must be filed and interviews with the field coordinator and interviews for agency selection must be completed in the semester prior to entering the field.
11. Students who have prior knowledge of Spanish or Southeast Asian languages but lack fluency are encouraged to take additional coursework in the languages.
12. A booklet describing the program more fully is available in the department office and on the Web.

Sociology, B.A.

Requirements

Bachelor of Arts Degree Requirements

Sociology Major

Major requirements (45 units)
Tier One Lower-Division: SOC 1 (or 1S) and 3 (or 3S) (6 units)
Tier Two Upper-Division: SOC 125 and 130W (or 130WS) or Upper-Division Writing Exam (See Major Advising Note 3) (4-8 units)
Tier Three (Theory and Methods): SOC 151; 152 or 153; 175; and 176 (16 units)
Sociology Upper-Division electives (15-19 units)

General Education requirements (51 units)

Electives and remaining degree requirements* (24-30 units)
(see Degree Requirements); may be used toward a double major or minor

Total (120 units)

* This total indicates that 6 units of SOC 3 or 3S in G.E. Foundation A3 and SOC 1 or 1S in G.E. Breadth D3 also may be applied to the sociology major. Consult the department chair or faculty adviser for additional details.

Major Advising Notes

1. Tier One Lower-Division courses — SOC 1/1S and SOC 3/3S — must be completed with a grade of C or better before enrollment in Tier Two Upper-Division courses.
2. Tier Two Upper Division courses — SOC 125 and 130W/WS — must be completed with a grade of C or better completed before enrollment in Tier Three courses, generally before the second semester of the junior year.
3. Tier Three Theory and Methods Core — SOC 152 or 153, SOC 151, SOC 175, and SOC 176 — must be completed with a 2.0 GPA.
4. Upper-division electives may be taken in any sequence.
5. Students majoring in sociology are permitted to pass the Upper-Division Writing Examination (UDWE) in lieu of taking SOC 130W/WS, thus completing only one course for 4 units in Tier Two Upper Division Core. However, students must still complete a minimum of 45 units of sociology coursework for the B.A. If the student requests 1 unit of ENGL 100W for passing the UDWE, that unit will be applied to the overall elective unit total for the B.A.
6. ***CR/NC*** grading is not permitted in the sociology major, except for courses offered only under ***CR/NC*** grading.
7. General Education and elective units may be used toward a double major or minor (see double major or department minor). Consult the appropriate department chair, program coordinator, or faculty adviser for further information.
8. No General Education Integration or Multicultural/International course offered by the Sociology Department may be used to satisfy the General Education requirements for majors in the department.

Spanish, B.A.

Requirements

Spanish, B.A. Requirements

Major requirements (39-53 units)
(see Advising Notes 1, 2, and 3 below)
Lower division: (14 units)
SPAN 1A, 1B, 2A, 2B, 3, 4A, 4B, 5 (see Advising Notes 3 and 4)

Upper division: (39 units)
SPAN 119, 121A, 121B, 140, 142, 143, 170 (21 units)
Select from SPAN 145, 147, 148T, 149, 150, 165 (6 units)

Electives (exclude SPAN 110T) (12 units)

General Education requirements (51 units)
(see Advising Note 2)

Electives* (22-30 units)
remaining degree requirements and electives including units to be used toward a double major or a minor

Total (120 units)

* This total indicates that a maximum of two courses (6 units) in G.E. Breadth C2 also may be applied to the Spanish major: SPAN 1B, 2A, 2B, 3, 4A, and 4B. Consult a Spanish major adviser for additional details.

Advising Notes

1. CR/NC grading is not permitted for courses in the Spanish major except for those taken Credit by Examination.
2. Students must receive a minimum grade of C in each upper-division course used toward the Spanish major.
3. A maximum of two courses from one department may be used simultaneously to satisfy the General Education requirement and the major requirements. If the Spanish major is the secondary major in a double major (see double major), this limitation does not apply. Consult a faculty adviser for additional details.
4. Spanish majors who have studied Spanish in high school or who by culture or experience can speak Spanish at a certain level of proficiency must consult with a Spanish adviser to determine which lower-division courses, if any, may be waived. (Also see Credit Allowance in Foreign Language.) Spanish majors who are eligible to enroll immediately in SPAN 1B, 2A, 2B, 3, or 5 are not required to make up the lower-division units waived. Waiver of required units for the major does not reduce the total number of units required for the awarding of the bachelor's degree. All Spanish majors are required to take Spanish 4A and 4B as prerequisites to upper-division Spanish courses. These prerequisites can be challenged through Credit by Examination.
5. Students majoring in Spanish cannot count Spanish courses for G.E. Integration IC.

Theatre Arts - Acting Emphasis, B.A.

Requirements

Bachelor of Arts Degree Requirements

Theatre Arts Major

The theatre arts major, dance option, and minors are designed to provide competencies in the theatre arts for students who intend to pursue study beyond the Bachelor of Arts degree, who are preparing for careers in teaching or for the professional theatre. With the assistance of their advisers and with departmental approval, students follow a track of advanced courses specializing in the areas of Acting or Design/Technology, or students may opt for advanced courses covering a broad range of study by selecting the General track. The Theatre Arts Program offers through the dance option intensive studies in dance performance, choreography, and theory. This option provides preparation for graduate studies or a professional career.

Theatre Arts Major

Major requirements (53 units)
(See note 1)

Core: DRAMA 10, 33, 34, 110, 139, 163, 185, 186 (24 units)

Production: DRAMA 15 and/or DRAMA 115 (8 units)

Emphasis (21 units)
Acting
DANCE 20, DRAMA 30, 35, 41, 132, 133 (18 units)
Approved electives: DRAMA 15/115 and 89/189 excluded (See note 2) (3 units)

General Education requirements (51 units)

Additional requirements (0 units)
Students must complete eight approved production assignments. (See faculty adviser.)

Electives and remaining degree requirements (16 units)
(See Degree Requirements), may be used toward a double major or minor

Total (120 units)

Advising Notes

1. New majors must enroll in DRAMA 10 (fall) and acting emphasis students must enroll in DANCE 20 (spring) during their first year in the program.
2. Students must meet with their adviser each semester for program approval.
3. CR/NC grading is not permitted in the theatre arts major.
4. No General Education Integration or Multicultural/International course offered by the Theatre Arts Department may be used to satisfy the General Education requirements for majors in the department.

Theatre Arts - Dance Option, B.A.

Requirements

Bachelor of Arts Degree Requirements

Theatre Arts Major

The theatre arts major, dance option, and minors are designed to provide competencies in the theatre arts for students who intend to pursue study beyond the Bachelor of Arts degree, who are preparing for careers in teaching or for the professional theatre. With the assistance of their advisers and with departmental approval, students follow a track of advanced courses specializing in the areas of Acting or Design/Technology, or students may opt for advanced courses covering a broad range of study by selecting the General track. The Theatre Arts Program offers through the dance option intensive studies in dance performance, choreography, and theory. This option provides preparation for graduate studies or a professional career.

Theatre Arts Major (Dance Option)

Option requirements (48 units)
DRAMA 33, 34, 134B or 181B or 182A (9 units)
DANCE 20, 70, 159, 160, 164, 166, 170, 171 (23 units)
Production: DANCE 115 (4 units)
DANCE 117A, B, C, or D (must enroll in one section each semester) (6 units)
DANCE 158A, B, C, or D (must enroll in one section each semester) (6 units)

General Education requirements (51 units)

Electives and remaining degree requirements* (21-24 units)
(See Degree Requirements), may be used toward a double major or minor

Total (120 units)

* This total indicates that a maximum of one course (3 units) in General Education Breadth also may be applied to the dance option. This course is DANCE 70 in G.E. Breadth E1. Consult the department chair or faculty adviser for additional details.

Advising Notes

1. Special requirements: Students seeking the dance option are required to have competency in either DANCE 117 (Modern) or DANCE 158 (Ballet) for graduation.
2. A maximum of 12 units of dance technique courses (117, 118, 155, 158) may be credited toward the minimum B.A. gradua-

tion requirement of 120 units.
3. CR/NC grading is not permitted in the dance major.
4. No General EducationIntegration or Multicultural/International course offered by the Theatre Arts Department may be used to satisfy the General Education requirements for majors in the department.

Theatre Arts - Design/Technology Emphasis, B.A.

Requirements

Bachelor of Arts Degree Requirements

Theatre Arts Major

The theatre arts major, dance option, and minors are designed to provide competencies in the theatre arts for students who intend to pursue study beyond the Bachelor of Arts degree, who are preparing for careers in teaching or for the professional theatre. With the assistance of their advisers and with departmental approval, students follow a track of advanced courses specializing in the areas of Acting or Design/Technology, or students may opt for advanced courses covering a broad range of study by selecting the General track. The Theatre Arts Program offers through the dance option intensive studies in dance performance, choreography, and theory. This option provides preparation for graduate studies or a professional career.

Theatre Arts Major

Major requirements (53 units)
(See note 1)

Core: DRAMA 10, 33, 34, 110, 139, 163, 185, 186 (24 units)

Production: DRAMA 15 and/or DRAMA 115 (8 units)

Emphasis (21 units)
Design/Technology
DRAMA 180A, 182A (6 units)
DRAMA 134B (3 units)
Select 9 units from the following courses:
DRAMA 41, 134A, 134B, 155, 157, 180B, 181B, 182B (9 units)
Approved electives: DRAMA 15/115 and 89/189 excluded (See note 2) (3 units)

General Education requirements (51 units)

Additional requirements (0 units)
Students must complete eight approved production assignments. (See faculty adviser.)

Electives and remaining degree requirements (16 units)
(See Degree Requirements), may be used toward a double major or minor

Total (120 units)

Advising Notes

1. New majors must enroll in DRAMA 10 (fall) and acting emphasis students must enroll in DANCE 20 (spring) during their first year in the program.
2. Students must meet with their adviser each semester for program approval.
3. CR/NC grading is not permitted in the theatre arts major.
4. No General Education Integration or Multicultural/International course offered by the Theatre Arts Department may be used to satisfy the General Education requirements for majors in the department.

Theatre Arts - General Emphasis, B.A.

Requirements

Bachelor of Arts Degree Requirements

Theatre Arts Major

The theatre arts major, dance option, and minors are designed to provide competencies in the theatre arts for students who intend to pursue study beyond the Bachelor of Arts degree, who are preparing for careers in teaching or for the professional theatre. With the assistance of their advisers and with departmental approval, students follow a track of advanced courses specializing in the areas of Acting or Design/Technology, or students may opt for advanced courses covering a broad range of study by selecting the General track. The Theatre Arts Program offers through the dance option intensive studies in dance performance, choreography, and theory. This option provides preparation for graduate studies or a professional career.

Theatre Arts Major

Major requirements (53 units)
(See note 1)

Core: DRAMA 10, 33, 34, 110, 139, 163, 185, 186 (24 units)

Production: DRAMA 15 and/or DRAMA 115 (8 units)

Emphasis (21 units)
General
Select 6 units from each of the following course groupings:
Group 1: DANCE 20, DRAMA 30, 35, 132, 133, 138B (6 units)
Group 2: DRAMA 41, 134A, 134B, 136S, 180A, 182A (6 units)
Group 3: DANCE 160, DRAMA 131, 137, 138A, 151, 188T (6 units)
Approved electives: DRAMA 15/115 and 89/189 excluded (See note 2) (3 units)

General Education requirements (51 units)

Additional requirements (0 units)
Students must complete eight approved production assignments. (See faculty adviser.)

Electives and remaining degree requirements (16 units)
(See Degree Requirements), may be used toward a double major or minor

Total (120 units)

Advising Notes

1. New majors must enroll in DRAMA 10 (fall) and acting emphasis students must enroll in DANCE 20 (spring) during their first year in the program.
2. Students must meet with their adviser each semester for program approval.
3. CR/NC grading is not permitted in the theatre arts major.
4. No General Education Integration or Multicultural/International course offered by the Theatre Arts Department may be used to satisfy the General Education requirements for majors in the department.

Viticulture, B.S.

Requirements

Bachelor of Science Degree Requirements

Viticulture Major

Major requirements (67 units)
BIOL 161; CHEM 8, 150; ENOL 15; MEAG 3; PLANT 99, 150; PLTH 103, 105, 106; SW 100, 100L, 101; VIT 101, 102, 103, 105, 106, 160, 165, 196 (4 units), 199 (1 unit)

Select 6 units in consultation with faculty adviser from the following courses: AGBS 31, 110, 117, 120, 130; ENOL 45, 163, 175; SPAN 1A; VIT 194

Additional requirements (2 units)
Viticulture majors must take the following courses, which also satisfy General Education requirements. These courses amount to 12 units of the 51-unit G.E. requirement, plus 1 unit beyond the 30-unit requirement in BREADTH Area B1 and Area C2.

BREADTH: CHEM 3A (Area B1); BIOL 11 (Area B2); AGBS 1 (Area D3); and SPAN 1B (Area C2)

General Education requirements (51 units)
(Including 12 upper-division units, to be taken no sooner than the term in which 60 units of coursework are completed.)

Upper-division writing skills requirement (0 units)
Upper-division Writing Exam (See Advising Note 6.)

Total units (120 units)*

* This total assumes that students will maximize the 12 units required for the major that also may be applied to fulfill General Education requirements as indicated above.

Women's Studies, B.A.

Bachelor of Arts Degree Requirements

Women's Studies Major

Major requirements (36 units)
Core: WS 103, 143, 153, 175 (12 units)
Approved electives (24 units)

General Education requirements (51 units)

Electives and remaining degree requirements (33-42 units)*

Total units (120)

*This total indicates that three courses (9 units) in General Education also may be applied to fulfill WS major requirements. These courses are WS 12 in G.E. Foundation A3, WS 10 in G.E. Breadth D3, and WS 18 in G.E. Breadth E1. Consult the program coordinator or faculty adviser for additional details.

Advising Notes

1. The 24 units of electives must be selected from a list of approved courses available in the Women's Studies Program office. At least one course must be selected from each of the following three clusters:
   - Cluster 1, Gender and Diversity - WS 120, 125, 136T (with adviser approval), 150T (with adviser approval), 151T (with adviser approval); ASAM 138; CLAS 162; WS/AFRS 137.
   - Cluster 2, Women and the Arts and Humanities - WS 110, 136T (with adviser approval), 148, 150T (with adviser approval), 151T (with adviser approval); WS/ENGL 168T; WS/ENGL 194T; WS/HIST 102T; LING 130; PHIL 110.
   - Cluster 3, Women and the Social, Natural, and Applied Sciences - WS 114, 135, 136T (with adviser approval), 150T (with adviser approval), 151T (with adviser approval), 160; WS/CRIM 126; WS 127/PH 127; WS/PH 130; WS/SOC 132; MGT 189T; SWRK 271T.
2. No more than 3 units may be selected from the 1-unit Saturday courses: WS 108, 109, 112, 116.
3. CR/NC grading is not permitted in the women's studies major, except for courses offered only under CR/NC grading.
4. Some General Education units may dual count toward the major, double major, or minor as appropriate. Some electives may also dual count for their primary and double major as appropriate. Students should consult a program faculty adviser to find out how many units and which courses in their plan of study this may apply to.

5. Students whose primary major is women's studies should be aware that while any WS courses also offered by the program as General Education courses can count toward their major as appropriate, courses taken to meet their upper-division General Education Integration and Multicultural/International requirements must be taken outside women's studies. (This particular G.E. restriction does not apply to double majors for whom women's studies is declared as their second major or for women's studies minors.)
6. Majors are urged to fulfill the upper-division writing skills requirement during the first semester of their junior year. See Degree Requirements.

Double Major in Women's Studies

Many students choose Women's Studies as a second major to complement their first, or primary, major. Double majors say their first major defines the field in which they work. Women's Studies gives them a special focus within that field. Women's Studies requirements are designed to make a dual major possible. All majors take the four core courses. Since in a dual major some courses may double count toward their degree, students pursuing Women's Studies as a double major should speak to an adviser in the Women's Studies program as soon as possible.

Master's Degrees

Agricultural Science, M.S.

REQUIREMENTS

Master of Science Degree Requirements

Agricultural Science Graduate Program

The Master of Science in Agricultural Science is a 30-unit degree program designated to provide advanced studies and in-depth knowledge to professionals in the agricultural industry and to provide the first graduate degree for students. The goal of the program is to prepare students for advanced academic study and/or future careers in the agricultural industry so that they may make a positive contribution in the farm to fork process. To accomplish this goal, the curriculum is flexible to accommodate a wide variety of interest areas within the agricultural industry. This flexibility provides students with the opportunity to design an individualized program of study that best addresses their academic and career aspirations. Coursework will be focused on animal science and agricultural education and communication, but may also include courses in agricultural business, chemistry, biology, food science, business, education, or in other areas with approval to meet the needs of individual student programs. A thesis, project, or comprehensive exam can be taken to fulfill degree requirements. Full-time graduate students may earn the degree within two years when working closely with an adviser. To accommodate part-time students, graduate courses are offered in the late afternoon or evening.

Admission requirements. The Master of Science in Agricultural Science assumes preparation equivalent to a bachelor of science in animal science or agricultural education from an accredited institution. Students with an undergraduate degree in other fields or from other institutions who need to make up course deficiencies must consult with the graduate coordinator. The following foundation courses, or their equivalents, are required:

a. BIOL 1A or 10 or 11 or 12 or 20;
b. CHEM 1A or 3A;
c. undergraduate level statistics course;
d. agricultural education and communication students are required to take AGED 50, 135, 150 or AGED 66, 166;
e. animal science students are required to take CHEM 8 or 128A/B. 129A, 150 or 155A; two animal science production courses; and three of the following courses: ASCI 101, 125, 135, 145, 155, 165, 171.

The above courses, or courses determined by the graduate coordinator to be equivalents, should be completed prior to enrollment in courses that will be applied to the master's program.

Admission to unclassified postbaccalaureate standing by the university does not imply acceptance in the Master of Science in Agricultural Science program.

Applicants whose preparatory education was principally in a language other than English must pass the Test of English as a Foreign Language (TOEFL) or the International English Language Test (IELTS). Applicants must receive a minimum score of 550 on the paper-based TOEFL or a minimum of 213 on the computer-based TOEFL or a minimum of 80 on the Internet-based (iBT) TOEFL or a minimum of 6.5 overall band score on the IELTS.

Admission materials. To be considered for admission to the graduate program, the candidate must submit the following materials: evidence of a baccalaureate degree in animal science or agricultural education or in a related field with appropriate preparatory coursework from an accredited institution; official transcripts of all college work; scores from the Graduate Record Examination General Test (GRE); university application for graduate/postbaccalaureate admission to the Graduate Admissions Office; three letters of reference from employers or faculty; and a personal statement of 500 words or less indicating reasons for pursuing a master's degree and how it relates to the candidate's professional goals.

Program admission criteria. Candidates for admission will be evaluated using the following criteria: undergraduate coursework, grade point average of 3.0 or better on the last 60 semester units, recommended GRE scores (151V/151Q are equivalent to the 50th percentile), 500-word personal statement, and three letters of recommendation. Students lacking in any area with compensating strengths in other areas are encouraged to apply.

Classified standing will be granted to students who meet all of the program admission criteria. Conditional classified standing may be granted to applicants with a 2.75-2.99 GPA (last 60 semester units) and/or those required to complete prerequisite coursework. Prerequisite coursework is not included in the 30-unit master's program. Students must request classified standing in the program by the semester in which a maximum of 10 units to be used toward the degree are completed.

Program Requirements

The student, under the direction of a graduate adviser and master's committee, prepares and submits a coherent program of

study individually designed within the following framework:

Core (9 units)
AGRI 200 (or BIOL 274), 220 (or ERE 220); ASCI 229 (1+1+1)

Specialization Courses (17-21 units)
100-200 level courses with prior approval of adviser and master's committee. Courses may be chosen from the following:

AGED 187, 189
AGRI 201, 280, 281
ASCI 240T, 241, 246, 247, 248, 290
CHEM 155B, 156

Courses in agriculture, biology, business, chemistry, education, food science, or other relevant courses.

Culminating experience (0-4 units)
AGRI 298 Project (4 units) or ASCI 299 Thesis (4 units) or Comprehensive Exam (0 units)

Total minimum requirements (30 units)

Graduate Advising Notes

1. Several of the 200-level and approved elective courses have prerequisites other than courses listed as admission requirements.
2. Students must request specific information concerning the program from the department office or graduate coordinator.
3. Prior to admission, students should contact the graduate coordinator for assistance in program planning, selection of graduate adviser, and selection of a master's committee.
4. To progress through the graduate program, the student must do the following: (a) Maintain a minimum 3.0 GPA, (b) Complete all prerequisite coursework, (c) Attain classified standing (d) Meet university graduate writing requirement by passing the writing component of AGRI 220 or ERE 220 (contact the department office or the graduate coordinator for more information), (e) File for advancement to candidacy, (f) Complete the program requirements, (g) File a master's committee assignment form, (h) Formally present and defend the thesis research results, complete an approved master's project, or pass a comprehensive examination.
5. Advancement to candidacy requires the completion of 9 program units in residence (minimum GPA of 3.0), meeting the university graduate writing skills requirement, departmental requirements, and filing a petition of advancement to candidacy by the deadline one semester prior to enrollment in the culminating experience and/or application for the graduate degree to be granted.
6. At least 9 units of the student's specialization courses must be from agriculture, agricultural education and communication, or animal science.
7. A maximum of 9 units of 100-level courses may be used in a student's program of study to meet master's degree requirements.
8. See Division of Graduate Studies in this catalog for university requirements

Art, M.A.

Requirements

Master of Arts Requirements

Art Graduate Program

The Master of Arts in Art provides the opportunity for highly motivated art and design students to pursue study at an advanced level and attain a level of accomplishment in the visual arts and design. The graduate program emphasizes self-direction and focus within a specific area. The program builds upon the equivalent of the undergraduate major in art at California State University, Fresno. The program provides specifically for certain areas of interest: art education, crafts, computer art, interior design, drawing, painting, ceramics, photography, sculpture, art history, and theory. With prior approval, programs with multiple concentrations may be arranged. For specific requirements, consult the departmental graduate program director. For general requirements, see Division of Graduate Studies.

The Master of Arts degree program in Art assumes preparation equivalent to the undergraduate major in art at California State

University, Fresno. Applicants must first complete university requirements for admission to the Division of Graduate Studies. Applicants must also pass the Department of Art and Design Classified Standing Screening Review.

(See also Admission to Graduate Standing, Advancement to Candidacy, Program Requirements, and Criteria for Thesis and Project.)

Graduate courses in art are open to holders of the B.A. in Art who have been conditionally classified by the Department of Art and Design.

Second-semester seniors in the undergraduate art program may also enroll in 200-series coursework in art subject to the approval of the instructor.

Master of Arts Degree Requirements

Under the direction of a graduate adviser, each student prepares and submits a coherent program individually designed within the following framework:

Approved courses in art in the 200-series (see Specific Requirements) **(21-30 units)**
Approved courses in art or related fields in the 100- or 200-series **(0-9 units)**
Total (30 units)

Specific Requirements. ART 230 or 260 (3 units) and ART 298 or 299 (2-6 units). Before being allowed to exhibit, candidates expecting to participate in ART 298 are required to have completed ART 112 or the equivalent approved by the gallery director.

For studio areas, additional units (3-9) in ART 240 or 220T are specifically recommended.

For art history areas, ART 230 and additional units (3-9) in ART 260 are specifically recommended.

Classified Standing. Concurrently with the departmental review and evaluation for classified standing, the student will submit a tentative program outline for approval by the screening committee.

Graduate Writing Skills Requirement. Before advancing to candidacy, the student must have completed the graduate writing requirement. This requirement is satisfied by passing the designated writing component of either ART 230 or ART 260. Please see the Department of Art and Design's Graduate Guide for more detailed information. Please note that the prerequisites for these courses may change according to the subject covered. Admission to the course is by permission of instructor.

Advancement to Candidacy. Prior to the completion of 20 units of the proposed program, the student will review the program of courses with an adviser from the selected area of concentration.

Biology, M.S.

Requirements

Master of Science Degree Requirements

Biology Graduate Program

Graduate Programs

The Biology Department offers a research-intensive Master of Science in Biology with the opportunity for specialization in several areas of study. Among these areas are ecologically oriented field studies in fresh water, terrestrial, and marine environments; molecular, cellular, and developmental biology of plants, animals, and microbes; physiology of microbes, plants, and animals; entomology; microbiology; parasitology; botany; zoology; systematics; and animal behavior. The program also prepares candidates for teaching biological science disciplines at the secondary and community college education levels. The master's program provides a strong foundation for those seeking advanced education at universities offering the research doctorate (Ph.D.) or other professional degrees. The Biology Department has further informational materials available on request.

Master of Science Degree Requirements

The Master of Science degree program in Biology assumes preparation equivalent to a California State University, Fresno undergraduate major in biology. Students having undergraduate majors in fields other than the biological sciences may enter the

program, but may reasonably expect additional requirements to produce equivalent preparation.

A master's candidate interested in pursuing marine science studies must meet California State University, Fresno Biology Department master's candidate requirements as well as those of MLML. Such candidates are encouraged to consult the Biology Department's MLML coordinator for information and to read the MLML information presented at the end of the graduate information.

There are five steps that must be completed for the Master of Science degree in Biology:

1. Admission to the university as a postbaccalaureate student
2. Admission to classified graduate standing (constitutes admission to the department program)
3. Advancement to candidacy (formalizes thesis committee and research project)
4. Completion of a thesis and associated requirements
5. Completion of all additional requirements for award of master's degree

Normal progress toward the Master of Science degree in Biology requires that classified graduate standing be achieved in the first semester of graduate study and that advancement to candidacy be granted the following semester. Completion of the thesis and all other program requirements will normally require two additional semesters of study. Procedures for completing these steps are outlined in the following sections. Students should meet with the departmental graduate coordinator at the earliest possible date. **Students are personally responsible for ensuring that all graduate degree requirements have been met in sequence; therefore, each student should read the procedures thoroughly to be sure all requirements are understood.**

Admission to Graduate Standing

Admission to the university is handled through the Graduate Admissions Office of California State University, Fresno. For admission as a postbaccalaureate student to the university, a student must have completed a four-year college program and hold an acceptable baccalaureate degree from an accredited institution with a minimum grade point average of 2.5 in the last 60 units.

To be considered for graduate classified standing in biology, the following additional steps are required of students planning to enter the biology graduate program.

1. Submit current scores (within the last five years) for the General Graduate Record Exam.
2. Contact the graduate coordinator in the Biology Department prior to registration for assignment of a temporary faculty adviser who will assist in the planning of initial courses. Students may request the assignment of any biology faculty member to serve in this capacity.
3. Meet with the temporary adviser prior to registration and develop an approved initial program of at least 9 units that is mutually agreeable to the student and the adviser. These courses are to be entered on the "Approved Preliminary Program" form (available from the Biology Office) and signed by the student, temporary adviser, and departmental graduate coordinator. This will constitute the Approved Initial Graduate Program. These courses may or may not be included on your Advancement to Candidacy Application; make-up classes, for example, are not included. All students are required to have the "Approved Preliminary Program" form approved and on file prior to registration. Upon completion of all prerequisites, the student must file for classified standing.

Admission to Classified Graduate Standing

Admission to classified graduate standing constitutes official admission into the graduate program in the Department of Biology and requires the approval of the Biology Department. Classified standing must be attained no later than the semester in which a student completes 10 units, including transfer and postbaccalaureate credit, to be used toward the master's degree; students should attempt to obtain classified graduate standing as early as possible in their graduate careers to avoid possible loss of units. Normal progress toward the degree requires that this be accomplished in the first semester of graduate work.

Students applying for classified standing should be sure they have submitted an "Approved Preliminary Program" form to the departmental graduate coordinator.

Admission to classified graduate standing must be recommended by the graduate coordinator in consultation with the Graduate Committee of the Biology Department. To be recommended, the student must demonstrate competency in verbal or written communication, quantitative analytical skills and disciplinary knowledge.

Competencies may be demonstrated in the following manner:

1. For verbal or written communication, students must achieve one of the following: (1) 60th percentile or better on the verbal portion of the general GRE, (2) a grade of B or better in an upper-division writing course, (3) a score of 4.5 or better on the writing portion of the General GRE, or (4) 80% or better on the Upper-Division Writing Exam. In exceptional cases the Graduate Committee may consider alternative evidence of verbal or writing skills.

2. For quantitative analytical skills, students must achieve either (1) a quantitative GRE score of 60th percentile or better or (2) a B or better in a mathematics class at least at the level of MATH 70 (introductory calculus).
3. For disciplinary knowledge, students must achieve at least one of the following: (a) A score on the subject Biology test of the GRE of 60th percentile or better. (b) No less than a grade of B in the following upper-division core courses or their equivalents: genetics, evolution, either cell biology or ecology, and one other upper-division or graduate course appropriate to the student's specialty. Evaluation of coursework will be conducted by the graduate coordinator in consultation with faculty teaching the core courses at California State University, Fresno. (c) No less than a grade of C in each of the courses listed in (b) above, as well as an overall GPA of 3.0 or better for at least 25 semester units of upper-division lecture or lecture/laboratory courses in natural science.

On recommendation, students will be assigned to one of the following two categories:

1. **Classified graduate standing** will be assigned to students meeting the standards in verbal written communication, quantitative analytical skills, and disciplinary knowledge.
2. **Conditional classified standing** will be assigned to students meeting a majority of the classification standards yet having specific identifiable deficiencies that may be easily corrected within two semesters. While this classification gives students the opportunity to remedy identified deficiencies, those remedial courses taken to correct deficiencies may not be applied to the graduate program.

Students recommended for classified graduate standing may proceed with the completion of requirements for advancement to candidacy, the next step in the graduate program. Students granted conditional classified status will not have been admitted to the graduate program in biology and must remedy their deficiencies in order to be recommended for classified standing. The graduate coordinator will provide further information on how this may be accomplished.

When any requirements for a change in graduate standing have been completed, the student must see the graduate coordinator and file appropriate forms with the graduate division.

Advancement to Candidacy

Acceptance to **classified graduate standing** indicates that the student's academic background and perceived ability are sufficiently high to merit admission into the biology graduate program. **Advancement to candidacy** signifies that the student has developed a coherent program of study for the Master of Science degree that meets with the approval of the Biology Department. Advancement to candidacy requires passing the Graduate Student Writing Requirement, the establishment of the Thesis Committee, identification of the thesis topic, and the approval of all coursework that must fit within the following framework:

Courses in 200-series (17 units)
Electives (May be 100- or 200-series) (9 units)
Thesis (BIOL 299) (4 units)
Total (30 units)

No less than 18 units of the approved coursework must be in the biological sciences. Nine units must be completed prior to advancement to candidacy. The Biology Department also requires that at least 10 units of approved coursework be completed after advancement to candidacy.

Units completed during the semester that advancement is achieved will be considered to have been completed after advancement to candidacy. Before students may advance to candidacy, they must satisfactorily complete the Biology Department Graduate Student Writing Requirement. Students must submit a formal paper demonstrating writing skill at the graduate level. This graduate-level paper may be a research proposal, a literature review in their field, a paper from a graduate directed research project, or another paper. Detailed writing requirement regulations are available from the departmental graduate coordinator. Normal degree progress requires that advancement to candidacy be achieved in the semester following admission to classified standing. A student must be advanced to candidacy, possess a GPA of 3.0 or better, and file a Thesis Committee Assignment Form before enrolling in thesis (BIOL 299).

A complete list of the steps required for advancement to candidacy is available from the departmental graduate coordinator or at www.fresnostate.edu/biology/Graduate/default.htm.

Completion of a Thesis

The Master of Science in Biology requires completion of a research thesis (BIOL 299). The thesis must show originality, appropriate organization, clarity of purpose, critical analysis, and accuracy and completeness of documentation where needed. Critical and independent thinking are required. The finished thesis must meet standards appropriate for publication in the scholarly journals of the field. A colloquium is required of all students at least seven days prior to the last day of instruction of the spring or fall semester, or by June 30 of the summer session. Additional information and regulations on the colloquium and on thesis completion are available from the department's graduate coordinator.

Completion of All Requirements for Award of Master of Science Degree in Biology

In addition to the above requirements, in order to receive the Master of Science in Biology the student must:

1. Maintain a GPA of 3.0 or better in all graduate coursework undertaken from the date of embarking on the first course of the approved program. Students wishing to explore other academic areas without jeopardizing this grade point average should attempt to use the CR/NC grade option for this purpose.
2. File an application for the granting of the Master of Science degree and pay the diploma fee. Applications should be submitted during the first two weeks of the semester (or the first week of a summer session) in which the degree is to be completed and are available from the Division of Graduate Studies, Haak Center, Library 4140, West Wing.

Biotechnology, M.Bt.

Master of Biotechnology Requirements

The Master of Biotechnology offers students who are fundamentally educated in varied scientific disciplines the opportunities to advance their scientific skills. It allows them to acquire the business knowledge and skills necessary to commercialize emerging technologies or their products. Offered as a two-year program, it is representative of a unique interdisciplinary degree concept, the Professional Science Master's (PSM) degree, designed for students interested in entering the workforce in leadership roles to promote the development and production of new products and processes.

Admission Requirements for the M.Bt.

Students must complete university graduate division admission requirements and must possess an appropriate four-year undergraduate science degree with a minimum 3.0 GPA. There are six categories of specific course prerequisites; completion of three categories constitutes the minimum for classification, but five categories must be completed prior to award of degree. Fresno equivalent courses are indicated in parentheses.

Prerequisite courses are as follows:

General Genetics (BIOL 102, 103) Microbiology with Lab - BIOL 120) Biochemistry with Lab (CHEM 150/155A & 156) Immunology with Lab (BIOL 157 and 157L) Analytical Chemistry (CHEM 102/105) Statistics (MATH 101)

Master of Biotechnology Degree Requirements

I. Core Curriculum (21 units)
A. BIOL/CHEM 241A-B (3-3 units)
B. BIOL/CHEM 248 (1-1 units)*
C. MBA 270 (3 units)
D. MBA 272 or 273 (3 units)
E. BIOTC 275 (3 units)
F. BIOTC 298 or 299 (4 units)

II. Electives (9 units)
Minimum of three courses in separate categories A-K; only one may be undergraduate.
A. BIOL/CHEM 242 (3 units)
B. BIOL/CHEM 243 (3 units)
C. BIOL/CHEM 244 (3 units)
D. BIOL 245 (3 units)
E. AGRI 200 or BIOL 274 (3 units)
F. PLANT 108 (3 units)
G. CSCI 101 (3 units)
H. CHEM 106 (4 units)
I. FSC 120 (4 units)
J. FSC 178 (2 units)
K. MBA 272 or 273 ** (3 units)
L. PHIL 123 (3 units)

Total (30 units)

* The Graduate Writing Requirement is completed in conjunction with the second enrollment of BIOL/CHEM 248. Consult

adviser for details.
** Only the course not taken to fulfill core curriculum, item D, is allowed for credit.

Business Administration, M.B.A.

Master of Business Administration Requirements

Admission

The program is open to college graduates without regard to the area of undergraduate study. Applicants are expected to show intellectual promise to do well in the program, and upon graduation, to perform effectively as professional managers. Applicants must submit the following to be considered for admission into the traditional M.B.A. program:

1. a completed California State University, Fresno Graduate Application form
2. a completed M.B.A. Program Application form
3. complete university or college transcripts -- last 60 units require a GPA of 2.5 or higher
4. official record of the Graduate Management Admission Test (GMAT). The GMAT may be waived at the discretion of the graduate coordinator for M.B.A. applicants with bachelor's degrees in Business Administration from the Craig School of Business who have graduated with an accumulative GPA of 3.2 or higher. The GMAT requirement may be waived for the E.M.B.A. based on a recommendation by the school's Graduate Committee to the graduate director that the candidate has substantial work experience (minimum of 10 years) and significant managerial or professional experience (minimum of three years) and has successfully completed and individual interview. The terms "managerial or professional experience" are defined as follows:
   Managerial Experience: experience in work in which the primary duty includes overall responsibility for an enterprise, subdivision, department, or similar independent or quasi-independent organization. Duties typically includes such things as hiring and firing personnel, planning, discretion and judgment, and organizing and controlling work that substantially affects a major aspect of the organization's operations. Individuals with this level of responsibility usually have titles such as "manager," "director," "vice-present," "president," "Chief information officer," "chief financial officer," "chief operating officer," or "chief executive officer."
   Professional Experience: experience in work that requires advanced knowledge acquired by a prolonged course of specialized study and involved work that is predominately intellectual and varied in character. Examples would include medical doctors, dentists, psychologists, lawyers, and certified public accountants.

M.B.A. Requirements

The M.B.A. is awarded to students upon completion of requirements in three groups of courses. These groups generally are completed in sequence. Students may not take Group III courses prior to the semester they complete their Group I requirements without permission from the graduate business director.

Group I
The following five courses or equivalent knowledge are required of non-business majors, business majors from non-Association to Advance Collegiate Schools of Business, International (AACSB) business schools, or students who graduated from an AACSB Program more than seven years ago: MBA 200, 201, 203, 204, and 205. Some or all of Group I requirements may be waived on the basis of an evaluation of previous coursework.

Equivalent knowledge may be demonstrated through examinations offered two times each year (before the beginning of fall and spring semesters).

Group II (18 units)
These courses develop the core managerial skills for the M.B.A. candidate. Course topics include leadership and organizational behavior, management information systems, financial management, managerial accounting, marketing management, and the regulatory and ethical environment of business.
MBA 210, 211, 212, 213, 214, and 215

The university's graduate-level writing proficiency requirement is fulfilled by passing the writing component of MBA 210.

Group III Electives (12 units)
These courses allow the student to integrate the knowledge from Group I and II. Students may take any 12 units from MBA 230-274, or other approved electives.

Group III Required Courses (6 units)
These courses represent the culminating experience and include MBA 279 (Policy and Strategy) and either MBA 298 (Manage-

ment Project) or MBA 299 (Thesis).

Note: Students may opt to take some of their Group III (elective) courses offered through the International Study Abroad Program. Requires approval from the Graduate Business Programs office. Choose electives from one of the following subject areas: Entrepreneurship (MBA 270, 272, 273, 274), International Business (MBA 231, 251, 261), Finance (MBA 230, 231, 232, 233, 234), General Management (MBA 230, 240, 250, 260, 270), Human Resource Management (MBA 240, 242, 243, 244, 245, 246, 247), Management Information Systems (MBA 250, 251, 252, 253), and Marketing (MBA 260, 261, 262, 263, 264).

Executive Master of Business Program (E.M.B.A.)

The on-campus E.M.B.A. program is administered by the Craig Graduate Business Programs in the Craig School of Business and is an alternative path for the Master's in Business Administration. The program is one of about 150 in the Untied States designed especially to meet the needs of mid-career executives and one of the limited schools in Central California that are accredited by the Association to Advance Collegiate Schools of Business (AACSB). Students in the program are required to have a minimum of ten years of work experience and three years of significant managerial or professional experience to ensure a wealth of practical knowledge is brought to the classrooms' discussions.

In addition to meeting the requirements for classified graduate standing and the basic requirements for the master's degree as set forth by the university's Division of Graduate Studies, students must complete the 36-unit program by taking predetermined courses in a predetermined pattern over a 17-month period. **No transfer courses and no substitute classes are accepted**.

To be considered, candidates must have the following:

1. A minimum of 10 years of business experience, at least three years of which involves significant managerial or professional responsibility
2. A completed application form, with the applicant's sponsor's signature
3. A minimum GPA of 2.5 in the last 60 units of education
4. A bachelor's degree (official undergraduate transcripts)
5. A current resume and a cover letter stating why the applicant is interested in this program
6. A personal statement that includes a statement of job responsibilities
7. Two letters of recommendation (one from a senior member of the sponsoring organization)
8. Recommendation of leadership potential by a panel of distinguished faculty
9. A nonrefundable application fee of $55 made payable to California State University, Fresno.

Students accepted for the on-campus M.B.A. program for executives are fully matriculated in the university and meet all university requirements as established by the Division of Graduate Studies. (Please see the Division of Graduate Studies section of the university's General Catalog for detailed information on admissions, advancement, and graduation requirements.) For the convenience of students, however, courses are scheduled in a modular fashion on Saturdays rather than the traditional semester time frame. The fee structure is also unique to the program and unrelated to the usual California State University, Fresno fee schedule. Students should contact the Craig Graduate Programs Office or review the M.B.A. program Web site at http://www.craig.csufresno.edu/mba for a program description, admission requirements, courses, calendar/class schedules, and fee summary.

The official program for all students in any one cycle, or cohort, is identical. (All students are in the "General Management" elective area.) Advancement to candidacy requires passing the writing requirement component of MBA 210 and at least 9 units with at least a 3.0 grade point average.

Online Master of Business Program (Online M.B.A.)

The Online M.B.A. program is administered by the Craig Graduate Business Programs in the Craig School of Business and is an alternative path for the Master's in Business Administration. The Online M.B.A. Program is one of about 55 in the United States that are accredited by the Association to Advance Collegiate Schools of Business (AACSB). It is designed especially to meet the needs of those seeking advanced business education but whose geographic location or work/family schedules make attending a traditional face-to-face semester-based program problematic.

In addition to meeting the requirements for classified graduate standing and the basic requirements for the master's degree as set forth by the university's Division of Graduate Studies, students must complete the 36-unit program by taking predetermined courses in a predetermined pattern over an 18-month period. No transfer courses and no substitute classes are accepted. Up to 15 units of preparatory work or equivalent knowledge are required of non-business majors, business majors from non-Association to Advance Collegiate Schools of Business, International (AACSB) business schools, or students who graduated from an AACSB Program more than seven years ago. Some or all preparatory work may be waived on the basis of an evaluation of previous coursework.

To be considered, candidates must have the following:

1. A completed California State University, Fresno graduate application form

2. A completed Online M.B.A. Program application form
3. Complete university transcripts - last 60 units require a GPA of 2.5 or higher
4. Official record of the Graduate Management Admission Test (GMAT) with a score of at least 550 and placement at or above the 25th percentile in the verbal and quantitative portions of the test
5. Two letters of recommendation
6. Statement of purpose
7. $55 non-refundable university application fee

Students accepted for the Online M.B.A. program are fully matriculated in the university and meet all university requirements as established by the Division of Graduate Studies. (Please see the Division of Graduate Studies section of the university's General Catalog for detailed information on admissions, advancement, and graduation requirements.) For the convenience of students, however, courses are scheduled in six-week offerings rather than the traditional semester time frame. The fee structure is also unique to the program and unrelated to the usual California State University, Fresno fee schedule. Students should contact the Craig Graduate Programs Office or review the M.B.A. Program website at http://www.craig.csufresno.edu/mba for a program description, admission requirements, courses, calendar/class schedules, and fee summary.

The official program for all students in any one cycle, or cohort, is identical. (All students are in the "General Management" elective area.) Advancement to candidacy requires passing the writing requirement component of MBA 210 and at least 9 units with at least a 3.0 grade point average.

Chemistry, M.S.

Requirements

Master of Science Degree Requirements

Chemistry Graduate Program

Graduate Program

The mission of the graduate program in chemistry is guided by the mission of the university; it seeks to provide comprehensive undergraduate and graduate degree instruction for qualified students, and to contribute to the needs and well being of the people of the San Joaquin Valley and California.

The California State University, Fresno graduate program in chemistry is primarily oriented toward two groups of students: students who are preparing themselves for employment in chemistry-based occupations (including teaching) and students interested in additional training in chemistry and biochemistry to prepare for advanced Ph.D. graduate work.

For students in the first category, the program stresses strengthening the student's chemistry background while also providing advanced training in both theory and research - training that is very beneficial in today's competitive job market. Furthermore, the program also strives to meet local and regional needs for individuals with advanced training in chemistry and biochemistry, needs that are strongly tied to the agricultural nature of the valley.

For students in the second category, the program's emphasis on improving chemistry background and basic research skills prepares students for work at the Ph.D. level and enhances their chances for success.

Master of Science Degree Requirements

The Master of Science degree program in Chemistry assumes undergraduate preparation equivalent to a California State University, Fresno B.S. in chemistry. Each new student is required to take the Diagnostic Placement Examinations in four fields of chemistry (physical, organic, analytical, and inorganic or biochemistry) to provide a basis for program planning. These are taken at the beginning of the first semester of residence. Twenty-one of the 30 units required for the degree must be in chemistry.

(See also Admission to Graduate Standing, Advancement to Candidacy, Program Requirements, and Criteria for Thesis and Project.)

Graduate-Level Writing Proficiency Requirement

The completion of the following two components will satisfy the writing requirement:

1. successful completion of CHEM 260 with a grade of B or better, and
2. completion of a formal paper on the student's research to be submitted at the beginning of the fall semester of the second

year. The paper should be of sufficient length (at least 2,000 words) to allow proper evaluation by a two-member review committee that includes the research director.

Master of Science Program Development

Under the direction of a graduate adviser, each student prepares and submits a coherent program individually designed according to Plan A or Plan B listed in the copy that follows. Other courses may be specified after examination of the student's record and performance on the departmental diagnostic examinations.

Plan A

M.S. with Thesis

- Courses in chemistry, including at least 24 units in 200 series (see specific requirements) (24 units)
- Approved electives in chemistry or related fields (6 units)
  Total (30 units)

Specific requirements: CHEM 280 (at least 2 units); 295 (2 units); 299 (4 units); and 3 units each from 4 of the 5 following groupings: (i) CHEM 215, (ii) 220 or 222, (iii) 225, 226, or 227, (iv) 230 or 235, (v) 241A or 242. CHEM 260 recommended.

Other courses may be specified after examination of the student's record and his or her performance on the departmental diagnostic examinations.

Plan B

M.S. with Comprehensive Examination

- Courses in chemistry, including at least 24 units in 200 series (see specific requirements) (24 units)
- Approved courses in chemistry or related fields may include biology, engineering, geology, mathematics, physics, etc.) according to the student's objective (6 units)
  Total (30 units)

Specific requirements: CHEM 280 (at least 2 units); 295 (2 units); and 3 units each from 4 of the 5 following groupings: (i) CHEM 215, (ii) 220 or 222, (iii) 225 or 227 (iv) 230 or 235,, (v) 241A or 242.

Other courses may be specified after examination of the student's record and his or her performance on the departmental diagnostic examinations.

Instead of a thesis, a student must successfully complete a final comprehensive examination consisting of two parts: (a) a general written examination in chemistry; (b) an examination dealing with a specific area of chemistry. See department for Policy Statement - Plan B Comprehensive Examination.

Civil Engineering, M.S.

Requirements

Master of Science Degree Requirements

Civil Engineering Graduate Program

(See also Admission to Graduate Standing, Advancement to Candidacy, Program Requirements, and Criteria for Thesis and Project.)

Mission. Located in California's Central Valley, the M.S. in Civil Engineering (MSCE) Program offers a graduate program of excellence that provides opportunities for advanced education and research in civil and geomatics engineering. The program's mission is to offer a curriculum that combines preparation for professional practice as well as preparation for research and further advanced studies.

Admission. The requirements for graduate admission to California State University, Fresno must be met. Also, applicants

should possess a bachelor's degree in civil engineering, geomatics engineering, or a related field from an institution accredited by the Accreditation Board for Engineering and Technology and must have a 3.0 grade point average in the last 60 semester-units of engineering courses attempted, on the basis of 4.0 being A, or the approval of the Graduate Committee of the Department of Civil and Geomatics Engineering. If an applicant's preparation is deemed insufficient by the Graduate Committee of the Department of Civil and Geomatics Engineering, the applicant is required to take additional courses which are specified in writing to remove the deficiency. Such courses, taken as an unclassified student, are in addition to the minimum of 30 semester hours credit for the master's degree in engineering. The department graduate program coordinator shall appoint an interim graduate adviser for each student when that student is accepted into the graduate program. The coordinator will take into account student interests and correlated faculty interests when making this appointment.

A student must pass CE 210 with a grade of B or higher and satisfactorily complete a written examination (typically administered in CE 210) before being eligible for Advancement to Candidacy; this satisfies both the university's graduate writing requirement and demonstrates the student has sufficient technical proficiency to continue in the program.

Continuation in the Program. Prior to being admitted to classified standing, a student is required to take the Graduate Record Examination. The minimum grade considered passing is quantitative 550.

The student then should select a graduate adviser before completing 12 units of graduate study and advancing to candidacy. Other members of his or her graduate committee shall be selected in consultation with the graduate adviser if the student has selected Plan A. This committee shall consist of a total of three members, two of whom must be tenure/tenure track faculty. The graduate student shall notify the department's Graduate Committee with a letter signed by both the student and the graduate adviser of the membership of the students' Graduate Committee. This letter shall be placed in the student's academic folder.

A graduate student may change graduate advisers but such change must be approved by the department's Graduate Committee. The student, together with his or her graduate adviser, completes a contract program within his or her first semester of coursework taken for graduate credit. This program must be approved by the department's Graduate Committee. A minimum of 12 semester hours must be earned before the average is determined.

Any semester for which the grade point average falls below 3.0 shall result in placing the affected graduate student on probation. A second offense shall lead to disqualification. For additional information, please refer to the Division of Graduate Studies, Administrative Academic Probation, Academic Disqualification.Program. Each master's degree student selects, as early as possible during the first semester of attendance, and upon consulting with and securing the approval of the graduate adviser, a program best suited to the student's interests and objectives.

The M.S. in Civil Engineering requires the completion of 30 units following one of three programs of study.

Plan A (Thesis)

a. 200-series CE courses (see note 1) (12-24 units)
b. 100-series CE or GME technical area courses (see note 2) (0-6 units)
c. Courses outside the department (see note 3) (0-6 units)
d. Thesis (6 units)
Total (30 units)

Plan B (Project)

a. 200-series CE courses (see note 1) (15-27 units)
b. 100-series CE or GME technical area courses (see note 2) (0-6 units)
c. Courses outside the department (see note 3) (0-6 units)
d. Project (3 units)
Total (30 units)

Plan C (Comprehensive Exam)

a. 200-series CE courses (see note 1) (18-30 units)
b. 100-series CE or GME technical area courses (see note 2) (0-6 units)
c. Courses outside the department (see note 3) (0-6 units)
Total (30 units)

Advising Notes

1. Graduate courses in civil engineering — select from CE 205, 206, 210, 220, 223, 225, 230, 232, 233, 235, 236, 237, 239,

240, 245, 246A, 246B, 247, 251, 261, 271, 276, 280, 283, 285, 286, 290, and 291T.

2. 100-series technical area courses in civil and geomatics engineering — select from CE 125, 131, 134, 136, 137, 141, 144, 151, 153, 191T; GME 125, 126, 135, 145, 152, 153, 161, 174, 175, 191T; and ME 144. A minimum grade of B is required. Similar courses previously taken and counted towards another degree are excluded.
3. 100-series and 200-series courses outside civil and geomatics engineering are in disciplines best suited to the students graduate program as approved by the program adviser. This includes mathematics, statistics, management, business, geology, physics, chemistry, health science, and biology. A minimum grade of B is required. Similar courses previously taken and counted towards another degree are excluded.

Civil Engineering - Water Resources & Environmental Engineering Option, M.S.

Requirements

Master of Science Degree Requirements

Civil Engineering Graduate Program, Water Resources & Environmental Engineering Option

(See also Admission to Graduate Standing, Advancement to Candidacy, Program Requirements, and Criteria for Thesis and Project.)

Mission. Located in California's Central Valley, the M.S. in Civil Engineering (MSCE) Program offers a graduate program of excellence that provides opportunities for advanced education and research in civil and geomatics engineering. The program's mission is to offer a curriculum that combines preparation for professional practice as well as preparation for research and further advanced studies.

Admission. The requirements for graduate admission to California State University, Fresno must be met. Also, applicants should possess a bachelor's degree in civil engineering, geomatics engineering, or a related field from an institution accredited by the Accreditation Board for Engineering and Technology and must have a 3.0 grade point average in the last 60 semester-units of engineering courses attempted, on the basis of 4.0 being A, or the approval of the Graduate Committee of the Department of Civil and Geomatics Engineering. If an applicant's preparation is deemed insufficient by the Graduate Committee of the Department of Civil and Geomatics Engineering, the applicant is required to take additional courses which are specified in writing to remove the deficiency. Such courses, taken as an unclassified student, are in addition to the minimum of 30 semester hours credit for the master's degree in engineering. The department graduate program coordinator shall appoint an interim graduate adviser for each student when that student is accepted into the graduate program. The coordinator will take into account student interests and correlated faculty interests when making this appointment.

A student must pass CE 210 with a grade of B or higher and satisfactorily complete a written examination (typically administered in CE 210) before being eligible for Advancement to Candidacy; this satisfies both the university's graduate writing requirement and demonstrates the student has sufficient technical proficiency to continue in the program.

Continuation in the Program. Prior to being admitted to classified standing, a student is required to take the Graduate Record Examination. The minimum grade considered passing is quantitative 550.

The student then should select a graduate adviser before completing 12 units of graduate study and advancing to candidacy. Other members of his or her graduate committee shall be selected in consultation with the graduate adviser if the student has selected Plan A. This committee shall consist of a total of three members, two of whom must be tenure/tenure track faculty. The graduate student shall notify the department's Graduate Committee with a letter signed by both the student and the graduate adviser of the membership of the students' Graduate Committee. This letter shall be placed in the student's academic folder.

A graduate student may change graduate advisers but such change must be approved by the department's Graduate Committee. The student, together with his or her graduate adviser, completes a contract program within his or her first semester of coursework taken for graduate credit. This program must be approved by the department's Graduate Committee. A minimum of 12 semester hours must be earned before the average is determined.

Any semester for which the grade point average falls below 3.0 shall result in placing the affected graduate student on probation. A second offense shall lead to disqualification. For additional information, please refer to the Division of Graduate Studies, Administrative Academic Probation, Academic Disqualification.Program. Each master's degree student selects, as early as possible during the first semester of attendance, and upon consulting with and securing the approval of the graduate adviser, a program best suited to the student's interests and objectives.

The M.S. in Civil Engineering requires the completion of 30 units following one of three programs of study.

Plan A (Thesis)

a. 200-series CE courses (see note 1) (12-24 units)
b. 100-series CE or GME technical area courses (see note 2) (0-6 units)
c. Courses outside the department (see note 3) (0-6 units)
d. Thesis (6 units)
Total (30 units)

Plan B (Project)
a. 200-series CE courses (see note 1) (15-27 units)
b. 100-series CE or GME technical area courses (see note 2) (0-6 units)
c. Courses outside the department (see note 3) (0-6 units)
d. Project (3 units)
Total (30 units)

Plan C (Comprehensive Exam)
a. 200-series CE courses (see note 1) (18-30 units)
b. 100-series CE or GME technical area courses (see note 2) (0-6 units)
c. Courses outside the department (see note 3) (0-6 units)
Total (30 units)

Water Resources and Environmental Engineering (WREE) Option

For the Water Resources and Environmental Engineering Option, select CE 210, 240, 241, and 242; select 6 units of approved 100 or 200-series WREE-related courses outside of the program, excluding EES 267, and including 3 units in business or public administration; and select CE 140, 141, 144, 146, 206, 245, 246A, 246B, 247, 290, and 298, 299 or comprehensive exam to total 30 units (max 6 units from 100 series).

Advising Notes

1. Graduate courses in civil engineering — select from CE 205, 206, 210, 220, 223, 225, 230, 232, 233, 235, 236, 237, 239, 240, 245, 246A, 246B, 247, 251, 261, 271, 276, 280, 283, 285, 286, 290, and 291T.
2. 100-series technical area courses in civil and geomatics engineering — select from CE 125, 131, 134, 136, 137, 141, 144, 151, 153, 191T; GME 125, 126, 135, 145, 152, 153, 161, 174, 175, 191T; and ME 144. A minimum grade of B is required. Similar courses previously taken and counted towards another degree are excluded.
3. 100-series and 200-series courses outside civil and geomatics engineering are in disciplines best suited to the students graduate program as approved by the program adviser. This includes mathematics, statistics, management, business, geology, physics, chemistry, health science, and biology. A minimum grade of B is required. Similar courses previously taken and counted towards another degree are excluded.

Clinical Rehabilitation and Mental Health Counseling, M.S.

Requirements

Master of Science Degree Requirements

Clinical Rehabilitation and Mental Health Counseling Graduate Program

Program Description

The M.S. in Clinical Rehabilitation and Mental Health Counseling is a 60-unit CORE accredited program that aims to prepare professionals who are culturally competent, and able to provide rehabilitation and mental health counseling to individuals with disabilities in an ethical manner while adhering to the Code of Professional Ethics and Scope of Practice for the profession. Students have the ability to pursue certification as a Certified Rehabilitation Counselor and National Certified Counselor, as well as undergo requirements that position them for the Licensed Professional Clinical Counselor credential. The program is ranked 13th in the nation by U.S. News and World Report, and is a national leader in hands-on, real world rehabilitation in California and beyond.

Admission Requirements

In addition to the admission requirements listed in the Graduate Education Program section of this catalog, M. S. in Clinical Rehabilitation and Mental Health Counseling program applicants must meet the following requirements:

Complete the following prerequisite coursework or their equivalents, earning a letter grade of C or better: ERE 153, COUN 174 or PSYCH 174, and COUN 176 or PSYCH 66.

Program prerequisites may not be counted toward the Master of Science in Clinical Rehabilitation and Mental Health Counseling. The prerequisites may be completed during the first semester of the program, but students may not complete more than 10 units of 200-level coursework before obtaining classified standing (full admission to the program).
Program Requirements

Under the direction of the graduate adviser, each student prepares and submits an individually designed program within the following framework:

Core requirements (44 units)
REHAB 201, 203, 204A, 204B, 205, 206, 211, 238, 239, 268A or B or C or D

Courses in supporting curriculum (9 units)
Research methods: ERE 220 (3 units)
Individual and group counseling skills: COUN 200, 202 (6 units)

Elective (1 unit)
(Approved by adviser.)

Culminating Experience (6 units)
Choose between (a) 6 units of electives plus comprehensive exam,
(b) COUN 298 Project [3 units] plus 3 units of electives, or (c) COUN 299 Thesis [6 units] no additional electives required.

Total (60 units)

Note: (1) REHAB 201, 204A, 204B, 237, and 238 must be completed with a grade of B or better. (2) Students meet the Graduate Writing Requirement by passing the writing component of REHAB 237 or COUN 220 or REHAB 238. Please refer to the program's Student Manual for additional information.

In order to graduate, the student must complete the graduate writing requirement, two clinical reviews, and all other specific degree requirements. In addition, the student must complete one of the following: (1) the comprehensive exam, (2) the Certified Rehabilitation Counselor Exam, (3) Project, or (4) Thesis.

Communication, M.A.

Requirements

Master of Arts Degree Requirements

Communication Graduate Program

The Master of Arts degree program in communication is designed to be a comprehensive program reflecting the history and breadth of the communication discipline. Four objectives serve as measures for competent M.A. graduates of the program. First, all graduates will have a comprehensive understanding of the historical and philosophical assumptions of the communication discipline, as well as the various theoretical perspectives underlying scholarship in the discipline. Second, all graduates will recognize and be able to use appropriate communication strategies in formal, informal, professional, and personal contexts. Third, all graduates will understand quantitative and qualitative methods of research in communication. Fourth, all graduates will understand various communication perspectives and will have a clear understanding of their own personal perspective and ideologies.

Master of Arts Degree Requirements

The graduate program in communication is designed to extend the competencies of students in the study of human communication. Graduate teaching assistantships provide students with opportunities for financial assistance and additional educational experiences.

The graduate program in communication assumes undergraduate preparation equivalent to a California State University, Fresno major or minor in communication. The Communication Department offers a 30 unit Master of Arts degree with coursework in three areas of human communication: rhetoric and public address, communication, and applied communication. Coursework in these areas provides preparation for a variety of career opportunities including teaching and doctoral work in communication and rhetoric,* business and industry, public service, law, and government.**
Program Requirements

Admission Requirements for Classified Standing. See Admission to Graduate Degree Programs with Graduate Standing in the Division of Graduate Studies of this catalog.

COMM 241 and 262 **(6 units)**

COMM 205, 214, 215, 242M, 243, 262, 263, 264M, 265, 266, 268, 275, 276 or 290 **(15 units)**

Electives (3-9 units)

Culminating experiences (0-6 units)
Select one of the following:
A. Comprehensive Examination (0 units; take at least 9 units of approved electives)
B. COMM 298: Graduate Project (3-6 units; additional approved communication electives if needed)
C. COMM 299: Thesis (3-6 units; additional approved communication electives if needed)

Minimum total (30 units)

* For those individuals pursuing careers in teaching and doctoral work, the Communication Department highly recommends selecting 12 units from among the following core requirements: COMM 205, 215, 242M, 243, 214, 263, 264M, 265, and 266.
** For those individuals pursuing professional careers such as business and industry, public service, law, and government, the Communication Department highly recommends selecting 12 units from among the following core requirements: COMM 205, 214, 215, 263, 264M, 265, 266, 268, 275, and 276.

Advising Notes

1. At least 21 units in the student's program of study must be in 200-level (seminar) communication courses.
2. One methods seminar (COMM 242M or 264M) is required in every program.
3. In order to fulfill the university's Graduate Writing Skills Requirement, students are asked to submit an academic writing sample for evaluation prior to advancement to candidacy. Consult the department's Graduate Handbook or graduate coordinator for further details on the policy.
4. Elective requirements can be met by any approved communication seminar, upper-division undergraduate communication course, or appropriate course outside the department. Any undergraduate course counted toward the M.A. must include additional work to make it commensurate with a graduate-level experience; verification is the responsibility of the student and the student's graduate adviser. Elective requirements are approved by the student's graduate adviser and the graduate coordinator.

Communicative Disorders - Deaf Education Option, M.A.

Requirements

Master of Arts Degree Requirements

Communicative Disorders Graduate Program, Deaf Education Option

The master's degree is considered essential for the professional training needed for effective practice in deaf education or speech-language pathology. The master's degree generally involves about two years of full-time study.
Admission Requirements

The graduate program is open to students with communicative disorders or related bachelor's degrees who have demonstrated the ability to excel at an advanced level as well as indicated great potential for success in academic work and clinical work. In order to be considered for admission to the graduate program, the applicant needs to submit the following: (1) a minimum GPA of 3.0 in the last 60 units of any coursework and a minimum GPA of 3.0 in CDDS coursework; (2) three letters of recommendation;

(3) a letter of intent; and (4) Graduate Record Examination (GRE) scores.

Consideration for admission may include but will not be limited to the following: (1) students with outstanding clinical potential, (2) deaf and hard of hearing students, (3) students with disabilities, and (4) students with multicultural or bilingual experience.

Applicants who have specific deficiencies or need coursework may be accepted with conditionally classified status. Students must apply to the department for fully classified graduate standing as soon as any conditions of acceptance have been met. No more than 10 units of graduate work taken under conditional classification can be used to meet the requirements of the master's degree.

Admission Procedures

To apply for graduate study in the Department of CDDS, you need to apply to the university and to the department by completing the following two (2) steps. Our deadlines for application may differ from those published by the University; contact the department office at 559.278.2423 for the current application deadlines.

Step 1. Apply to the University
a. Submit your application online via CSU Mentor.
b. Submit one copy of official transcript to the university. Information about submitting your transcripts to the university can be found on the Transcripts Requirement page.
c. Submit one copy of GRE scores to Fresno State Graduate Admissions. The school code is 4312. (These scores will go directly to the university and not the Communicative Sciences and Deaf Studies Department.) For more information about the GRE, go to http://www.ets.org/gre for their home page. For more information about applying to a graduate program at the university, please visit the Graduate Admissions page. There is a list of helpful links that may answer questions you may have.

Step 2. Apply to the Department
After applying to the university you will be directed to the department application forms. Send a single envelope with a completed packet that includes the following:
a. Department application
b. Three letters of recommendation addressed to the department (each in a sealed envelope signed by the person writing the recommendation over the seal)
c. Letter of intent addressed to the department Please mail your packet to:
Graduate Coordinator
Dept. of Communicative Sciences and Deaf Studies
California State University, Fresno
5310 N. Campus Drive, MS PH80
Fresno, California 93740-8019

Advancement to Candidacy

Each student in a master's degree program must file for advancement to candidacy. See Admissions and Master's Degree Programs, Division of Graduate Studies.

Graduate-Level Writing Competence

California State University, Fresno requires that students have graduate-level writing abilities before being advanced to candidacy for the master's degree. Students can demonstrate these abilities by passing the writing component of CDDS 200 and obtaining written clearance from the instructor. If GWR clearance is denied, students may appeal to the course instructor. Please see the CDDS Graduate Handbook for more information.
Statistics

Any 3-unit, one semester statistics course (lower division, upper division, or graduate level) is required to complete the Master of Arts in Communicative Disorders. Students are encouraged to take the course during their senior year. Exceptions may be made with the consent of their faculty adviser.

Grade Requirements

To be eligible to receive the master's degree, a student must have maintained a B average with no more than two C grades on the approved Program of Study. Once a student has received three Cs at any point in the graduate program, he or she will automatically be disqualified from the graduate program.

Master of Arts Degree Requirements

Communicative Disorders Major

Deaf Education Option

CDDS 201, 203, 206, 255, 262, 263, 264, either 3 units in electives* and CDDS 268 or 9 units in electives* **(30 units)**

Culminating Experience **(6 units)**
Thesis or project (6 units)

Comprehensive Examination (6 units)
CI 225 and LEE 173 or LEE 177

Total (36 units)

* Approved electives are as follows: CDDS 290; CI 230; LEE 172, 214; LING 244; SPED 179, 219, 233; CI 240, 241, 260.

Other coursework is developed with the adviser to reflect such factors as students' preferences regarding thesis or project, individual needs and preferences for training, meeting certain state or national requirements, etc.

Student Teaching and Internship

Students are required to take their final student teaching and internship (e.g. CDDS 257, 258, 267, 268) during the last two semesters of their approved Program of Study and within the last 12 units of graduate coursework. Earlier final student teaching and internships are not permitted in the Communicative Sciences and Deaf Studies Department.

Clinical Training

All students are involved in supervised clinical practicum experience during their graduate training. At least 400 clinical hours are required prior to receiving the M.A. A minimum of 300 of these hours must be at the graduate level. These hours are gained at the University Speech and Hearing Clinic and in at least two other settings (internship, student teaching, residency program, etc.)

Culminating Experience

A culminating experience is required of all California State University, Fresno students earning master's degrees. This requirement is accomplished by completing a thesis, project, or comprehensive written exam. Only a limited number of students may be permitted to undertake a thesis or project, depending on the availability of faculty or committee members. Selection of students for a thesis or project is determined by their consistent demonstration of academic superiority in coursework and evidence of outstanding writing skills and research papers. Up to 6 units of credit can be earned for a thesis or project. These units may be applied toward the unit requirements of the degree. (See Criteria for Thesis and Project.) Students considering a thesis or project need to consult the faculty very early in their graduate program, so as to assure completion of the assignment prior to graduation. Selecting a thesis or project option is recommended for students who may at some point consider working toward a doctoral degree. Students who do not participate in a thesis or project must complete a comprehensive written examination. For this examination, students write detailed responses to questions about specific topics within the field. Further information about these options is available from an adviser.

Certificate of Clinical Competence in Speech-Language Pathology

Certificate of Clinical Competence in Speech-Language Pathology. Completion of the master's degree fulfills all the academic and clinical practicum requirements for the Certificate of Clinical Competence (CCC) in Speech Pathology. A Clinical Fellowship Year (CFY) of paid, professional supervised experience is required along with passing the PRAXIS Exam in Speech-Language Pathology before the certificate is granted by the American Speech-Language-Hearing Association. A Certificate of Clinical Competence is required for employment in nearly all work settings except the public schools. All students are encouraged to acquire national certification regardless of the work setting they may choose.

California License as a Speech Pathologist

The master's degree fulfills all academic and clinical practicum requirements for the State License. A year of paid Required Professional Experience (RPE) is necessary along with passing the PRAXIS Exam in Speech-Language Pathology before the license is issued by the Department of Consumer Affairs. The license is required for employment in almost all settings except the public schools.

The CFY and RPE can be completed concurrently when graduates accept their first professional position.

Certification by Council on Education of the Deaf

For students specializing in deaf education, completion of the master's degree fulfills all the academic and clinical practicum requirements for Provisional Certification by the Council on Education of the Deaf, the national organization responsible for

certifying teachers of the deaf. Professional level certification is available following three years of successful teaching under the supervision of a professionally certified educator of deaf and hard-of-hearing children. All students are encouraged to acquire national certification.

Communicative Disorders - Speech-Language Pathology Option, M.A.

Requirements

Master of Arts Degree Requirements

Communicative Disorders Graduate Program, Speech-Language Pathology Option

The master's degree is considered essential for the professional training needed for effective practice in deaf education or speech-language pathology. The master's degree generally involves about two years of full-time study.
Admission Requirements

The graduate program is open to students with communicative disorders or related bachelor's degrees who have demonstrated the ability to excel at an advanced level as well as indicated great potential for success in academic work and clinical work. In order to be considered for admission to the graduate program, the applicant needs to submit the following: (1) a minimum GPA of 3.0 in the last 60 units of any coursework and a minimum GPA of 3.0 in CDDS coursework; (2) three letters of recommendation; (3) a letter of intent; and (4) Graduate Record Examination (GRE) scores.

Consideration for admission may include but will not be limited to the following: (1) students with outstanding clinical potential, (2) deaf and hard of hearing students, (3) students with disabilities, and (4) students with multicultural or bilingual experience.

Applicants who have specific deficiencies or need coursework may be accepted with conditionally classified status. Students must apply to the department for fully classified graduate standing as soon as any conditions of acceptance have been met. No more than 10 units of graduate work taken under conditional classification can be used to meet the requirements of the master's degree.

Admission Procedures

To apply for graduate study in the Department of CDDS, you need to apply to the university and to the department by completing the following two (2) steps. Our deadlines for application may differ from those published by the University; contact the department office at 559.278.2423 for the current application deadlines.

Step 1. Apply to the University
a. Submit your application online via CSU Mentor.
b. Submit one copy of official transcript to the university. Information about submitting your transcripts to the university can be found on the Transcripts Requirement page.
c. Submit one copy of GRE scores to Fresno State Graduate Admissions. The school code is 4312. (These scores will go directly to the university and not the Communicative Sciences and Deaf Studies Department.) For more information about the GRE, go to http://www.ets.org/gre for their home page. For more information about applying to a graduate program at the university, please visit the Graduate Admissions page. There is a list of helpful links that may answer questions you may have.

Step 2. Apply to the Department
After applying to the university you will be directed to the department application forms. Send a single envelope with a completed packet that includes the following:
a. Department application
b. Three letters of recommendation addressed to the department (each in a sealed envelope signed by the person writing the recommendation over the seal)
c. Letter of intent addressed to the department Please mail your packet to:
Graduate Coordinator
Dept. of Communicative Sciences and Deaf Studies
California State University, Fresno
5310 N. Campus Drive, MS PH80
Fresno, California 93740-8019

Advancement to Candidacy

Each student in a master's degree program must file for advancement to candidacy. See Admissions and Master's Degree Pro-

grams, Division of Graduate Studies.

Graduate-Level Writing Competence

California State University, Fresno requires that students have graduate-level writing abilities before being advanced to candidacy for the master's degree. Students can demonstrate these abilities by passing the writing component of CDDS 200 and obtaining written clearance from the instructor. If GWR clearance is denied, students may appeal to the course instructor. Please see the CDDS Graduate Handbook for more information.
Statistics

Any 3-unit, one semester statistics course (lower division, upper division, or graduate level) is required to complete the Master of Arts in Communicative Disorders. Students are encouraged to take the course during their senior year. Exceptions may be made with the consent of their faculty adviser.
Grade Requirements

To be eligible to receive the master's degree, a student must have maintained a B average with no more than two C grades on the approved Program of Study. Once a student has received three Cs at any point in the graduate program, he or she will automatically be disqualified from the graduate program.

Master of Arts Degree Requirements

Communicative Disorders Major

Deaf Education Option

CDDS 201, 203, 206, 255, 262, 263, 264, either 3 units in electives* and CDDS 268 or 9 units in electives* **(30 units)**

Culminating Experience **(6 units)**
Thesis or project (6 units)

Comprehensive Examination (6 units)
CI 225 and LEE 173 or LEE 177

Total (36 units)

* Approved electives are as follows: CDDS 290; CI 230; LEE 172, 214; LING 244; SPED 179, 219, 233; CI 240, 241, 260.

Other coursework is developed with the adviser to reflect such factors as students' preferences regarding thesis or project, individual needs and preferences for training, meeting certain state or national requirements, etc.

Student Teaching and Internship

Students are required to take their final student teaching and internship (e.g. CDDS 257, 258, 267, 268) during the last two semesters of their approved Program of Study and within the last 12 units of graduate coursework. Earlier final student teaching and internships are not permitted in the Communicative Sciences and Deaf Studies Department.

Clinical Training

All students are involved in supervised clinical practicum experience during their graduate training. At least 400 clinical hours are required prior to receiving the M.A. A minimum of 300 of these hours must be at the graduate level. These hours are gained at the University Speech and Hearing Clinic and in at least two other settings (internship, student teaching, residency program, etc.)

Culminating Experience

A culminating experience is required of all California State University, Fresno students earning master's degrees. This requirement is accomplished by completing a thesis, project, or comprehensive written exam. Only a limited number of students may be permitted to undertake a thesis or project, depending on the availability of faculty or committee members. Selection of students for a thesis or project is determined by their consistent demonstration of academic superiority in coursework and evidence of outstanding writing skills and research papers. Up to 6 units of credit can be earned for a thesis or project. These units may be applied toward the unit requirements of the degree. (See Criteria for Thesis and Project.) Students considering a thesis or project need to consult the faculty very early in their graduate program, so as to assure completion of the assignment prior to graduation. Selecting a thesis or project option is recommended for students who may at some point consider working toward a doctoral degree. Students who do not participate in a thesis or project must complete a comprehensive written examination. For this examination, students write detailed responses to questions about specific topics within the field. Further information about

these options is available from an adviser.

Certificate of Clinical Competence in Speech-Language Pathology

Certificate of Clinical Competence in Speech-Language Pathology. Completion of the master's degree fulfills all the academic and clinical practicum requirements for the Certificate of Clinical Competence (CCC) in Speech Pathology. A Clinical Fellowship Year (CFY) of paid, professional supervised experience is required along with passing the PRAXIS Exam in Speech-Language Pathology before the certificate is granted by the American Speech-Language-Hearing Association. A Certificate of Clinical Competence is required for employment in nearly all work settings except the public schools. All students are encouraged to acquire national certification regardless of the work setting they may choose.

California License as a Speech Pathologist

The master's degree fulfills all academic and clinical practicum requirements for the State License. A year of paid Required Professional Experience (RPE) is necessary along with passing the PRAXIS Exam in Speech-Language Pathology before the license is issued by the Department of Consumer Affairs. The license is required for employment in almost all settings except the public schools.

The CFY and RPE can be completed concurrently when graduates accept their first professional position.

Certification by Council on Education of the Deaf

For students specializing in deaf education, completion of the master's degree fulfills all the academic and clinical practicum requirements for Provisional Certification by the Council on Education of the Deaf, the national organization responsible for certifying teachers of the deaf. Professional level certification is available following three years of successful teaching under the supervision of a professionally certified educator of deaf and hard-of-hearing children. All students are encouraged to acquire national certification.

Computer Science, M.S.

Requirements

Master of Science Requirements

Computer Science Graduate Program

The Master of Science degree program in Computer Science is designed to offer the advanced principles, applications, and current topics in computer science. Students who obtain the M.S. will be ready to do significant developmental work in the computer industry or in an important application area and will also be well qualified to pursue a Ph.D.

Applicants may hold an acceptable bachelor's degree in any field of study and must submit Graduate Record Examination (GRE) scores.

To attain classified standing at the time of admission, an applicant must:

1. have a minimum grade point average of 2.75 in the last 60 units and
2. have completed the following undergraduate prerequisite courses or equivalents with a minimum grade point average of 3.0: CSCI 40, 41, 60, 112, 113, 115, 117, 119, 144, MATH 75, 76.

Applicants who do not meet the requirements 1 and 2 above may be admitted to conditionally classified standing to complete the remaining prerequisites at California State University, Fresno. Approved coursework up to a maximum of 10 units of the 30 units required for the M.S. can be taken concurrently with prerequisite courses by a student with conditionally classified standing.

To attain classified standing from conditionally classified standing, a student must complete the remaining prerequisite courses with a minimum grade point average of 3.0 and have earned a minimum grade point average of 3.0 in all coursework taken toward the M.S. in Computer Science.

(See also the Graduate Studies section in this catalog.)

Master of Science Degree Requirements

The Master of Science degree requires a minimum of 30 units after the completion of the baccalaure ate degree according to the

criteria below. At least 21 units of the total must be taken in 200-level courses in computer science. The undergraduate courses used toward the bachelor's degree or toward fully classified status may not be used toward the master's degree.

Required courses (12 units)
CSCI 174 or 188, 200, 201, 213* or 246, 217

Electives (9 units)
Three of the following: CSCI 226, 230, 244, 246, 250, 252, 253, 256, 264, 272, 274, 282, 284

Approved electives (5-8 units)

Culminating Experience (3-6 units)
CSCI 298, or
CSCI 299, or
or Comprehensive Exam, concurrent with CSCI 297

Total (30 units)

* CSCI 246 is an elective for students who have taken CSCI 213 as a required course.

In order to be eligible for advancement to candidacy in the M.S. in Computer Science program, all students must pass CSCI 200 with a grade of B or better. In addition, all students must demonstrate competence in graduate-level writing prior to being advanced to candidacy. Students may fulfill this requirement by passing the writing component of CSCI 200. Please see the graduate program coordinator for further information.

Counseling - Marriage, Family, & Child Counseling Option, M.S.

Requirements

Master of Science Requirements

Counseling Graduate Program, Option in Marriage, Family, and Child Counseling Requirements

The Master of Science in Counseling is a 60-unit professional degree program designed for persons who desire to practice in the field of counseling. The degree may qualify graduates for employment in private or agency counseling practices, county mental health programs, employee assistance programs, drug and alcohol abuse centers, and hospital mental health settings. Completion of the M.S. in Counseling with an option in Marriage, Family, and Child Counseling fulfills the educational requirements for the state of California Marriage and Family Therapist License.

Students seeking licensure should contact their program adviser for information regarding licensing. This degree program is designed to meet the requirements of Division 2, Chapter 13, Section 4980.37 of the California Business and Professions Code. The MFCC option is accredited by the Council for Accreditation of Counseling and Related Educational Programs (CACREP). Students are qualified to take the National Counselor Exam upon graduation, which is used in the professional counselor licensing process in more than 35 states and leads to the National Certified Counselor Credential.

On October 11, 2009, the State of California approved a new mental health counseling license by adopting SB 788: Licensed Professional Clinical Counselor (LPCC), which was sponsored by the American Counseling Association (ACA). It has been approved and signed into law by the Governor, but the specific details of the license structure are still being promulgated by the California Board of Behavioral Sciences. At this time, all coursework required for the LPCC license is offered by the Counselor Education Program. Special advising is required to determine exact coursework and sequencing. This special advising coordinates acquisition of LPCC courses while a student is pursing one of the specific counseling degree options offered by the department.

Coursework required to meet the educational requirements for licensure as a Professional Clinical Counselor (LPCC) includes ERE 220; COUN 174, 200, 201, 202, 203, 206, 208, 220, 230, 231, 232, 233, 234A-E, 238, 239, and 280T Advanced Mental Health Theories.

Program Requirements

Under the direction of a graduate adviser, each student develops and submits an individually designed program within the following framework:

Core requirements (25 units)
COUN 200, 201, 202, 203, 206, 208, 220; ERE 220

Marriage, Family, and Child Counseling Option (28 units)
COUN 230, 231, 232, 233, 234A, B, C, D, E, 235, 238 (4 units), 239 (6 units)

Culminating Experience (7 units)
Choose between (a) 7 units of electives plus comprehensive exam,
(b) COUN 298 Project [3 units] plus 4 units of electives, or (c) COUN 299 Thesis [3 units] plus 4 units of electives.

Total (60 units)

Note: (1) Practicum must be completed with a grade of B or better. (2) During the semester that students are enrolled in COUN 208, the Clinical Review Committee of program faculty convenes to evaluate students. The criteria for this evaluation are based on skills and qualities considered appropriate for entry-level counselors. Students may be asked to leave the program if committee recommendations are not met. Students will not be allowed to advance to candidacy until they pass the clinical review. (3) Students meet the Graduate Writing Requirement by passing the writing component of COUN 220. Please refer to the specific counseling program's Student Handbook for additional information regarding the Graduate Writing Requirement and appeals process.

Counseling - School Counseling Option, M.S.

Requirements

Master of Science Requirements

Counseling Graduate Program, Option in School Counseling Requirements

The Option in School Counseling is a 48-unit program designed for individuals seeking advanced preparation for careers in educational settings (K-12).

The School Counseling option is designed to complement the Pupil Personnel Services Credential (PPS) curriculum and is intended to enhance preparation of public and private school counselors. The PPS credential is required of those seeking employment as counselors in the K-12 public schools.

Preparation for the School Counseling option requires knowledge of individual and group dynamics, advising practices in specialized settings, and an understanding of the developmental issues associated with students' maturation process. It requires an appreciation of organizational dynamics and a firm foundation in counseling theory as well as acquisition of counseling skills appropriate for use with students from diverse populations and backgrounds.

Program Requirements

Under the direction of a graduate adviser, each student develops and submits an individually designed program within the following framework:

Core requirements (25 units)
COUN 200, 201, 202, 203, 206, 208, 220; ERE 220

School Counseling Option (16 units)
COUN 240, 241, 242, 249 (4 units); CI 285 or ERE 288

Culminating Experience (7 units)
Choose between:
(a) Comprehensive exam [0 units] plus 7 units of electives
(b) COUN 298 Project [3 units] plus 4 units of electives
(c) COUN 299 Thesis [3 units] plus 4 units of electives

Total (48 units)

Note: (1) Practicum must be completed with a grade of B or better. (2) During the semester that students are enrolled in COUN 208, the Clinical Review Committee of program faculty convenes to evaluate students. The criteria for this evaluation are based on skills and qualities considered appropriate for entry-level counselors. Students may be asked to leave the program if committee recommendations are not met. Students will not be allowed to advance to candidacy until they pass the clinical review. (3) Students meet the Graduate Writing Requirement.

Counseling - Student Affairs & College Counseling Option, M.S.

Requirements

Master of Science Requirements

Counseling Graduate Program, Option in Student Affairs and College Counseling Requirements

The Option in Student Affairs and College Counseling is a 48-unit program designed for individuals seeking advanced preparation for careers in post-secondary and related settings.

The Student Affairs and College Counseling Option is designed to prepare individuals for employment as student service professionals in four-year university and community college. Graduates with this degree option are prepared for employment in the multi- faceted arena of post-secondary education.

Preparation for the Student Affairs and College Counseling option requires knowledge of individual and group dynamics, advising practices in specialized settings, and an understanding of the developmental issues associated with students' maturation process. It requires an appreciation of organizational dynamics and a firm foundation in counseling theory as well as acquisition of counseling skills appropriate for use with students from diverse populations and backgrounds. In addition, counselors are also required to know, understand, and address the impact of crises, disasters, and trauma-causing events on students in the post-secondary community. The 2009 Council for the Accreditation of Counseling and Related Educational Programs (CACREP) standards includes content in crises management (suicide, disasters, and substance abuse).

Program Requirements

Under the direction of a graduate adviser, each student develops and submits an individually designed program within the following framework:

Core requirements (25 units)
COUN 200, 201, 202, 203, 206, 208, 220; ERE 220

Student Affairs and College Counseling Option (18 units)
COUN 214, 215, 219; ERE 288; EAD 261

Culminating Experience (5 units)
Choose between:
(a) Comprehensive exam [0 units] plus 5 units of electives
(b) COUN 298 Project [3 units] plus 2 units of electives
(c) COUN 299 Thesis [3 units] plus 2 units of electives

Total (48 units)

Creative Writing, M.F.A.

Master of Fine Arts in Creative Writing Requirements

The M.F.A. in Creative Writing offers advanced degree training to talented students who wish to gain expertise in the writing of poetry, fiction, or creative nonfiction. It assumes that, as in music or the visual arts, the best education for the artist includes: training in the history and traditions associated with the student's discipline, training in theoretical and formal approaches to the craft, and extensive practice with critique of student work by peers and faculty writers. The program combines studio and academic approaches, providing the student with substantial critical workshop experience and a solid background in theory and literature. In addition to a traditional literature based course of study, we offer the Emphasis in Publishing and Editing for those students who wish to gain professional training and experience in the field.

Admission Requirements

Admission to the Master of Fine Arts in Creative Writing program requires: a baccalaureate degree from an accredited institution with a GPA of 3.0 or better in the undergraduate major (foreign students must score 600 or better on the TOEFL); three letters of recommendation from teachers, editors, or others familiar with the applicant's writing and academic skills; and a writing sample of the student's creative work (up to 10 poems or 20 pages of prose) to be evaluated by the creative writing admissions committee. The advanced GRE is not required.

Degree Requirements

In consultation with the M.F.A. adviser, each student prepares and submits a coherent program individually designed within one of the two following frameworks:

M.F.A. in Creative Writing

ENGL 261 or 263 or 265 (16 units)
ENGL 241, 243, or 245 (8 units)
(one course in the student's focus genre and one in either of the other two genres)
ENGL 250T or 280T (12 units)
Approved electives (upper-division or graduate level courses) (12-14 units)
ENGL 299 (Thesis) (4-6 units)
Total (54 units)

Note: At least 70% (38 units) of coursework must be at graduate (200) level.

M.F.A. in Creative Writing: Emphasis in Publishing and Editing

ENGL 261 or 263 or 265 (16 units)
ENGL 241, 243, or 245 (8 units)
(one course in the student's focus genre and one in either of the other two genres)
ENGL 250T or 280T (8 units)
ENGL 286S and/or ENGL 242 (8 units)
Approved electives (upper-division or graduate level courses) (8 -10 units)
ENGL 299 (Thesis) (4-6 units)
Total (54 units)

Note: At least 70% (38 units) of coursework must be at graduate (200) level.

Specific Requirements

Thesis. The thesis for the M.F.A. in Creative Writing consists of a single book-length manuscript of fiction, a collection of poems, or creative nonfiction that works together to make a unified body of work. The thesis committee works closely with the student on style as well as content; it adheres to a high standard of publishable quality work. In lieu of a formal defense, the graduating student is required to give a public reading from his or her work.

Graduate Writing Requirement. Before advancement to candidacy, the student must also satisfy the Graduate Writing Skills Requirement. This requirement is met by submission and approval of a sample of scholarly writing. (This is distinct from the sample of creative work required for program admission.) See English Department's Advising Booklet for more information.

Subject Examination. In addition to the general Graduate Division requirements, students are required to pass the M.F.A. exit examination with a grade of B or above. Each student works with his or her adviser to create a reading list which will be approved by a three member committee. The exam consists of essay questions that allow the student to demonstrate a theoretical and critical knowledge of the craft, through using texts from his or her approved reading list.

Criminology, M.S.

Requirements

Master of Science Degree Requirements

Criminology Graduate Program

Under the direction of a graduate adviser, each student prepares and submits a coherent program individually designed within the framework that follows.

Core (15 units)
CRIM 200, 201, 202, 203, 204

Electives (12 units)
Select criminology or related areas 200-series (under special circumstances a maximum of 6 upper-division units may be allowed)

Culminating Experience (3 units)
Thesis or Project: 298 or 299 (3 units) or Comprehensive Exam and CRIM 295 (3 units).

Total (30 units)

Graduate-Level Writing Competence. The university requires that students have graduate-level writing abilities before being advanced to candidacy for the master's degree. The Graduate Writing Skills requirement for the graduate program in criminology is met by passing the writing component of CRIM 200. Please see the program's Graduate Writing Requirement Policy for more information.

Advising Notes

1. Each student must see the graduate coordinator each semester prior to registering.
2. All students must meet the graduate writing requirement. See the program coordinator for details.

(See also Admission to Graduate Standing, Advancement to Candidacy, Program Requirements, Foreign Language Requirements, and Criteria for Thesis and Project.)

Criminology, M.S. - Continuing & Global Education

Master of Science in Criminology (Off-Campus) Requirements

The Master of Science program in Criminology offered in downtown Fresno provides students with both theoretical and practical knowledge about our criminal justice system and its management. It prepares professionals for senior positions in government agencies.

The program is open to government employees, including military personnel, their spouses, and those government employees recently laid off from work because of budget cuts. The M.S. in Criminology degree can lead to promotion within a government agency and enhances an employee's qualifications for senior level positions within criminal justice agencies.

Program content enhances critical thinking skills and guides students in the application of theoretical concepts. In addition to the criminology core courses, remaining courses are in areas related to criminal justice and criminal justice management, such as courses on Homeland Security, the Intelligence Function, Management Information Systems, and Criminal Justice Project Management.

Students progress together through the 30-unit program as a cohort over a 23-month period. Classes meet face-to-face on Friday evenings and all day on Saturdays, with some instruction online.

Eligible students must:

- hold a bachelor's degree in Criminology or a related area from an accredited university/college
- have earned a GPA of 3.0 or higher in last sixty units of undergraduate study

Applicants must apply to the university online at www.csumentor.edu. They must also apply to the Criminology Department and submit the following:

- three letters of recommendation
- GRE scores (900 or greater combined verbal/quantitative score desirable)
- personal essay about purpose of graduate study
- copy of two undergraduate transcripts

Starting Fall 2013, the fee is $325 per unit.

Note: the Criminology Department application and recommendation forms can be found at: *http://www.fresnostate.edu/social-sciences/criminology/graduate/index.html*

To inquire about the Master of Science in Criminology, contact:
Dr. Harald Otto Schweizer
Science II, Area C - Room 159
2576 E. San Ramon, M/S ST104
Fresno, CA 93740-8029
haralds@csufresno.edu • 559.278.8880

Education - Curriculum & Instruction Option, M.A.

Requirements

Master of Arts Degree Requirements

Education Graduate Program, Curriculum and Instruction Option

Carol Fry Bohlin, Coordinator
Education Building, Room 234
559.278.0237

http://www.fresnostate.edu/kremen/departments/ci.html

Program Description. The 30-unit Master of Arts degree in Education with an option in Curriculum and Instruction (MAE-C&I) is designed for teachers and other professionals who desire advanced study in curriculum, instruction, educational psychology, research design, and educational statistics. Although a majority of students are teachers, a teaching credential is not a requirement for admission. The program is unique in allowing students to pursue in-depth study in personally relevant areas of curriculum and instruction such as educational technology, reading/language arts, mathematics education, and other specialization areas through elective coursework.

Admission Requirements. In addition to the admission requirements listed in the Graduate Education Program section of this catalog, program applicants must provide verification of advisement by the program coordinator.

Program Requirements. Under the direction of the program coordinator, each student prepares an individually designed program within the following framework:

1. Required courses (12 units)
(a) MAE Core: CI 285 or ERE 288, ERE 220** (6 units)
(b) C&I Option: CI 250*, CI 275 (6 units)

2. Electives (15 units)
Electives are selected in consultation with the MAE-C&I program coordinator. The electives may constitute a broad-based program in curriculum and instruction or represent an in-depth study in a specialty area with the context of curriculum and instruction.

3. Culminating Experience (3 units)
Choose from among (a) 3 units of approved electives plus comprehensive exam [0 units], or (b) CI 298A or (c) CI 299A.

Total (30 units)

* CI 250 includes the graduate writing requirement as part of the course.
** ERE 153 or an approved equivalent is a prerequisite for ERE 220 or ERE 288.

Education - Early Childhood Education Option, M.A.

Requirements

Master of Arts Degree Requirements

Education Graduate Program, Early Childhood Education Option

Susan R. Macy, Coordinator
Education Building, Room 259
559.278.0267
e-mail: smacy@csufresno.edu

Program Description. The Master of Arts degree in Education with an option in early childhood education offers specialized preparation for a wide variety of positions in educational settings with children from birth through the primary grades. The program is designed to meet individual needs of candidates with different experiential and educational backgrounds and varied career objectives.

Admission Requirements. In addition to the admission requirements listed in the Graduate Education Program section of this catalog, M.A. in Education Early Childhood Education program applicants must meet the following requirements:

1. Be qualified for ECE Master Teaching Permit (B.A./B.S. degree plus 12 units ECE or Child Development and 3 units supervised ECE fieldwork) or hold a valid teaching credential.
2. Provide verification of advisement.

Program Requirements. Under the direction of a graduate adviser, each student prepares and submits an individually designed program within the following framework:

1. Course Requirements (27 units)
a. MAE Core: ERE 220*; CI 285 or ERE 288 (6 units)
b. ECE Option: LEE 171, 232, 233, 235**, 241, 250, 271 (21 units)

2. . Culminating Experience (3 units)
Choose between (a) 3 units of approved electives plus comprehensive exam [0 units] or (b) LEE 298B or LEE 299 [3 units]

Total (30 units)

* ERE 153 or an approved equivalent is a prerequisite for ERE 220.
** Students meet the Graduate Writing Requirement by passing the writing component of LEE 235. See graduate program coordinator for further information.

Education - Educational Leadership & Administration Option, M.A.

Requirements

Master of Arts Degree Requirements

Education Graduate Program

M.A. in Education Option: Educational Leadership and Administration

Program Description. The Department of Educational Leadership offers a program leading to a Master of Arts degree in Education with an option in Educational Leadership and Administration. The Educational Leadership and Administration Program prepares students through two distinct pathways: the P-12 Leadership and Administration and Preliminary Administrative Services Credential pathway and the Higher Education, Administration, and Leadership (HEAL) pathway.

Admission Requirements. In addition to the admission requirements listed in the Graduate Education Program section of this catalog, applicants to either of the Educational Leadership and Administration pathways must connect with an adviser (program coordinator or pathway facilitator).

Program Requirements.

1. Course requirements (27 units)

a. MAE Core: ERE 220* and ERE 288 (or CI 285) (6 units)
b. Educational Leadership and Administration Core: EAD 261 and 262 (6 units)
c. Pathway courses (15 units)
For individuals seeking careers in P-12 administrative positions: EAD 263, 269, 272, and 274
For individuals seeking careers in higher education or other administrative positions: EAD 266, 269, 273, 278T

2. Culminating Experience (4 units)
a. Comprehensive exam (0 units) plus ERE 244 (4 units), or
b. EAD 298 (4 units), or
c. EAD 299 (4 units)
Total (31 units)

* ERE 153 or an approved equivalent is a prerequisite for ERE 220.
** Students meet the Graduate Writing Requirement by passing the writing component of EAD 261.

Note: no more than 6 units of coursework taken for CR/NC only may be applied toward degree requirements.

Education - Multilingual & Multicultural Education Option, M.A.

Requirements

Master of Arts Degree Requirements

Education Graduate Program, Multilingual and Multicultural Education Option

Anthony Vang, Coordinator
Education Building, Room 273
559.278.0284
http://www.fresnostate.edu/kremen/graduate/mme.html

Program Description. The Master of Arts degree program in Education with an option in Multilingual/Multicultural Education is designed to develop expertise in educators with the goal of providing equitable learning environments through their instruction and leadership. The overarching mission is to provide master's degree candidates with a foundation in research, curriculum, and leadership in order to promote equity in schools serving linguistically and culturally diverse (LCD) learners. In this program, master candidates will be working with students who are not only English learners (EL), but also students who have distinct linguistic and cultural needs.

Career Opportunities. Graduates will be qualified to administer a variety of teaching strategies as well as to use pedagogical skills that have been proven to work with students from linguistically and culturally diverse backgrounds. They will also be able to provide leadership in staff development, student services areas, and higher educational settings. This specialized training will help advance further graduate study in doctoral programs.

Admission Requirements. In addition to the admission requirements listed in the Graduate Education Program section of this catalog, applicants to the M.A. in Education the Multilingual/Multicultural program must provide verification of advisement.

Program Requirements. Under the direction of the multilingual/multicultural coordinator, each student prepares and submits an individually designed program within the following framework:

1. Course requirements (21 units)
LEE 281, LEE 282*, LEE 283, LEE 284 (12 units)
ERE 220, CI 285 (or ERE 288), and LEE 298D (9 units)

2. Approved electives (9 units)
Approved courses taken prior or concurrently. The program offers special elective groupings in LING, LEE, ERE and CI. These include: LING 146, ERE 153**, LEE 214, LEE 215, CI 240, CI 241, LEE 280T

3. Culminating Experience (3 units)

Choose between (a) LEE 298D Project in Multilingual and Multicultural Education or (b) 3 units of approved electives plus comprehensive exam [0 units]

Total (30 units)

* Students meet the Graduate Writing Requirement by passing the writing component of LEE 282. See graduate program coordinator for further information.
** ERE 153 or an or an equivalent course may be taken prior to being admitted to the program, or may be taken concurrently with required courses in Year One before taking ERE 220, or can be taken in summer.

Education - Reading/Language Arts Option, M.A.

Requirements

Master of Arts Degree Requirements

Education Graduate Program, Reading/Language Arts Requirements Option

Steven Hart, Coordinator
Education Building, Room 250
559.278.0319
http://www.fresnostate.edu/kremen/departments/lebse.html

Program Description. The Master of Arts degree program in Education with an option in reading/language arts is designed to provide professional and specialized preparation for classroom and resource teachers and consultants; diagnosticians and supervisors in reading clinics, schools, and community colleges. It enables graduates to do consulting and editing for publishing companies and to pursue advanced graduate study in universities offering the doctoral degree.

Reading and Language Arts graduate courses are designed to help teachers learn how to make curricular decisions about teaching reading and how to meet the needs of students with varying language communication backgrounds. Students pursuing a degree or credential in Reading and Language Arts also learn to inspire other teachers to upgrade the reading/language abilities of students through demonstrations of effective reading strategies.

Admission Requirements. In addition to the admission requirements listed in the Graduate Education Program section of this catalog, M. A. in Education- Reading/Language Arts program applicants must provide verification of advisement.

Program Requirements. Under the direction of the Reading Program Coordinator, each student prepares and submits an individually designed program within the following framework:

1. Course requirements (18 units)
ERE 220*; ERE 288 (or CI 285) (6 units)
LEE 213**, 215, 244, 278 (12 units)

2. Approved electives (9 units)
(See adviser for suggested courses or groupings. The program offers special elective groupings in Integrated Language Arts, Teaching English Language Learners, Diagnostic/Clinic Experiences, and Reading Recovery.)

3. Culminating Experience (3 units)
Choose between (a) 3 units of approved electives plus comprehensive exam [0 units] or (b) LEE 298A or LEE 299 [3 units]

Total (30 units)

* ERE 153 or an approved equivalent is a prerequisite for ERE 220.
** Students meet the Graduate Writing Requirement by passing the writing component of LEE 213. See graduate program coordinator for further information.

Education - Teaching, M.A.T.

M.A. in Teaching (MAT)

Walter J. Ullrich, Coordinator
Education Building
559.278.0356
wullrich@csufresno.edu

Program Description. The online Master of Arts in Teaching (MAT) integrates three themes - multicultural, social justice education, action research, and Web-based teaching/learning - to improve school curriculum and instruction, help close the achievement gap in our nation's public schools, and extend the academic and technological foundation provided in teacher credentialing programs. The online MAT focuses explicitly on applied advanced study in K-12 classrooms, incorporating a mixture of more critically oriented theoretical and research skills, as well as more emphasis on practitioner-oriented knowledge, skills and dispositions, to increase learning for all students. Program applicants must have a teaching credential to be admissible to the online MAT.

Program Requirements. The MAT is a three-semester program (fall, spring, fall) offered to cohorts of students completing a prescribed sequence of courses. A two-day program orientation on the Fresno State campus is required for all entering students.

Course Requirements
CI 240 (3 units)
ERE 243 (3 units)
CI 241* (3 units)
CI 245 (4 units)
CI 246 (4 units)
Electives** (9 units)
Culminating Experience (4 units)
(a) Comprehensive exam [0 units], plus CI 260 [4 units}
(b) CI 298B MAT Project [4 units] or
(c) CI 299B MAT Thesis [4 units]
Total (30 units)

* CI 241 includes a graduate writing requirement (GWR) as part of the course.
** The MAT requires 21 units of residency. Electives are determined in consultation with the student's program coordinator/adviser and can include approved units from a postbaccalaureate credential program (e.g., CalStateTEACH, California State University, Fresno, etc.) and/or graduate program.

Education-Counseling and Student Services, M.A.

Requirements

Master of Arts Degree Requirements

Education Graduate Program, Counseling and Student Services Option

The Master of Arts in Education with an option in counseling and student services is designed for individuals seeking advanced preparation for careers within educational settings.

Career Opportunities. The degree program provides preparation for those seeking development for careers or professional positions in educational settings, social services, business, religious organizations or other positions requiring expertise in counseling and/or student services.

Admission Requirements. Applicants for admission to the Master of Arts in Education with an option in counseling and student services must do the following:

Include with the admissions packet verification of completion of a counselor education program orientation.

Complete prerequisite coursework: COUN 174 (Introduction to Counseling) or equivalent. Applicants without an appropriate background may be asked to complete COUN 176 (Counseling and Mental Health) as an additional prerequisite.

Receive approval through a review by program faculty committee. Following receipt of the completed packet and the review by program faculty, applicants will receive written notification regarding admission status. Students may not enroll in 200-level courses until their application has been approved by the review committee and they are admitted to classified standing (fully admitted to the program).

Program Requirements. Under the direction of a graduate adviser, each student develops and submits an individually designed program within the following framework:

Core requirements (27 units)
ERE 220*, CI 285 or ERE 288; COUN 298 or 299 (10 units)
COUN 200, 203, 208, 220, 249 (17 units)

Electives (3 units)
COUN 150, 180T, 201, 202, 240, 241, 242, 280T, 290; ERE 153 or other approved electives

Total (30 units)

*ERE 153 is a prerequisite for ERE 220 and can be used as an elective.

Note: Practicum must be completed with a grade of B or better. Students must pass the Graduate Writing Requirement to be advanced to candidacy. Students may select a comprehensive exam, master's project, or master's thesis for their culminating experience in coordination with their adviser. Students who take comprehensive exam will be required to take 7 units of electives.

Engineering - Computer Engineering Option, M.S.

Requirements

Master of Science Degree Requirements

Engineering Graduate Program, Computer Engineering Option

Master of Science Programs

The Lyles College of Engineering offers a Master of Science in Civil Engineering and a Master of Science in Engineering (with options in Computer, Electrical, and Mechanical Engineering).

M.S. in Civil Engineering
M.S. in Engineering (Options in Computer, Electrical, and Mechanical Engineering)

The Master of Science in Engineering program has the following goals: (1) to develop the students' advanced analytical skills by developing an in-depth understanding of major theoretical and practical engineering concepts; (2) to develop students' written and oral communication skills applied to technical areas; (3) to achieve an appropriate level of competence by the students in solving practical electrical or mechanical engineering problems; (4) to develop students' critical and creative thinking skills in mastering new topics required to understand and solve complex engineering problems; and (5) to allow the students to demonstrate a sufficient depth of knowledge in a substantive area of electrical or mechanical engineering to pursue advanced academic or industrial work.

Program Objectives

The program has the following objectives: (1) to complete a minimum of 30 units of graduate coursework, including appropriate core courses, (2) to successfully demonstrate knowledge base in culminating experience, and (3) to enhance the students' career goals by increasing their theoretical, research, and problem-solving skills in applied engineering.

Program Requirements

The program consists of the following:

A. Main Core (1 unit)
ENGR 200

B. Option Core (9 units)
EE Option: ENGR 201, ECE 224; choose one from ECE 230, ECE 241, ENGR 206
CompE Option: ECE 278; choose two from ECE 240, 243, 274
ME Option (choose 3 courses): ENGR 201, 202, 205, 206

C. Electives (14 units)
CompE and EE Options: Choose from remaining upper-division and graduate courses. Minimum of 6 units from corresponding program electives. Maximum of 9 upper-division units. See advising notess.

ME Option: Choose from remaining upper-division and program courses. Maximum of 9 upper-division units. See courses in Mechanical Engineering.

D. Culminating Experience (6 units)
For either option, choose

1. 6 units of electives plus comprehensive exam, minimum of 3 units from corresponding program electives, or
2. ECE 298 or ME 298 Project (3 units) plus 3 units of program electives, or
3. ECE 299 or ME 299 Thesis (6 units)

Total (30 units)

Advising Notes

1. CompE Program electives: ECE 224, 240, 242, 243, 255, 274, 291T, 290 (3 units max)
2. EE Program electives: ENGR 206, ECE 230, 231, 232, 241, 245, 247, 249, 251, 253, 255, 257, 259, 274, 291T, 290 (3 units max)
3. Approved graduate courses may be taken with the permission of the department of the program of study.

Up to nine semester hours of satisfactory graduate credit may be transferred into the program from other institutions if not used in completing another graduate degree program. Undergraduate courses may be transferred if the courses were not used in completing another degree program. The total undergraduate upper-division semester hours applied to this degree program cannot exceed nine hours.

The Graduate Record Examination (GRE) Aptitude Test is required of all students prior to advancement to candidacy status.

The program requires extensive use of a computer; therefore, students are expected to have their own computer or access to one 24 hours a day.

Admission to the University

Requirements for admission to California State University, Fresno are in accordance with Title 5, Chapter 1, Subchapter 3 of the California Code of Regulations.

Admission to the Program

Students who apply to the program are placed in one of the following categories:

1. **Graduate Standing, Classified**. Students with (a) an undergraduate degree in an appropriate engineering discipline from an ABET accredited program, (b) an undergraduate grade point average of 3.0, (c) a minimum GRE quantitative score of 550 are eligible for classified (degree status) graduate standing, and (d) a letter of recommendation from an academic or an industrial source.
2. **Graduate Standing, Conditionally Classified**. Students from non-ABET accredited engineering programs, or with a degree in physical science or mathematics or a different engineering discipline, and who have not met the requirements of category 1, will be given conditionally classified graduate standing. These students may be required to take prerequisite courses as determined by the graduate program at the time of admission. Upon satisfactorily meeting any specified requirements, students will then be advanced to classified standing.

Degree Candidacy

The following requirements must be met prior to advancement to candidacy:

1. Classified graduate standing.
2. Completion at California State University, Fresno of at least 9 units of the proposed program with a 3.0 average on all completed work appearing on the program.
3. A minimum grade point average of 3.0 in all required graduate coursework from the date of commencing the first course of the proposed master's degree program.
4. Departmental recommendation for advancement to candidacy.
5. Satisfactory completion of the Graduate Writing Skills Requirement.

Nondegree students

Students with a bachelor's degree may take graduate courses (concurrent with regular students) for credit or audit. Prior approval is required.

Engineering - Electrical Engineering Option, M.S.

Requirements

Master of Science Degree Requirements

Engineering Graduate Program, Electrical Engineering Option

The Lyles College of Engineering offers a Master of Science in Civil Engineering and a Master of Science in Engineering (with options in Computer, Electrical, and Mechanical Engineering).

M.S. in Civil Engineering
M.S. in Engineering (Options in Computer, Electrical, and Mechanical Engineering)

The Master of Science in Engineering program has the following goals: (1) to develop the students' advanced analytical skills by developing an in-depth understanding of major theoretical and practical engineering concepts; (2) to develop students' written and oral communication skills applied to technical areas; (3) to achieve an appropriate level of competence by the students in solving practical electrical or mechanical engineering problems; (4) to develop students' critical and creative thinking skills in mastering new topics required to understand and solve complex engineering problems; and (5) to allow the students to demonstrate a sufficient depth of knowledge in a substantive area of electrical or mechanical engineering to pursue advanced academic or industrial work.

Program Objectives

The program has the following objectives: (1) to complete a minimum of 30 units of graduate coursework, including appropriate core courses, (2) to successfully demonstrate knowledge base in culminating experience, and (3) to enhance the students' career goals by increasing their theoretical, research, and problem-solving skills in applied engineering.

Program Requirements

The program consists of the following:

A. Main Core (1 unit)
ENGR 200

B. Option Core (9 units)
EE Option: ENGR 201, ECE 224; choose one from ECE 230, ECE 241, ENGR 206
CompE Option: ECE 278; choose two from ECE 240, 243, 274
ME Option (choose 3 courses): ENGR 201, 202, 205, 206

C. Electives (14 units)
CompE and EE Options: Choose from remaining upper-division and graduate courses. Minimum of 6 units from corresponding program electives. Maximum of 9 upper-division units. See advising notess.

ME Option: Choose from remaining upper-division and program courses. Maximum of 9 upper-division units. See courses in Mechanical Engineering.

D. Culminating Experience (6 units)
For either option, choose

1. 6 units of electives plus comprehensive exam, minimum of 3 units from corresponding program electives, or
2. ECE 298 or ME 298 Project (3 units) plus 3 units of program electives, or
3. ECE 299 or ME 299 Thesis (6 units)

Total (30 units)

Advising Notes

1. CompE Program electives: ECE 224, 240, 242, 243, 255, 274, 291T, 290 (3 units max)
2. EE Program electives: ENGR 206, ECE 230, 231, 232, 241, 245, 247, 249, 251, 253, 255, 257, 259, 274, 291T, 290 (3 units max)
3. Approved graduate courses may be taken with the permission of the department of the program of study.

Up to nine semester hours of satisfactory graduate credit may be transferred into the program from other institutions if not used in completing another graduate degree program. Undergraduate courses may be transferred if the courses were not used in completing another degree program. The total undergraduate upper-division semester hours applied to this degree program cannot exceed nine hours.

The Graduate Record Examination (GRE) Aptitude Test is required of all students prior to advancement to candidacy status.

The program requires extensive use of a computer; therefore, students are expected to have their own computer or access to one 24 hours a day.

Admission to the University

Requirements for admission to California State University, Fresno are in accordance with Title 5, Chapter 1, Subchapter 3 of the California Code of Regulations.

Admission to the Program

Students who apply to the program are placed in one of the following categories:

1. **Graduate Standing, Classified**. Students with (a) an undergraduate degree in an appropriate engineering discipline from an ABET accredited program, (b) an undergraduate grade point average of 3.0, (c) a minimum GRE quantitative score of 550 are eligible for classified (degree status) graduate standing, and (d) a letter of recommendation from an academic or an industrial source.
2. **Graduate Standing, Conditionally Classified**. Students from non-ABET accredited engineering programs, or with a degree in physical science or mathematics or a different engineering discipline, and who have not met the requirements of category 1, will be given conditionally classified graduate standing. These students may be required to take prerequisite courses as determined by the graduate program at the time of admission. Upon satisfactorily meeting any specified requirements, students will then be advanced to classified standing.

Degree Candidacy

The following requirements must be met prior to advancement to candidacy:

1. Classified graduate standing.
2. Completion at California State University, Fresno of at least 9 units of the proposed program with a 3.0 average on all completed work appearing on the program.
3. A minimum grade point average of 3.0 in all required graduate coursework from the date of commencing the first course of the proposed master's degree program.
4. Departmental recommendation for advancement to candidacy.
5. Satisfactory completion of the Graduate Writing Skills Requirement.

Nondegree students

Students with a bachelor's degree may take graduate courses (concurrent with regular students) for credit or audit. Prior approval is required.

Engineering - Mechanical Engineering Option, M.S.

Requirements

Master of Science Degree Requirements

Engineering Graduate Program, Mechanical Engineering Option

The Lyles College of Engineering offers a Master of Science in Civil Engineering and a Master of Science in Engineering (with options in Computer, Electrical, and Mechanical Engineering).

M.S. in Civil Engineering
M.S. in Engineering (Options in Computer, Electrical, and Mechanical Engineering)

The Master of Science in Engineering program has the following goals: (1) to develop the students' advanced analytical skills by developing an in-depth understanding of major theoretical and practical engineering concepts; (2) to develop students' written and oral communication skills applied to technical areas; (3) to achieve an appropriate level of competence by the students in solving practical electrical or mechanical engineering problems; (4) to develop students' critical and creative thinking skills in mastering new topics required to understand and solve complex engineering problems; and (5) to allow the students to demonstrate a sufficient depth of knowledge in a substantive area of electrical or mechanical engineering to pursue advanced academic or industrial work.

Program Objectives

The program has the following objectives: (1) to complete a minimum of 30 units of graduate coursework, including appropriate core courses, (2) to successfully demonstrate knowledge base in culminating experience, and (3) to enhance the students' career goals by increasing their theoretical, research, and problem-solving skills in applied engineering.

Program Requirements

The program consists of the following:

A. Main Core (1 unit)
ENGR 200

B. Option Core (9 units)
EE Option: ENGR 201, ECE 224; choose one from ECE 230, ECE 241, ENGR 206
CompE Option: ECE 278; choose two from ECE 240, 243, 274
ME Option (choose 3 courses): ENGR 201, 202, 205, 206

C. Electives (14 units)
CompE and EE Options: Choose from remaining upper-division and graduate courses. Minimum of 6 units from corresponding program electives. Maximum of 9 upper-division units. See advising notess.

ME Option: Choose from remaining upper-division and program courses. Maximum of 9 upper-division units. See courses in Mechanical Engineering.

D. Culminating Experience (6 units)
For either option, choose

1. 6 units of electives plus comprehensive exam, minimum of 3 units from corresponding program electives, or
2. ECE 298 or ME 298 Project (3 units) plus 3 units of program electives, or
3. ECE 299 or ME 299 Thesis (6 units)

Total (30 units)

Advising Notes

1. CompE Program electives: ECE 224, 240, 242, 243, 255, 274, 291T, 290 (3 units max)
2. EE Program electives: ENGR 206, ECE 230, 231, 232, 241, 245, 247, 249, 251, 253, 255, 257, 259, 274, 291T, 290 (3 units

max)
3. Approved graduate courses may be taken with the permission of the department of the program of study.

Up to nine semester hours of satisfactory graduate credit may be transferred into the program from other institutions if not used in completing another graduate degree program. Undergraduate courses may be transferred if the courses were not used in completing another degree program. The total undergraduate upper-division semester hours applied to this degree program cannot exceed nine hours.

The Graduate Record Examination (GRE) Aptitude Test is required of all students prior to advancement to candidacy status.

The program requires extensive use of a computer; therefore, students are expected to have their own computer or access to one 24 hours a day.

Admission to the University

Requirements for admission to California State University, Fresno are in accordance with Title 5, Chapter 1, Subchapter 3 of the California Code of Regulations.

Admission to the Program

Students who apply to the program are placed in one of the following categories:

1. **Graduate Standing, Classified**. Students with (a) an undergraduate degree in an appropriate engineering discipline from an ABET accredited program, (b) an undergraduate grade point average of 3.0, (c) a minimum GRE quantitative score of 550 are eligible for classified (degree status) graduate standing, and (d) a letter of recommendation from an academic or an industrial source.
2. **Graduate Standing, Conditionally Classified**. Students from non-ABET accredited engineering programs, or with a degree in physical science or mathematics or a different engineering discipline, and who have not met the requirements of category 1, will be given conditionally classified graduate standing. These students may be required to take prerequisite courses as determined by the graduate program at the time of admission. Upon satisfactorily meeting any specified requirements, students will then be advanced to classified standing.

Degree Candidacy

The following requirements must be met prior to advancement to candidacy:

1. Classified graduate standing.
2. Completion at California State University, Fresno of at least 9 units of the proposed program with a 3.0 average on all completed work appearing on the program.
3. A minimum grade point average of 3.0 in all required graduate coursework from the date of commencing the first course of the proposed master's degree program.
4. Departmental recommendation for advancement to candidacy.
5. Satisfactory completion of the Graduate Writing Skills Requirement.

Nondegree students

Students with a bachelor's degree may take graduate courses (concurrent with regular students) for credit or audit. Prior approval is required.

Accelerated Graduate Programs

The accelerated M.S. program provides a path to students who are talented and want to acquire additional knowledge in specialized areas of interest, as a continuation of their B.S., within a short period of time. The benefits to the students that participate in the program are as follows:

- More efficient use of their fourth academic year leading to a baccalaureate degree
- Ability to focus more rigorously on their areas of professional practice, culminating in a master's degree
- Opportunity to receive both B.S. and M.S. in five years

Eligibility: A student who has completed 75 units of required and elective G.E., math, science, and engineering coursework required for his/her undergraduate program may apply to the accelerated graduate program.

Application Materials: To apply to the accelerated graduate program, a student must submit the following:

- Application form
- A detailed statement of purpose

- Two letters of recommendation, at least one from a faculty member of the program

Timing of Application: Application may be made no sooner than at the beginning of the sixth semester of study of an undergraduate degree program. Students officially enter the program no earlier than the seventh semester of an eight-semester undergraduate program.

Requirements: The applicants must satisfy the following requirements:

- Overall GPA of 3.0 or greater at the time of application
- Satisfactory GRE scores (consult program advisers)
- Complete all the courses specified by the program by the end of the sixth semester with GPA of 3.0 or greater
- Complete no less than 30 units of coursework in residence by the end of the sixth semester
- Complete undergraduate writing requirement by the end of the sixth semester
- Complete all G.E. requirements prior to taking 200-level courses

Progress Toward Awarding of Degree: Students can take up to 10 units of courses that qualify for the M.S. program (but no more than 6 units of 200-level courses per semester) before completion of the B.S. program. Students shall not proceed with further graduate-level coursework until they have obtained the classified standing. The classified standing can be obtained by filing the appropriate form with the Office of Graduate Studies after the completion of the B.S.

Awarding of Degree: Students must meet all programmatic requirements for each degree. This implies that no coursework, project, independent study, etc., may be simultaneously applied toward meeting the requirements of the B.S. and M.S. Students must complete the requirement for the B.S. at least two semesters prior to completing the requirement for the M.S. requirements.

English - Literature Option, M.A.

Requirements

Master of Arts Degree Requirements

English Graduate Program, Literature Option

The Master of Arts program in English, Literature Option, serves several categories of students: those teaching high school and community college, those anticipating doctoral studies, those studying creative or expository writing, and those simply interested in extending and intensifying the knowledge acquired in their undergraduate studies.

Admission

Admission to the Master of Arts program in English assumes preparation equivalent to an undergraduate major in English or a related field in the liberal arts. Students who do not already have a bachelor's degree in English will need to take 16 units of upper-division undergraduate preparation in order to attain classified standing and before being allowed to enroll in English graduate seminars. These courses are prerequisites and will not count toward the 30 units of the M.A. Such students must successfully complete the following prerequisite courses:

1. ENGL 105, Introduction to Literary Analysis
2. British Literature: One of ENGL 146, 147, 150, 151, 152, or 156
3. American Literature: One of ENGL 153, 154, or 155
4. World Literature: One of ENGL 112, 113, 114, or 167

In lieu of meeting the above undergraduate course requirements for classified standing, students may take the Subject Graduate Record Exam (GRE) and submit a score above the 50th percentile. A GRE score in literature is not required for admissions into the program, but is recommended for students intending to pursue a doctorate.

To achieve classified standing, both English and non-English majors must have achieved a GPA of 3.0 or better in their major. International students must also submit IELTS or TOEFL scores. A minimum Band 7 score is required on the IELTS; minimum Band scores of? are also required in the Writing and Reading subsections . A minimum overall TOEFL score of 94 is required; minimum scores of 22 in the Reading subsection and 24 in the Writing subsection are also required.

In addition, all candidates must submit a writing sample to the graduate committee, whose approval is necessary for admission

to the program. This writing sample is due to the department by April 15 for admission the following fall semester, or by Oct. 15 for admission the following spring. Applicants are encouraged to apply as early in the previous semester as possible for eligibility for Admissions, Financial Aid, and Teaching Associateships.

The admission writing sample should be devoted to a sustained analysis (8-12 pages in length) of a text or related texts; it should demonstrate comprehensibility in exposition, clear and logical organization and presentation of ideas, and should establish a sound scholarly argument with thorough and complete documentation. The critical analysis should be modeled on MLA style guidelines and will reflect a knowledge and awareness of contemporary analytical theory in literary studies.

The admission writing sample will be evaluated by members of the English Department to determine- whether the applicant is denied entry into the M.A. program or admitted under either Classified or Conditionally Classified Standing. After understanding suggested coursework and obtaining no less than a B in such course(s), those admitted under Conditionally Classified Standing will be given one opportunity to submit one additional revised or new writing sample for review. If the second writing sample is not approved, the candidate will not be admitted into the program.

Requirements

The M.A. in English, Literature Option is a 32-unit program, divided among core requirements and electives. Under the direction of a graduate coordinator, each student prepares and submits a coherent program, individually designed within the following framework:

Core Requirements
ENGL 205 (4 units)
ENGL 250T and/or 280T (12 units)
ENGL 299 (Thesis) (4 units)
Approved electives in English or other fields (see Specific Requirements) (12 units)
Total (32 units)

ENGL 205 should be completed during the first year of a student's program of study. The maximum number of combined ENGL 290 and 291 units that may be applied to a student's program is 4 units. Students will usually enroll in ENGL 299 (2 units each) over two consecutive semesters.

Specific Requirements

Breadth Requirements: The following breadth requirements provide the necessary foundation for advanced literary study. They may be completed either at the undergraduate or graduate level:

- Chaucer (one course)
- Shakespeare (one course)
- British Literature (two additional courses)
- American Literature (one course)
- World Literature (one course)

Most core courses must be completed in the English Department; however, electives may be selected from outside departments in consultation with the Graduate Coordinator. Of the 30 units required for completion of the M.A. degree in English, Literature Option, no more than 8 units may be from undergraduate, upper-division courses. Undergraduate, upper-division courses that do not count towards the English major may not be used for the M.A. degree.

Foreign Language Requirement: The English Department requires candidates for the M.A. in English, Literature Option to demonstrate a reading knowledge of one foreign language. This requirement can be satisfied at the undergraduate or graduate level through two years (four semesters) of coursework in a modem language other than English, one year (two semesters) of coursework in classical languages, or by taking a translation examination approved by the English Department. Students must satisfy this requirement prior to advancing to candidacy.

Graduate Writing Skills Requirement: The university mandates that M.A. candidates demonstrate the ability to write "commensurate with society's expectations of persons who hold advanced degrees" and "in formats and styles appropriate to their disciplines." In order to comply with this requirement, the department evaluates a sample essay that emerges from work in a graduate seminar. Evaluation can occur at any point once the program has begun; it must be met before the candidate can advance to candidacy and thus qualify to write a culminating project. Students must satisfy this requirement prior to advancing to candidacy.

Consult the English Department's graduate coordinator every semester for program planning.

English-Literature & Composition Theory Option, M.A.

Requirements

This option has been discontinued. The available options for the M.A. in English are as follows:
- Literature Option
- Rhetoric and Writing Studies Option

English-Rhetoric and Writing Studies Option, M.A.

Requirements

Master of Arts Degree Requirements

English Graduate Program, Rhetoric and Writing Studies Option

The Master of Arts program in English, Rhetoric and Writing Studies Option, serves several categories of students: those teaching high school and community college, those anticipating doctoral studies, those studying creative or expository writing, and those simply interested in extending and intensifying the knowledge acquired in their undergraduate studies.

Admission. Admission to the Master of Arts program in English assumes preparation equivalent to an undergraduate major in English or a related field in the liberal arts. Students who do not already have a bachelor's degree in English may be required to take upper-division undergraduate courses as preparation to attain classified standing and before being allowed to enroll in English graduate seminars.

To achieve classified standing, both English and non-English majors must have achieved a GPA of 3.0 or better in their major. International students must also submit IELTS or TOEFL scores. A minimum Band 7 score is required on the IELTS; minimum Band scores of 7 are also required in the Writing and Reading subsections. A minimum overall TOEFL score of 94 is required; minimum scores of 22 in the Reading subsection and 24 in the Writing subsection are also required.

In addition, all candidates must submit a writing sample to the graduate committee, whose approval is necessary for admission to the program. This writing sample is due to the department by April 15 for admission the following fall semester, or by Oct. 15 for admission the following spring. Applicants are encouraged to apply as early in the previous semester as possible for eligibility for Admissions, Financial Aid, and Teaching Associateships.

The admission writing sample should be devoted to a sustained analysis (8-12 pages in length) of a text or related texts; it should demonstrate comprehensibility in exposition and clear and logical organization and presentation of ideas. It should establish a sound scholarly argument with thorough and complete documentation. The critical analysis should be modeled on MLA style guidelines and will reflect a knowledge and awareness of contemporary analytical theory in rhetoric, literary, or writing studies. The admission writing sample will be evaluated by members of the English Department to determine whether the applicant is denied entry into the M.A. program or admitted under either Classified or Conditionally Classified Standing. After understanding suggested coursework and obtaining no less than a B in such course(s), those admitted under Conditionally Classified Standing will be given one opportunity to submit one additional revised or new writing sample for review. If the second writing sample is not approved, the candidate will not be admitted into the program.

Requirements. Under the direction of a graduate adviser, each student prepares and submits a coherent program individually designed within the following framework:

ENGL 205 (4 units)
ENGL 278T, 250T, or 280T (8 units)
ENGL 270 (4 units)
ENGL 281 (4 units)
Approved electives in English or other fields (4 units)
ENGL 299 (Thesis -- writing theory, pedagogy, literacy studies, rhetorical theory and criticism) (4 units)

ENGL 282 (2 units)
Total (30 units)

ENGL 205 should be completed during the first year of a student's program of study. The maximum number of combined ENGL 290 and 291 units that may be applied to a student's program is 4 units. Students will usually enroll in ENGL 299 (2 units each) over two consecutive semesters.

Electives may be selected from outside departments in consultation with the graduate coordinator.

Specific Requirements

Teaching Requirement. At some period before the completion of the M.A. Rhetoric and Writing Studies Option, the candidate must be engaged in teaching or co-teaching a course with a strong writing component. While most candidates would be teaching in the English Department, other teaching assignments will apply in consultation with the instructor of English 282. Enrollment in ENGL 282 should take place in the same semesters that the student is fulfilling the teaching requirement.

Language Requirement: The English Department requires candidates for the M.A. in English -Rhetoric and Writing Studies Option to demonstrate a reading knowledge of one language other than English. This requirement can be satisfied at the undergraduate or graduate level through two years (four semesters) of coursework in a modern language other than English, one year (two semesters) of coursework in classical languages, or by taking a translation examination approved by the English Department. Students must satisfy this requirement prior to advancing to candidacy.

Graduate Writing Skills Requirement: The university mandates that M.A. candidates demonstrate the ability to write "commensurate with society's expectations of persons who hold advanced degrees" and "in formats and styles appropriate to their disciplines." In order to comply with this requirement, the department evaluates a sample essay that emerges from work in a graduate seminar. Evaluation can occur at any point once the program has begun; it must be met before the candidate can advance to candidacy and thus qualify to write a culminating project. Students must satisfy this requirement prior to advancing to candidacy.

Consult the graduate adviser every semester for program planning.

Geology, M.S.

Requirements

Master of Science Degree Requirements

Geology Graduate Program

The Department of Earth and Environmental Sciences offers graduate courses and research leading to the Master of Science. The graduate courses and research areas are such that several different career goals can be met, including the following: (1) preparation for enrollment in a Ph.D. program in geology or a related field, (2) preparation for employment as a professional geoscientist with industry or government, and (3) advancement of knowledge of the earth sciences and teaching skills of secondary school and junior college teachers.

Graduate research opportunities are available in several fields, including but not restricted to hydrology/hydrogeology/hydrogeochemistry, stream restoration, geophysics, tectonics, engineering geology, geomorphology, structural geology, volcanology/igneous and metamorphic petrology, sedimentology/paleontology/stratigraphy, paleoclimatology and high temperature, and stable isotope geochemistry.

The graduate program also offers research opportunities in applied geology. This curriculum is usually interdisciplinary with an environmental focus, involving coursework in geology, civil engineering, chemistry, soil sciences, and other areas. Two applied geology emphases are offered: (1) engineering and environmental geology and (2) hydrogeology. Students of applied geology are encouraged to undertake theses involving support and supervision by professionals in private and public sectors.

University requirements are met through satisfactory completion of core courses and specialty courses in the curriculum emphasis.

Students are required to pass the writing component of EES 201. Please see the department's graduate program policy and

graduate program coordinator for more information.

Master of Science Degree Requirements

The graduate program for the Master of Science in Geology assumes as its foundation the equivalent of the undergraduate major in geology at California State University, Fresno. Two-thirds of the 30 units required for the degree must be in geology, and at least 21 of the 30 units must be 200-series courses. Students will select a thesis adviser to guide their research. The thesis adviser will also guide the selection of coursework in the program. For additional details regarding such requirements and procedures, please see the geology graduate program coordinator and the department's graduate program policy statement; for general requirements see Division of Graduate Studies. (See also Admission to Graduate Standing, Advancement to Candidacy, Program Requirements, and Criteria for Thesis and Project.)

Course Requirements: Under the direction of his/her thesis adviser, and with approval by the department faculty, each student prepares and submits an individually designed program. Most coursework is elective in nature, in keeping with the department's philosophy that flexibility enables students to develop a path of study best suited to their goals. The course requirements are as follows:

EES 201 Seminar in Geology) (3 units)
EES 299 (Thesis) (6 units)
Approved upper-division or graduate course electives in geology or related fields such as biology, chemistry, physics, engineering, and mathematics. Electives determined in consultation with graduate adviser (21 units)

Total (30 units)

Students studying applied geology should take the following courses before or during their graduate experience: EES 114, 117, 124.

Modifications in the program of study may be made with approval of both the thesis adviser and graduate program coordinator.

Additional Requirements.

A master's thesis is required. An oral defense of a thesis proposal is required, to ensure that students have selected a problem that is commendable to an M.S. thesis in the sciences and that the proposed methods of analysis are appropriate to the task. This defense normally will be scheduled as a culminating experience in EES 201, but also can be scheduled outside of EES 201 if necessary. An oral defense of the thesis is also required. The defense will include questions regarding the thesis and questions of a more general nature related to knowledge in the earth sciences. The thesis will be judged by the extent to which a student attempts to solve a scientific problem by employing methods appropriate to the task. The thesis must meet certain minimum standards, which include the following: thoughtful consideration of and reference to prior work in the field of study; a peripheral understanding of the broader scientific value or societal implications of the work, as appropriate; and a demonstration of originality and critical thinking. Graduate students of geology conducting research in a foreign country are expected to be proficient in the language in which source materials are published.

History - Teaching Option, M.A.

Requirements

Master of Arts Degree Requirements

History Graduate Program, Teaching Option

(See Division of Graduate Studies.)

Graduate history courses are open only to program students or by instructor's permission.

The History Department offers a 30-unit Master of Arts program with a traditional track and a teaching option.

Teaching Option

A. Core (15 units)
HIST 200A, 200B, HIST 210T, 220T, 230T
Note: HIST 200A/B must be taken within the first year of enrollment in the history program.

B. Electives (6 units)
Students will select 6 additional units from HIST 210T, 220T, 230T. (Students may repeat course numbers but may not repeat topics.)

C. Practicum (6 units)
HIST 296 and 297

D. Culminating Experience (3 units)
Project: HIST 298

Total (30 units)

Foreign Language Requirement. Students on the traditional track (either Thesis or Examination choice) must pass a reading competency examination in at least one foreign language approved by the graduate adviser before being advanced to candidacy. With the prior approval of the graduate adviser, a foreign language readings course may be substituted for the exam.

Graduate Writing Requirement. History graduate students in all tracks/options must fulfill the Graduate Writing Requirement (see graduate program coordinator for more information.)

Graduate Program

The Master of Arts program in History is designed to extend the competence of persons engaged in a wide variety of fields requiring a broad grasp of historical knowledge, techniques, and interpretation. Within this degree program, students may choose to complete either a traditional track or a teaching option. The traditional track, which offers both thesis and examination as possible culminating experiences, best satisfies the needs of those interested in public service, teaching at the community college level, or pursuing advanced graduate study in history. The teaching option best satisfies the needs of those interested in enhancing their teaching of history primarily at the secondary level.

The Graduate Certificate program is most suitable for those teachers who would like to update their professional credentials, those seeking supplemental certification, those seeking to prepare for the CSET, and/or those who would simply like to continue their study of history but who do not require an M.A.

Prerequisites. Admission to the Master of Arts degree program in History assumes undergraduate preparation equivalent to this university's major in history. Majors from other disciplines may qualify for admission depending on grade point average and other factors deemed pertinent for success in historical studies. The department determines in each case whether the applicant needs additional preparation before receiving classified standing. Applicants to the Teaching Option must have either a teaching credential or special approval from the graduate coordinator prior to applying.

Graduate Writing Requirement. The graduate writing requirement will be met by submission of a 15- to 20-page research paper formatted according to disciplinary style. The graduate writing committee will meet twice a year -- November 15 and March 14 -- to assess student writing. Detailed guidelines can be found in the Department of History's Graduate Student Handbook or by consulting the graduate coordinator.

History, M.A.

Requirements

Master of Arts Degree Requirements

History Graduate Program

(See Division of Graduate Studies.)

Graduate history courses are open only to program students or by instructor's permission.

The History Department offers a 30-unit Master of Arts program with a traditional track and a teaching option. The traditional track offers two different Culminating Experience choices, as described below:

Traditional Track

A. Core (15 units)
HIST 200A, 200B, 210T, 220T, 230T
Note: HIST 200A/B must be taken within the first year of enrollment in the history program.

B. Electives (6 units)
Students will select 6 additional units from HIST 210T, 220T, 230T. (Students may repeat course numbers but may not repeat topics.)

C. History Practicum (3 units)
HIST 297

D. Culminating Experience (6 units)

I. Thesis option: 6 units of HIST 299A-B.

II. Examination option: 6 additional units from HIST 210T, 220T, 230T, plus a written comprehensive examination in three fields chosen from among the following. (No more than two fields may be taken from any group.)

Group I: (a) Ancient History, (b) Medieval History, (c) Early Modern Europe to 1815, (d) Modern Europe since 1815.

Group II: (a) The United States to Reconstruction, (b) The United States since Reconstruction.

Group III: (a) Latin America, (b) Asia, (c) Africa.

Total (30 units)

No more than two examinations may be taken from any group. Not all fields will be available at all times.

Comprehensive examinations are given during the first week in November and the first week in April of each year. If students fail an exam they will be allowed to retake it once. For other specifics, consult the department graduate adviser; for general requirements see the Division of Graduate Studies and Research.

Foreign Language Requirement. Students on the traditional track (either Thesis or Examination choice) must pass a reading competency examination in at least one foreign language approved by the graduate adviser before being advanced to candidacy. With the prior approval of the graduate adviser, a foreign language readings course may be substituted for the exam.

Graduate Writing Requirement. History graduate students in all tracks/options must fulfill the Graduate Writing Requirement (see graduate program coordinator for more information.)

Graduate Program

The Master of Arts program in History is designed to extend the competence of persons engaged in a wide variety of fields requiring a broad grasp of historical knowledge, techniques, and interpretation. Within this degree program, students may choose to complete either a traditional track or a teaching option. The traditional track, which offers both thesis and examination as possible culminating experiences, best satisfies the needs of those interested in public service, teaching at the community college level, or pursuing advanced graduate study in history. The teaching option best satisfies the needs of those interested in enhancing their teaching of history primarily at the secondary level.

The Graduate Certificate program is most suitable for those teachers who would like to update their professional credentials, those seeking supplemental certification, those seeking to prepare for the CSET, and/or those who would simply like to continue their study of history but who do not require an M.A.

Prerequisites. Admission to the Master of Arts degree program in History assumes undergraduate preparation equivalent to this university's major in history. Majors from other disciplines may qualify for admission depending on grade point average and other factors deemed pertinent for success in historical studies. The department determines in each case whether the applicant

needs additional preparation before receiving classified standing. Applicants to the Teaching Option must have either a teaching credential or special approval from the graduate coordinator prior to applying.

Graduate Writing Requirement. The graduate writing requirement will be met by submission of a 15- to 20-page research paper formatted according to disciplinary style. The graduate writing committee will meet twice a year -- November 15 and March 14 -- to assess student writing. Detailed guidelines can be found in the Department of History's Graduate Student Handbook or by consulting the graduate coordinator.

Industrial Technology, M.S.

Requirements

Master of Science Degree Requirements

Industrial Technology Graduate Program

The Master of Science in Industrial Technology is a 30-unit program which offers graduate study in both industrial and educational related professional and technical fields. Emphasis is directed toward the attainment of advanced competency in the areas of industrial and technology education as well as manufacturing technology. Through selected courses, within the department and other disciplines, knowledge and experience can be acquired in research and development, management and administration, technological studies, and educational studies that are related to all areas of the field.

Admission Requirements

The Master of Science degree program in Industrial Technology assumes preparation equivalent to a CSU undergraduate major in technology education (industrial arts), industrial technology, or a related field. Students who have not completed a degree in technology education or industrial technology are expected to have completed the following courses or their equivalents prior to enrollment in courses to be applied toward the master's program: IT 41, 52, 74, 102, 114, 115; MATH 11 or DS 71.

Applicants whose preparatory education was principally in a language other than English must earn a minimum TOEFL score of 213 on the computer-based test, 550 on the paper-based test, and 80 on the Internet-based test.

Classified Standing

A baccalaureate degree is required and an undergraduate major in technology education, industrial technology, or a related field; a 3.0 GPA (last 60 semester units); a 450V/430Q GRE score; three letters of reference from employers or faculty at the university attended most recently; a personal statement of 500 words or less indicating reasons for pursuing a master's degree; a preadmission consultation session with the department graduate program coordinator. Students lacking in any area with compensating strengths in other areas are encouraged to apply.

Conditional classified standing may be granted to petitioning applicants with a 2.5 to 2.99 GPA (last 60 semester units); GRE scores on file with the university; three letters of reference; and a personal statement of 500 words or less. Students must request classified standing in the program by the semester in which a maximum of 10 units to be used toward the degree are completed.

Program Requirements

Under the direction of a graduate adviser, each student prepares and submits a coherent program individually designed within the following framework:
Specific Requirements

Required courses (15 units)
IT 223, 280, 282, 283, 285

Electives in industrial technology or related field (12 units)
(approved electives appropriate to individually designed program; a maximum of 9 units may be 100-level courses)

Culminating Experience (3 units)
IT 298 or 299

Total minimum requirements (30 units)

Graduate Advising Notes

1. Upon admission, students should see the department graduate program coordinator for aid in program planning.
2. To progress through the graduate program, students must: (a.) Maintain a minimum 3.0 GPA (b.) Complete all prerequisite coursework (c.) Attain classified standing (d.) Meet the graduate writing skills requirement (e.) File for advancement to candidacy (f.) Complete the program requirements (g.) File a master's thesis or project committee assignment form (h.) Formally present and defend the thesis or project results
3. Classified standing must be achieved by the semester in which students take the 10th program unit. All admission requirements must be met. Students must maintain a 3.0 GPA.
4. Students must meet the university graduate writing competency requirement by passing the writing component of IT 280 or AGRI 220. Students should complete the writing requirement prior to advancement to candidacy.
5. Advancement to candidacy requires the completion of 9 program units at California State University, Fresno, a minimum GPA of 3.0, meeting the graduate writing skills requirement, and filing a Petition for Advancement to Candidacy a minimum of one semester prior to enrollment in thesis or project and by established deadline.

Kinesiology - Exercise Science Option, M.A.

Requirements

Master of Arts Degree Requirements

Kinesiology Graduate Program, Exercise Science Option

The Department of Kinesiology offers advanced study designed to enhance professional competencies in pedagogy (M.A. in Kinesiology), exercise science (Exercise Science Option), sport administration (Sport Administration Option), and sport psychology (Sport Psychology Option). These offerings prepare students for more advanced degrees, applied research, and/or careers in clinical settings, teaching, administration, coaching, or the sport industry.

Specific requirements. The Master of Arts degree requires 30 units of advanced coursework, of which there is a common core of 6 units. Dependent on the option, 9-18 units are selected from specified courses, and 3-12 units of electives plus a culminating experience are chosen.

Under the direction of a graduate adviser, each student designs a coherent program within the following framework:

M.A. in Kinesiology

Core (6 units)
KINES 230 and 231

Required coursework (9 units)
With advisement, select from: KINES 241, 242, 244, 261, 262, 263, 264, and 285

Electives (12 units)
Any additional KINES 200-level courses or approved outside area courses

Culminating Experience (0-6 units)
KINES 298, 299, or comprehensive exam

Total (30 units)

Exercise Science Option

Core (6 units)
KINES 230 and 231

Required coursework (15-21 units)
With advisement, select from: KINES 222, 233, 234, 237, 238, 265, 285, and 290

Electives (3-6 units)
Any KINES 200-level course or approved outside area course

Culminating Experience (0-6 units)
KINES 298, 299, or comprehensive exam plus internship

Total (30 units)

Advising Notes

1. The Master of Arts degree program in Kinesiology assumes undergraduate preparation equivalent to a California State University, Fresno major in kinesiology. Students may be required to take 12-15 prerequisite units.
2. The Department of Kinesiology accepts either the Graduate Record Exam (GRE) or the Miller Analogies Test (MAT) as part of the admission requirements. Please contact the graduate program coordinator within the department for more information.
3. All students must pass a written qualifying exam before advancement to candidacy. The university graduate-level writing skills requirement is met by successful completion of this step. See the graduate coordinator for more information.
4. See also the general graduate requirements listed under the Division of Graduate Studies.

Kinesiology - Sport Administration Option, M.A.

Requirements

Master of Arts Degree Requirements

Kinesiology Graduate Program, Sport Administration Option

The Department of Kinesiology offers advanced study designed to enhance professional competencies in pedagogy (M.A. in Kinesiology), exercise science (Exercise Science Option), sport administration (Sport Administration Option), and sport psychology (Sport Psychology Option). These offerings prepare students for more advanced degrees, applied research, and/or careers in clinical settings, teaching, administration, coaching, or the sport industry.

Specific requirements. The Master of Arts degree requires 30 units of advanced coursework, of which there is a common core of 6 units. Dependent on the option, 9-18 units are selected from specified courses, and 3-12 units of electives plus a culminating experience are chosen.

Under the direction of a graduate adviser, each student designs a coherent program within the following framework:

M.A. in Kinesiology

Core (6 units)
KINES 230 and 231

Required coursework (9 units)
With advisement, select from: KINES 241, 242, 244, 261, 262, 263, 264, and 285

Electives (12 units)
Any additional KINES 200-level courses or approved outside area courses

Culminating Experience (0-6 units)
KINES 298, 299, or comprehensive exam

Total (30 units)

Sport Administration Option

Core (6 units)
KINES 230 and 231

Required coursework (18 units)
KINES 241, 244, 245, 246, 261, 285

Electives (0-6 units)
Any approved KINES 200-level or approved outside area course.
A list of approved outside courses is available from the graduate coordinator.

Culminating Experience (0-6 units)
KINES 298, 299,or comprehensive exam

Total (30 units)

Advising Notes

1. The Master of Arts degree program in Kinesiology assumes undergraduate preparation equivalent to a California State University, Fresno major in kinesiology. Students may be required to take 12-15 prerequisite units.
2. The Department of Kinesiology accepts either the Graduate Record Exam (GRE) or the Miller Analogies Test (MAT) as part of the admission requirements. Please contact the graduate program coordinator within the department for more information.
3. All students must pass a written qualifying exam before advancement to candidacy. The university graduate-level writing skills requirement is met by successful completion of this step. See the graduate coordinator for more information.
4. See also the general graduate requirements listed under the Division of Graduate Studies.

Kinesiology - Sport Psychology Option, M.A.

Requirements

Master of Arts Degree Requirements

Kinesiology Graduate Program, Sport Psychology Option

The Department of Kinesiology offers advanced study designed to enhance professional competencies in pedagogy (M.A. in Kinesiology), exercise science (Exercise Science Option), sport administration (Sport Administration Option), and sport psychology (Sport Psychology Option). These offerings prepare students for more advanced degrees, applied research, and/or careers in clinical settings, teaching, administration, coaching, or the sport industry.

Specific requirements. The Master of Arts degree requires 30 units of advanced coursework, of which there is a common core of 6 units. Dependent on the option, 9-18 units are selected from specified courses, and 3-12 units of electives plus a culminating experience are chosen.

Under the direction of a graduate adviser, each student designs a coherent program within the following framework:

M.A. in Kinesiology

Core (6 units)
KINES 230 and 231

Required coursework (9 units)
With advisement, select from: KINES 241, 242, 244, 261, 262, 263, 264, and 285

Electives (12 units)
Any additional KINES 200-level courses or approved outside area courses

Culminating Experience (0-6 units)
KINES 298, 299, or comprehensive exam

Total (30 units)

Sport Psychology Option

Core (6 units)
KINES 230 and 231

Required coursework (15 units)
KINES 262, 263, 264, 265, and 266

Electives within program (3-9 units)
Any KINES 200-level course or approved outside area course

Electives outside program (0-6 units)
COUN 200, MBA 270, PSYCH 66

Culminating Experience (0-6 units)
KINES 298, 299, or comprehensive exam

Total (30 units)

Advising Notes

1. The Master of Arts degree program in Kinesiology assumes undergraduate preparation equivalent to a California State University, Fresno major in kinesiology. Students may be required to take 12-15 prerequisite units.
2. The Department of Kinesiology accepts either the Graduate Record Exam (GRE) or the Miller Analogies Test (MAT) as part of the admission requirements. Please contact the graduate program coordinator within the department for more information.
3. All students must pass a written qualifying exam before advancement to candidacy. The university graduate-level writing skills requirement is met by successful completion of this step. See the graduate coordinator for more information.
4. See also the general graduate requirements listed under the Division of Graduate Studies.

Kinesiology, M.A.

Requirements

Master of Arts Degree Requirements

Kinesiology Graduate Program

The Department of Kinesiology offers advanced study designed to enhance professional competencies in pedagogy (M.A. in Kinesiology), exercise science (Exercise Science Option), sport administration (Sport Administration Option), and sport psychology (Sport Psychology Option). These offerings prepare students for more advanced degrees, applied research, and/or careers in clinical settings, teaching, administration, coaching, or the sport industry.

Specific requirements. The Master of Arts degree requires 30 units of advanced coursework, of which there is a common core of 6 units. Dependent on the option, 9-18 units are selected from specified courses, and 3-12 units of electives plus a culminating experience are chosen.

Under the direction of a graduate adviser, each student designs a coherent program within the following framework:

M.A. in Kinesiology

Core (6 units)
KINES 230 and 231

Required coursework (9 units)
With advisement, select from: KINES 241, 242, 244, 261, 262, 263, 264, and 285

Electives (12 units)
Any additional KINES 200-level courses or approved outside area courses

Culminating Experience (0-6 units)
KINES 298, 299, or comprehensive exam

Total (30 units)

Advising Notes

1. The Master of Arts degree program in Kinesiology assumes undergraduate preparation equivalent to a California State University, Fresno major in kinesiology. Students may be required to take 12-15 prerequisite units.
2. The Department of Kinesiology accepts either the Graduate Record Exam (GRE) or the Miller Analogies Test (MAT) as part of the admission requirements. Please contact the graduate program coordinator within the department for more information.
3. All students must pass a written qualifying exam before advancement to candidacy. The university graduate-level writing skills requirement is met by successful completion of this step. See the graduate coordinator for more information.
4. See also the general graduate requirements listed under the Division of Graduate Studies.

Linguistics - Teaching English as a Second Language Option, M.A.

Requirements

Master of Arts Degree Requirements

Linguistics Graduate Program, Teaching English as a Second Language Option

The Department of Linguistics offers an M.A. in Linguistics and an M.A. in Linguistics with an option in Teaching English as a Second Language. At California State University, Fresno, students may also get a Master of Science in Interdisciplinary Studies with a focus on Computational Linguistics or Cognitive Science. Department faculty will assist students in planning such a program. For specific requirements, see Degree Requirements below; for general requirements see Division of Graduate Studies.

The Master of Arts degree program in Linguistics assumes a baccalaureate degree major in an appropriate field and at least three upper-division courses in linguistics as prerequisites. Graduate students are required to complete at least 30 units of courses with a minimum of 21 units of graduate level courses, and to pass a comprehensive examination or complete a thesis.

Graduate Level Writing Competence. Students who are conditionally classified may be required to take the Undergraduate Writing Exam as a condition for classification. California State University, Fresno requires that students have graduate level writing abilities before being advanced to candidacy for the M.A. Students demonstrate these abilities by passing the Qualifying Examination.

Qualifying Examination. The Department of Linguistics requires that students pass a qualifying examination on general linguistics before being advanced to candidacy for the M.A. The examination consists of essay questions on linguistic topics and is

given once each semester. A student who does not pass on the first attempt may petition to receive a second opportunity, but this will only be granted in extraordinary circumstances.

(See also Admission to Graduate Standing, Advancement to Candidacy, and Program Requirements.)

Master of Arts Degree Requirements

Students who do not already have a sufficient background in linguistics need to take upper-division linguistics courses to attain classified standing in the department. These include LING 100, 139, 142, 143, 148, 165, (all students) and 141 and 171 (TESL students).

The graduate program consists of at least 30 units, 21 of which must be 200-level courses. Note the following requirements:

TESL Option
Core: LING 239, 242, 243, 248, 265 (15 units)
Required: LING 236, 237, 241, 244 (12 units)
Electives: (3 units) One additional course is required for TESL option students selecting the Comprehensive Exam.
All students select one of the following culminating experiences:
A. Thesis: LING 299A-B (6 units)
B. Comprehensive Exam

Highly recommended electives are LING 151 and LING 145 and LING 165. Highly recommended electives for TESL students are LING 132 and 148.

Upon examination of the student's record other courses will be specified to produce a coherent program.

Linguistics, M.A.

Requirements

Master of Arts Degree Requirements

Linguistics Graduate Program

The Department of Linguistics offers an M.A. in Linguistics and an M.A. in Linguistics with an option in Teaching English as a Second Language. At California State University, Fresno, students may also get a Master of Science in Interdisciplinary Studies with a focus on Computational Linguistics or Cognitive Science. Department faculty will assist students in planning such a program. For specific requirements, see Degree Requirements below; for general requirements see Division of Graduate Studies.

The Master of Arts degree program in Linguistics assumes a baccalaureate degree major in an appropriate field and at least three upper-division courses in linguistics as prerequisites. Graduate students are required to complete at least 30 units of courses with a minimum of 21 units of graduate level courses, and to pass a comprehensive examination or complete a thesis.

Graduate Level Writing Competence. Students who are conditionally classified may be required to take the Undergraduate Writing Exam as a condition for classification. California State University, Fresno requires that students have graduate level writing abilities before being advanced to candidacy for the M.A. Students demonstrate these abilities by passing the Qualifying Examination.

Qualifying Examination. The Department of Linguistics requires that students pass a qualifying examination on general linguistics before being advanced to candidacy for the M.A. The examination consists of essay questions on linguistic topics and is given once each semester. A student who does not pass on the first attempt may petition to receive a second opportunity, but this will only be granted in extraordinary circumstances.

(See also Admission to Graduate Standing, Advancement to Candidacy, and Program Requirements.)

Master of Arts Degree Requirements

Students who do not already have a sufficient background in linguistics need to take upper-division linguistics courses to attain classified standing in the department. These include LING 100, 139, 142, 143, 148, 165, (all students) and 141 and 171 (TESL students).

The graduate program consists of at least 30 units, 21 of which must be 200-level courses. Note the following requirements:

Linguistics

Core: LING 239, 242, 243, 248, 265 (15 units)
Required: LING 249 (3 units)
Electives: (6-12 units) Two to four additional courses, depending upon chosen culminating experience.

Highly recommended electives are LING 151 and LING 145 and LING 165. Highly recommended electives for TESL students are LING 132 and 148.

Upon examination of the student's record other courses will be specified to produce a coherent program.

Marine Science, M.S.

Requirements

Master of Science Degree Requirements

Marine Science Graduate Program

This degree program to be offered as an interdepartmental degree in cooperation with Moss Landing Marine Laboratories (MLML) provides the opportunity for students to acquire a practical and theoretical education in the marine sciences to prepare them for careers as marine specialists, scientists, and teachers. The program at Moss Landing provides extensive field and laboratory work for advanced study in the marine sciences, which is not duplicated on individual CSU campuses.

The Master of Science in Marine Science degree program is administered through MLML and a consortium campus with emphasis on biology, geology, or other departments, depending on the choice of the student. Application to Moss Landing Marine Laboratory (MLML) requires separate applications to both MLML and a consortium campus. The deadlines for each application may differ. The prospective student must meet the entrance requirements for the home campus department and will be accepted into classified or conditionally classified status by normal procedures at that campus (see previous information for biology procedures summary). Conditionally classified students must become classified by home campus procedures. MLML may impose additional requirements for classification.

The graduate writing requirement will be fulfilled according to the regulations set by the host campus, and must be met prior to advancement to candidacy. Please contact the Biology Department graduate coordinator for details.

The Thesis Committee will be composed of at least three members, including one faculty member from MLML (who is ordinarily the thesis adviser) and, at the discretion of the home campus, a representative of that campus. The other member or members of the Thesis Committee may be from MLML, the home campus, or elsewhere with the approval of the thesis adviser.

Additional MLML Degree Requirements Including Coursework. A student becomes eligible for the master's degree in marine science after the following requirements have been satisfied:

Courses in 100-series (requires any three of the following five courses: MSCI 103, MSCI 141, MSCI 142, MSCI 143, MSCI 144) **(12 units)**

Courses in 200-series (including 2 units of MSCI 285T and 4 units of MSCI 299) **(15 units)**

Electives (course[s] in the 100- and/or 200-series) approved by Thesis Committee **(3 units)**

Total (30 units)

Note: Quantitative Marine Science, MSCI 104, does not count toward the degree.

Upper-Division Course Numbers

Biology Department upper-division course numbers provide information on course level. Courses with higher numbers have more prerequisites. Courses with numbers less than 120 are not intended for use on biology majors. Numbers in the range 120 to 149 are third year courses requiring only lower-division prerequisites; 150 to 169 courses require some part of the upper-division core as prerequisite; and course numbers 170 or greater are more specialized fourth year courses.

Mathematics - Teaching Option, M.A.

Requirements

Master of Arts Degree Requirements

Mathematics Graduate Program, Teaching Option

The M.A. in mathematics is designed for students who wish to study mathematics at an advanced level. Within this degree program, students may choose to complete the traditional track or the teaching option. The traditional track best satisfies the needs of students who wish to work in business or industry, teach at community college, or go on to pursue a Ph.D. in mathematics. The teaching option is designed especially for students who wish to enhance their high school mathematics teaching and/or assume a leadership role in high school mathematics education and beyond, or who wish to pursue a Ph.D. in mathematics education.

Course Requirements:
Master's Degree in Mathematics (M.A.) with a Teaching Option
Core curriculum (CI 250 [see Advising Note 3], MATH 250, 260, 270 [see Advising Note 2]) (12 units)
Mathematics elective curriculum (A combination of approved courses- see Advising Note 1) (12 units)
Education elective curriculum (CI 275 or an approved CI 280T course) (3 units)
Project (MATH 298) (3 units)
Total (30 units)

Additional Requirements:
- All students must attend a Plagiarism Workshop and sign the Mathematics Department's Honor Code Statement Regarding Academic Integrity and Plagiarism.
- In order to satisfy the University Graduate Writing Skills Requirement, the student must submit a formal paper demonstrating writing skill in mathematics at the graduate level. This graduate level paper may be a research proposal, a literature review in some mathematical area of interest, a paper from a directed research project, or some other paper that meets the objectives for the writing requirement as stated in "Satisfaction of the Graduate Writing Requirement," found in the Graduate Studies Handbook for the Master of Arts in Mathematics. Deadlines are given in that document.

Graduate Advising Notes

1. Under the direction of the department graduate adviser, each candidate should prepare and submit for approval a program of courses as early as possible.
2. All graduate students should obtain a copy of the Department of Mathematics Graduate Studies Handbook for more detailed information on the program requirements.
3. CI 250 has a prerequisite of CI 159.

Graduate Program

The Department of Mathematics offers a Master of Arts (M.A.) in Mathematics. A bachelor's degree is required in order to be admitted to a graduate program at California State University, Fresno.

In order to be admitted to classified graduate standing, applicants must have undergraduate preparation equivalent to a California State University, Fresno mathematics major and have a 3.0 grade point average in their upper-division mathematics courses. Applicants lacking the above preparation may be admitted conditionally. These students will become classified after meeting additional requirements as set by the graduate coordinator. Coursework taken to achieve classified standing may not be applied towards credits for the graduate program.

All applicants are required to take the GRE Mathematics subject test. Applicants' GRE Mathematics subject test scores are expected to be at least 500.

In addition, two letters of recommendation from faculty at the applicant's undergraduate institution are required. Letters should be sent directly to the graduate coordinator.

Mathematics, M.A.

Requirements

Master of Arts Degree Program Requirements

Mathematics Graduate Program

The M.A. in mathematics is designed for students who wish to study mathematics at an advanced level. Within this degree program, students may choose to complete the traditional track or the teaching option. The traditional track best satisfies the needs of students who wish to work in business or industry, teach at community college, or go on to pursue a Ph.D. in mathematics. The teaching option is designed especially for students who wish to enhance their high school mathematics teaching and/or assume a leadership role in high school mathematics education and beyond, or who wish to pursue a Ph.D. in mathematics education.

Course Requirements:
Master's Degree in Mathematics (M.A.) Traditional Track
Core curriculum (MATH 251, 271) [see Advising Note 2] (6 units)
Elective curriculum (A combination of approved courses - see Advising Note 1) (21 units)
Project (MATH 298) or Thesis (MATH 299) (3 units)
Total (30 units)

Additional Requirements:
- All students must attend a Plagiarism Workshop and sign the Mathematics Department's Honor Code Statement Regarding Academic Integrity and Plagiarism.
- In order to satisfy the University Graduate Writing Skills Requirement, the student must submit a formal paper demonstrating writing skill in mathematics at the graduate level. This graduate level paper may be a research proposal, a literature review in some mathematical area of interest, a paper from a directed research project, or some other paper that meets the objectives for the writing requirement as stated in "Satisfaction of the Graduate Writing Requirement," found in the Graduate Studies Handbook for the Master of Arts in Mathematics. Deadlines are given in that document.

Graduate Advising Notes

1. Under the direction of the department graduate adviser, each candidate should prepare and submit for approval a program of courses as early as possible.
2. All graduate students should obtain a copy of the Department of Mathematics Graduate Studies Handbook for more detailed information on the program requirements.
3. CI 250 has a prerequisite of CI 159.

Graduate Program

The Department of Mathematics offers a Master of Arts (M.A.) in Mathematics. A bachelor's degree is required in order to be admitted to a graduate program at California State University, Fresno.

In order to be admitted to classified graduate standing, applicants must have undergraduate preparation equivalent to a California State University, Fresno mathematics major and have a 3.0 grade point average in their upper-division mathematics courses. Applicants lacking the above preparation may be admitted conditionally. These students will become classified after meeting additional requirements as set by the graduate coordinator. Coursework taken to achieve classified standing may not be applied towards credits for the graduate program.

All applicants are required to take the GRE Mathematics subject test. Applicants' GRE Mathematics subject test scores are expected to be at least 500.

In addition, two letters of recommendation from faculty at the applicant's undergraduate institution are required. Letters should be sent directly to the graduate coordinator.

Music - Music Education Option, M.A.

Requirements

Master of Arts Degree Requirements

Music Graduate Program, Music Education Option

The Master of Arts degree program in music is designed to increase the candidate's professional competence, to increase the ability for continued self-directed study, and to provide opportunity for greater depth in the chosen area of concentration within the field of music.

Foreign students must have achieved a minimum TOEFL score of 600 to gain en trance to the program.

With permission of the studio teacher, students with TOEFL scores between 550 and 600 may be considered for admission.

Graduate Writing Skills Requirement

Before advancing to candidacy, students must pass the **Graduate Writing Requirement.** The graduate writing requirement is a component of MUSIC 220. Students who pass all components of MUSIC 220 except the writing requirement will undertake a developmental writing program until the standards are met. The standards for the graduate writing requirement are included in the course materials for MUSIC 220.

Master of Arts Degree Requirements

(See also Admission to Graduate Standing, Advancement to Candidacy, Program Requirements, and Criteria for Thesis and Project.)

The Master of Arts degree program in music requires a bachelor's degree in music or the equivalent.

All entering M.A. students must take diagnostic entrance examinations in music history and music theory. Where needed, remedial work may be required prior to graduate study. An audition and/or entrance interview is also required.

Under the direction of graduate advisers, each student prepares and submits a coherent program individually designed within the following framework:

Courses in music, including at least 21 units in 200-series

Specific requirements (12 units)
MUSIC 204, 220, one music history seminar (MUSIC 260T, MUSIC 277) and one music theory seminar (MUSIC 240T, MUSIC 267)

Option (select one) (10-11 units)
Music Education
Performance

Electives (4-5 units)
Courses in music, or related fields, in a subject other than music (consult adviser)

Project or thesis (3 units)

Total (30 units)

Students in the performance option who elect emphases in vocal performance and choral conducting must satisfy foreign language requirements in French, German, or Italian (see area adviser). Courses in addition to those in the M.A. requirements may be specified after examination of the student's record and the student's performance on the diagnostic entrance examination. A maximum of 4 units in MUSIC 102 taken after completion of the B.A. may be applied to the M.A. A written qualifying examination is required for admission to project or thesis.

Music - Performance Option, M.A.

Requirements

Master of Arts Degree Requirements

Music Graduate Program, Performance Option

The Master of Arts degree program in music is designed to increase the candidate's professional competence, to increase the ability for continued self-directed study, and to provide opportunity for greater depth in the chosen area of concentration within the field of music.

Foreign students must have achieved a minimum TOEFL score of 600 to gain en trance to the program.

With permission of the studio teacher, students with TOEFL scores between 550 and 600 may be considered for admission.

Graduate Writing Skills Requirement

Before advancing to candidacy, students must pass the **Graduate Writing Requirement.** The graduate writing requirement is a component of MUSIC 220. Students who pass all components of MUSIC 220 except the writing requirement will undertake a developmental writing program until the standards are met. The standards for the graduate writing requirement are included in the course materials for MUSIC 220.

Master of Arts Degree Requirements

(See also Admission to Graduate Standing, Advancement to Candidacy, Program Requirements, and Criteria for Thesis and Project.)

The Master of Arts degree program in music requires a bachelor's degree in music or the equivalent.

All entering M.A. students must take diagnostic entrance examinations in music history and music theory. Where needed, remedial work may be required prior to graduate study. An audition and/or entrance interview is also required.

Under the direction of graduate advisers, each student prepares and submits a coherent program individually designed within the following framework:

Courses in music, including at least 21 units in 200-series

Specific requirements (12 units)
MUSIC 204, 220, one music history seminar (MUSIC 260T, MUSIC 277) and one music theory seminar (MUSIC 240T, MUSIC 267)

Option (select one) (10-11 units)
Music Education
Performance

Electives (4-5 units)
Courses in music, or related fields, in a subject other than music (consult adviser)

Project or thesis (3 units)

Total (30 units)

Students in the performance option who elect emphases in vocal performance and choral conducting must satisfy foreign language requirements in French, German, or Italian (see area adviser). Courses in addition to those in the M.A. requirements may be specified after examination of the student's record and the student's performance on the diagnostic entrance examination. A maximum of 4 units in MUSIC 102 taken after completion of the B.A. may be applied to the M.A. A written qualifying examination is required for admission to project or thesis.

Nursing - Accelerated Clinical Nurse Specialist/Nurse Educator, M.S.

Requirements

Master of Science Degree Requirements

Nursing Graduate Program

The school offers a CCNE accredited program that leads to a Master of Science degree in Nursing. The purpose of the program is to prepare nurses for advanced practice in the functional roles of primary care nurse practitioner and clinical nurse specialist/nursing educator. Each graduate of the master's in nursing program must demonstrate advanced knowledge and skill in physical diagnosis, psychological assessment, and management of health-illness needs in complex client and community systems. The program provides a foundation for doctoral study in nursing.

Clinical Options
Students select a functional role of either primary care nurse practitioner or clinical nurse specialist/nursing educator. Any nursing class in the role specialization options area may be cancelled because of insufficient enrollment.

Clinical Nurse Specialist/Nurse Educator
The Clinical Nurse Specialist/Nurse Educator Option prepares the graduate to assume a leadership role with advanced skills, knowledge, and competence in adult/geriatric or pediatric areas of clinical nursing. Students in this option will demonstrate competence in the areas of expert clinical practice, education, research, consultation, and clinical leadership.

CNS graduates meet the requirements for clinical nurse specialist certification through the California Board of Registered Nursing and national certification through the American Nurses Credentialing Center.

Nurse practitioner
The Primary Care/Nurse practitioner Option prepares the graduate to provide primary health care to children, the elderly adult, and families. Classroom and clinical experiences focus on health assessment, health maintenance, and promotion , as well as counseling, client education, and management of selected health problems. Practice in rural settings and with clients from diversified cultural backgrounds is emphasized.

Graduates meet the requirements for recognition as pediatric or family nurse practitioners in California and may apply for national certification.

The purpose of the Primary Care/Nurse Practitioner Option is to prepare nurses as specialists in primary care and to improve the availability, accessibility, and quality of primary care services in the Central San Joaquin Valley.

Policies and Procedures for M.S.N. Admission

Admission Procedures. You must complete two applications for the graduate nursing program.

1. You must apply to the university by March 1 as a graduate student through csumentor.edu.
2. You must also complete a School of Nursing application. You may download and complete the application online from the School of Nursing website at www.fresnostate.edu/chhs/nursing/, or you can pick up an application from the nursing office. Once they are completed, print and mail the application and accompanying documents to the nursing office at

   California State University, Fresno
   Admissions: Graduate Nursing Program
   School of Nursing
   2345 East San Ramon Avenue M/S MH25

Fresno, CA 93740-8031

3. Complete the Graduate Record Examination and have scores sent to the university and the School of Nursing.
4. Complete and submit School of Nursing graduate program written essay.
5. Have official copies of all transcripts sent to both the School of Nursing and to

   Graduate Admissions Office
   Joyal Administration Building
   5150 N. Maple M/S JA57
   Fresno, CA 93740-8026

Admission Criteria. There are two pathways into the M.S.N. program for individuals with different educational backgrounds: the B.S.N. graduate and the R.N. with a non-nursing baccalaureate degree.

Admission Criteria for B.S.N. Graduates

1. Admission to California State University, Fresno, Division of Graduate Studies
2. Baccalaureate degree in nursing from an NLN/CCNE accredited program
3. Registered nurse license in California (may be waived for nurses licensed in another country)
4. Overall GPA of 2.5 with 3.0 in nursing
5. Malpractice insurance
6. An introductory course in statistics
7. An introductory course in research
8. A physical assessment course that includes theory and practice; or validation of knowledge and skills for graduates of programs with integrated content
9. Current CPR certification

Admission Criteria for Registered Nurses with a Baccalaureate Degree in a Field Other Than Nursing

This program is open only to students eligible for admission to graduate standing at California State University, Fresno, who have completed a nursing program in an accredited school, are registered, or eligible for registration as nurses in the state of California and who hold a bachelor's degree in a related field from an accredited university.

For admission to this program, students are required to meet the following criteria in addition to the regular criteria set for admission to the M.S.N. program:

1. Submission of resume of all past educational and employment experience. Resume should emphasize experience in leadership, community health, research, and writing for publication.
2. Review of resume by the graduate coordinator of the School of Nursing who establishes nursing courses the student must complete to obtain a background comparable to students graduating with a B.S.N. at California State University, Fresno.
3. Satisfactory completion of the individualized program established by the coordinator before enrolling in the regular M.S.N. program.
4. Admission to the Nurse Practitioner Program is not guaranteed, and all students must make application to the Nurse Practitioner Program.

Post-Master's Certificates (State-Issued)

At California State University, Fresno, the post-master's nurse practitioner certificate is 31 units and the post-master's clinical nurse specialist/nurse educator certificate is 32 units. These certificates are issued by the California Board of Registered Nursing. Applicants may receive credit toward the certificates for graduate courses taken previously. Typically, the main courses that are requested for credit are the advanced theories and advanced issues courses. In order to request a course substitution, the applicant must submit a copy of the course description, objectives, and assignments for review by the graduate coordinator. At that time, the course of study will be determined with input from the student and school graduate curriculum committee. Students seeking post-master's certificates are exempt from some coursework and have a shorter program.

Master of Science Degree Requirements

Courses. Under the direction of the graduate coordinator, each student prepares and submits an individually designed program based on the following:

Core courses in nursing (13 units)
NURS 211, 212, 221, 223, 225

Role specialization courses (24-28 units)

(See below.)

Thesis (NURS 299) or Project (NURS 298) (3 units)
or
Comprehensive Exam* (0 units)

Minimum total (40-44 units)

Minimum total for Primary Care = 40 units
Adult-Gero Clinical Nurse Specialist/Nurse Educator total = 44 units*
Pediatric Clinical Nurse Specialist/Nurse Educator = 44 units*

* Additional approved 3-unit elective required for students taking the Comprehensive Exam.

Role Specialization (Options)

- Adult-Gero Clinical Nurse Specialist/Nurse Educator
  NURS 210, 235, 236, 240, 241, 242, 253, 254
- Pediatric Clinical Nurse Specialist/Nurse Educator
  NURS 210, 237, 238, 240, 241, 242, 255, 256
- Primary Care Nurse Practitioner
  Family
  NURS 210, 215, 264, 265, 266, 267, 277, 278
  Pediatric
  NURS 210, 215, 262, 263, 268, 269, 279, 280

Facilities. The diverse facilities of the community provide a wide variety of learning opportunities for individualized pursuit of student goals. Graduate and postbaccalaureate students have clinical placements, which are consistent with their career goals.

Preceptor selection for clinical placement in both the CNS and nurse practitioner programs is the responsibility of the School of Nursing. The school will gather pertinent information to assist in preceptor identification during the first semester of the program. All preceptors must meet standards for educational and clinical experience as established by the California Board of Registered Nursing and appropriate accrediting bodies. Preceptors must be either a physician or a master's prepared nurse practitioner.

Graduate Writing Requirement. All students must meet the university's graduate writing proficiency requirement prior to being advanced to candidacy for the master's degree. Students fulfill the writing requirement by passing the writing component of NURS 221. Students can obtain additional information regarding the graduate writing requirement in the program's Graduate Student Handbook.

Thesis, Project, and Comprehensive Exam. The school offers students the option of writing a thesis, completing a project, or taking a written comprehensive exam. Information about the culminating experience is available from an adviser in nursing.

Note: All practicum courses require a minimum of three hours of clinical work per unit of credit to meet course objectives.

Advancement to Candidacy. Completion of 9 graduate units with a GPA of 3.0.

Graduate students are responsible for policies and regulations of the Division of Graduate Studies and those specified in the graduate nursing program brochure.

Nursing - Primary Care/Nurse Practitioner & Clinical Nurse Specialist/Nurse Educator, M.S.

Requirements

Master of Science Degree Requirements

Nursing Graduate Program

The school offers a CCNE accredited program that leads to a Master of Science degree in Nursing. The purpose of the program is to prepare nurses for advanced practice in the functional roles of primary care nurse practitioner and clinical nurse specialist/nursing educator. Each graduate of the master's in nursing program must demonstrate advanced knowledge and skill in physical diagnosis, psychological assessment, and management of health-illness needs in complex client and community systems. The program provides a foundation for doctoral study in nursing.

Clinical Options
Students select a functional role of either primary care nurse practitioner or clinical nurse specialist/nursing educator. Any nursing class in the role specialization options area may be cancelled because of insufficient enrollment.

Clinical Nurse Specialist/Nurse Educator
The Clinical Nurse Specialist/Nurse Educator Option prepares the graduate to assume a leadership role with advanced skills, knowledge, and competence in adult/geriatric or pediatric areas of clinical nursing. Students in this option will demonstrate competence in the areas of expert clinical practice, education, research, consultation, and clinical leadership.

CNS graduates meet the requirements for clinical nurse specialist certification through the California Board of Registered Nursing and national certification through the American Nurses Credentialing Center.

Nurse practitioner
The Primary Care/Nurse practitioner Option prepares the graduate to provide primary health care to children, the elderly adult, and families. Classroom and clinical experiences focus on health assessment, health maintenance, and promotion , as well as counseling, client education, and management of selected health problems. Practice in rural settings and with clients from diversified cultural backgrounds is emphasized.

Graduates meet the requirements for recognition as pediatric or family nurse practitioners in California and may apply for national certification.

The purpose of the Primary Care/Nurse Practitioner Option is to prepare nurses as specialists in primary care and to improve the availability, accessibility, and quality of primary care services in the Central San Joaquin Valley.

Policies and Procedures for M.S.N. Admission

Admission Procedures. You must complete two applications for the graduate nursing program.

1. You must apply to the university by March 1 as a graduate student through csumentor.edu.
2. You must also complete a School of Nursing application. You may download and complete the application online from the School of Nursing website at www.fresnostate.edu/chhs/nursing/, or you can pick up an application from the nursing office. Once they are completed, print and mail the application and accompanying documents to the nursing office at

   California State University, Fresno
   Admissions: Graduate Nursing Program
   School of Nursing
   2345 East San Ramon Avenue M/S MH25
   Fresno, CA 93740-8031

3. Complete the Graduate Record Examination and have scores sent to the university and the School of Nursing.
4. Complete and submit School of Nursing graduate program written essay.
5. Have official copies of all transcripts sent to both the School of Nursing and to

   Graduate Admissions Office
   Joyal Administration Building
   5150 N. Maple M/S JA57
   Fresno, CA 93740-8026

Admission Criteria. There are two pathways into the M.S.N. program for individuals with different educational backgrounds: the B.S.N. graduate and the R.N. with a non-nursing baccalaureate degree.

Admission Criteria for B.S.N. Graduates
1. Admission to California State University, Fresno, Division of Graduate Studies
2. Baccalaureate degree in nursing from an NLN/CCNE accredited program
3. Registered nurse license in California (may be waived for nurses licensed in another country)
4. Overall GPA of 2.5 with 3.0 in nursing
5. Malpractice insurance

6. An introductory course in statistics
7. An introductory course in research
8. A physical assessment course that includes theory and practice; or validation of knowledge and skills for graduates of programs with integrated content
9. Current CPR certification

Admission Criteria for Registered Nurses with a Baccalaureate Degree in a Field Other Than Nursing

This program is open only to students eligible for admission to graduate standing at California State University, Fresno, who have completed a nursing program in an accredited school, are registered, or eligible for registration as nurses in the state of California and who hold a bachelor's degree in a related field from an accredited university.

For admission to this program, students are required to meet the following criteria in addition to the regular criteria set for admission to the M.S.N. program:

1. Submission of resume of all past educational and employment experience. Resume should emphasize experience in leadership, community health, research, and writing for publication.
2. Review of resume by the graduate coordinator of the School of Nursing who establishes nursing courses the student must complete to obtain a background comparable to students graduating with a B.S.N. at California State University, Fresno.
3. Satisfactory completion of the individualized program established by the coordinator before enrolling in the regular M.S.N. program.
4. Admission to the Nurse Practitioner Program is not guaranteed, and all students must make application to the Nurse Practitioner Program.

Post-Master's Certificates (State-Issued)

At California State University, Fresno, the post-master's nurse practitioner certificate is 31 units and the post-master's clinical nurse specialist/nurse educator certificate is 32 units. These certificates are issued by the California Board of Registered Nursing. Applicants may receive credit toward the certificates for graduate courses taken previously. Typically, the main courses that are requested for credit are the advanced theories and advanced issues courses. In order to request a course substitution, the applicant must submit a copy of the course description, objectives, and assignments for review by the graduate coordinator. At that time, the course of study will be determined with input from the student and school graduate curriculum committee. Students seeking post-master's certificates are exempt from some coursework and have a shorter program.

Master of Science Degree Requirements

Courses. Under the direction of the graduate coordinator, each student prepares and submits an individually designed program based on the following:

Core courses in nursing (13 units)
NURS 211, 212, 221, 223, 225

Role specialization courses (24-28 units)
(See below.)

Thesis (NURS 299) or Project (NURS 298) (3 units)
or
Comprehensive Exam* (0 units)

Minimum total (40-44 units)

Minimum total for Primary Care = 40 units
Adult-Gero Clinical Nurse Specialist/Nurse Educator total = 44 units*
Pediatric Clinical Nurse Specialist/Nurse Educator = 44 units*

* Additional approved 3-unit elective required for students taking the Comprehensive Exam.

Role Specialization (Options)
- Adult-Gero Clinical Nurse Specialist/Nurse Educator
  NURS 210, 235, 236, 240, 241, 242, 253, 254
- Pediatric Clinical Nurse Specialist/Nurse Educator
  NURS 210, 237, 238, 240, 241, 242, 255, 256
- Primary Care Nurse Practitioner

Family
NURS 210, 215, 264, 265, 266, 267, 277, 278
Pediatric
NURS 210, 215, 262, 263, 268, 269, 279, 280

Facilities. The diverse facilities of the community provide a wide variety of learning opportunities for individualized pursuit of student goals. Graduate and postbaccalaureate students have clinical placements, which are consistent with their career goals.

Preceptor selection for clinical placement in both the CNS and nurse practitioner programs is the responsibility of the School of Nursing. The school will gather pertinent information to assist in preceptor identification during the first semester of the program. All preceptors must meet standards for educational and clinical experience as established by the California Board of Registered Nursing and appropriate accrediting bodies. Preceptors must be either a physician or a master's prepared nurse practitioner.

Graduate Writing Requirement. All students must meet the university's graduate writing proficiency requirement prior to being advanced to candidacy for the master's degree. Students fulfill the writing requirement by passing the writing component of NURS 221. Students can obtain additional information regarding the graduate writing requirement in the program's Graduate Student Handbook.

Thesis, Project, and Comprehensive Exam. The school offers students the option of writing a thesis, completing a project, or taking a written comprehensive exam. Information about the culminating experience is available from an adviser in nursing.

Note: All practicum courses require a minimum of three hours of clinical work per unit of credit to meet course objectives.

Advancement to Candidacy. Completion of 9 graduate units with a GPA of 3.0.

Graduate students are responsible for policies and regulations of the Division of Graduate Studies and those specified in the graduate nursing program brochure.

Nursing - Primary Care/Nurse Practitioner Option, M.S.

Requirements

Master of Science Degree Requirements

Nursing Graduate Program

The school offers a CCNE accredited program that leads to a Master of Science degree in Nursing. The purpose of the program is to prepare nurses for advanced practice in the functional roles of primary care nurse practitioner and clinical nurse specialist/nursing educator. Each graduate of the master's in nursing program must demonstrate advanced knowledge and skill in physical diagnosis, psychological assessment, and management of health-illness needs in complex client and community systems. The program provides a foundation for doctoral study in nursing.

Clinical Options
Students select a functional role of either primary care nurse practitioner or clinical nurse specialist/nursing educator. Any nursing class in the role specialization options area may be cancelled because of insufficient enrollment.

Clinical Nurse Specialist/Nurse Educator
The Clinical Nurse Specialist/Nurse Educator Option prepares the graduate to assume a leadership role with advanced skills, knowledge, and competence in adult/geriatric or pediatric areas of clinical nursing. Students in this option will demonstrate competence in the areas of expert clinical practice, education, research, consultation, and clinical leadership.

CNS graduates meet the requirements for clinical nurse specialist certification through the California Board of Registered Nursing and national certification through the American Nurses Credentialing Center.

Nurse practitioner
The Primary Care/Nurse practitioner Option prepares the graduate to provide primary health care to children, the elderly adult, and families. Classroom and clinical experiences focus on health assessment, health maintenance, and promotion , as well as counseling, client education, and management of selected health problems. Practice in rural settings and with clients from diver-

sified cultural backgrounds is emphasized.

Graduates meet the requirements for recognition as pediatric or family nurse practitioners in California and may apply for national certification.

The purpose of the Primary Care/Nurse Practitioner Option is to prepare nurses as specialists in primary care and to improve the availability, accessibility, and quality of primary care services in the Central San Joaquin Valley.

Policies and Procedures for M.S.N. Admission

Admission Procedures. You must complete two applications for the graduate nursing program.

1. You must apply to the university by March 1 as a graduate student through csumentor.edu.
2. You must also complete a School of Nursing application. You may download and complete the application online from the School of Nursing website at www.fresnostate.edu/chhs/nursing/, or you can pick up an application from the nursing office. Once they are completed, print and mail the application and accompanying documents to the nursing office at

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   Admissions: Graduate Nursing Program
   School of Nursing
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   Fresno, CA 93740-8031

3. Complete the Graduate Record Examination and have scores sent to the university and the School of Nursing.
4. Complete and submit School of Nursing graduate program written essay.
5. Have official copies of all transcripts sent to both the School of Nursing and to

   Graduate Admissions Office
   Joyal Administration Building
   5150 N. Maple M/S JA57
   Fresno, CA 93740-8026

Admission Criteria. There are two pathways into the M.S.N. program for individuals with different educational backgrounds: the B.S.N. graduate and the R.N. with a non-nursing baccalaureate degree.

Admission Criteria for B.S.N. Graduates

1. Admission to California State University, Fresno, Division of Graduate Studies
2. Baccalaureate degree in nursing from an NLN/CCNE accredited program
3. Registered nurse license in California (may be waived for nurses licensed in another country)
4. Overall GPA of 2.5 with 3.0 in nursing
5. Malpractice insurance
6. An introductory course in statistics
7. An introductory course in research
8. A physical assessment course that includes theory and practice; or validation of knowledge and skills for graduates of programs with integrated content
9. Current CPR certification

Admission Criteria for Registered Nurses with a Baccalaureate Degree in a Field Other Than Nursing

This program is open only to students eligible for admission to graduate standing at California State University, Fresno, who have completed a nursing program in an accredited school, are registered, or eligible for registration as nurses in the state of California and who hold a bachelor's degree in a related field from an accredited university.

For admission to this program, students are required to meet the following criteria in addition to the regular criteria set for admission to the M.S.N. program:

1. Submission of resume of all past educational and employment experience. Resume should emphasize experience in leadership, community health, research, and writing for publication.
2. Review of resume by the graduate coordinator of the School of Nursing who establishes nursing courses the student must complete to obtain a background comparable to students graduating with a B.S.N. at California State University, Fresno.
3. Satisfactory completion of the individualized program established by the coordinator before enrolling in the regular M.S.N. program.
4. Admission to the Nurse Practitioner Program is not guaranteed, and all students must make application to the Nurse Practi-

tioner Program.

Post-Master's Certificates (State-Issued)

At California State University, Fresno, the post-master's nurse practitioner certificate is 31 units and the post-master's clinical nurse specialist/nurse educator certificate is 32 units. These certificates are issued by the California Board of Registered Nursing. Applicants may receive credit toward the certificates for graduate courses taken previously. Typically, the main courses that are requested for credit are the advanced theories and advanced issues courses. In order to request a course substitution, the applicant must submit a copy of the course description, objectives, and assignments for review by the graduate coordinator. At that time, the course of study will be determined with input from the student and school graduate curriculum committee. Students seeking post-master's certificates are exempt from some coursework and have a shorter program.

Master of Science Degree Requirements

Courses. Under the direction of the graduate coordinator, each student prepares and submits an individually designed program based on the following:

Core courses in nursing (13 units)
NURS 211, 212, 221, 223, 225

Role specialization courses (24-28 units)
(See below.)

Thesis (NURS 299) or Project (NURS 298) (3 units)
or
Comprehensive Exam* (0 units)

Minimum total (40-44 units)

Minimum total for Primary Care = 40 units
Adult-Gero Clinical Nurse Specialist/Nurse Educator total = 44 units*
Pediatric Clinical Nurse Specialist/Nurse Educator = 44 units*

* Additional approved 3-unit elective required for students taking the Comprehensive Exam.

Role Specialization (Options)

- Adult-Gero Clinical Nurse Specialist/Nurse Educator
  NURS 210, 235, 236, 240, 241, 242, 253, 254
- Pediatric Clinical Nurse Specialist/Nurse Educator
  NURS 210, 237, 238, 240, 241, 242, 255, 256
- Primary Care Nurse Practitioner
  Family
  NURS 210, 215, 264, 265, 266, 267, 277, 278
  Pediatric
  NURS 210, 215, 262, 263, 268, 269, 279, 280

Facilities. The diverse facilities of the community provide a wide variety of learning opportunities for individualized pursuit of student goals. Graduate and postbaccalaureate students have clinical placements, which are consistent with their career goals.

Preceptor selection for clinical placement in both the CNS and nurse practitioner programs is the responsibility of the School of Nursing. The school will gather pertinent information to assist in preceptor identification during the first semester of the program. All preceptors must meet standards for educational and clinical experience as established by the California Board of Registered Nursing and appropriate accrediting bodies. Preceptors must be either a physician or a master's prepared nurse practitioner.

Graduate Writing Requirement. All students must meet the university's graduate writing proficiency requirement prior to being advanced to candidacy for the master's degree. Students fulfill the writing requirement by passing the writing component of NURS 221. Students can obtain additional information regarding the graduate writing requirement in the program's Graduate Student Handbook.

Thesis, Project, and Comprehensive Exam. The school offers students the option of writing a thesis, completing a project, or taking a written comprehensive exam. Information about the culminating experience is available from an adviser in nursing.

Note: All practicum courses require a minimum of three hours of clinical work per unit of credit to meet course objectives.

Advancement to Candidacy. Completion of 9 graduate units with a GPA of 3.0.

Graduate students are responsible for policies and regulations of the Division of Graduate Studies and those specified in the graduate nursing program brochure.

Physics, M.S.

Requirements

Master of Science Degree Requirements

Physics Graduate Program

The objective of our M.S. program is to build a firm basis for subsequent Ph.D. study in physics or in related fields, for positions in industry, and for teaching at the community college level. We offer a broad-based academic program with the opportunity for specialized theoretical or experimental research. Students completing degrees have successfully pursued all three of these career goals - with roughly equal numbers going to doctoral programs and industry, and a smaller number directly into teaching.

Areas of research in which our faculty are active include physics pedagogy, condensed matter theory and experiment, characterization of materials properties (amorphous semiconductors), dipolar magnetism, Fullerene research, laser Raman spectroscopy, radiation medical physics, classical and quantum field theory, and gravitation. Faculty also study forces and interaction of fundamental constituents of matter with experiments using the world's most powerful particle accelerators at Fermi National Laboratory and CERN, Switzerland. Astronomy research includes observations of cataclysmic variables, black holes, and extrasolar planets. It is done with the most powerful instruments available today, including Hubble Space Telescope, and other NASA spacecraft, as well as many other telescopes around the world.

Under the direction of the graduate adviser and the graduate faculty, a coherent program, directed toward the student's goal in graduate study and designed within the framework outlined in the copy that follows, is prepared and submitted to the department. There is a standard core of classical mechanics (PHYS 203), classical electrodynamics (PHYS 220A, B) and quantum mechanics (PHYS 222A, B) which is strongly recommended for students planning to pursue further graduate study - and, at least in part, for all students. Other courses, both from within and from outside the department, can be used to complete the 30 unit master's program. A culminating experience, consisting of either a thesis (PHYS 299) or a project (PHYS 298) plus a competency examination, is required.

Undergraduate education equivalent to a physics major at California State University, Fresno is necessary for admission. Note the other requirements under Graduate Program.

Requirements

Physics graduate courses (21 units)
PHYS 290 [minimum 3 units] and PHYS 298 or 299 [minimum 3 units] (6 units)
Additional graduate courses in physics (15 units)
Students planning further graduate study should include PHYS 203, 220A-B, 222A, and 222B.
Upper-division or graduate electives in physics or related fields (9 units)

Total (30 units)

Graduate Program

The Department of Physics offers graduate instruction and research leading to the Master of Science.

For general information, read the Graduate Studies section in this catalog, and in particular, the sections on Admission to Graduate Standing, Advancement to Candidacy, and program requirements. The minimum entrance requirements are a GPA of 2.5 over the last 60 units, satisfactory scores on the GRE General Examination, and good references. Although the GRE scores are not the only, or most important, criteria used in the admission process, we generally look for scores above 150 on the quantitative portion of the exam or for a total above 300 on the combined quantitative and verbal portions. The GRE General Examination must be taken before applying for admission.

It is important to achieve classified standing quickly, before completion of 10 units. The next step is advancement to candidacy, after completion of at least 9 units of graduate study with a minimum GPA of 3.0 and satisfaction of the graduate writing requirement. To satisfy the writing requirement, students must submit a formal paper demonstrating writing skills at the graduate level. This graduate-level paper may be a research proposal, a literature review in their field, a paper from a graduate-directed research project, or another paper. Detailed writing requirement regulations are available from the department's graduate coordinator. Please contact the graduate coordinator for more information. Advancement also requires a score at or above the 25th percentile on the Advanced Physics GRE Subject Examination, or a score at or above the median in the Major Field Test (MFT) for Physics.

Teaching assistantships are usually available, as is general financial aid. For some forms of financial aid, applications must be completed before the end of February.

For specific questions, consult the chair of the department or the graduate adviser/coordinator.

Plant Science, M.S.

Requirements

Master of Science Degree Requirements

Plant Science Graduate Program

The Master of Science (M.S.) in Plant Science is a 30-unit program designed to provide advanced studies and in-depth knowledge in the fundamentals of plant science, as well as experimental design, technical writing, and formal presentation of research. Coursework provides a broad understanding of crop production and physiology, and thesis research allows for specialization. Areas of specialization include agronomy, pomology, horticulture, weed science, entomology, plant pathology, soils and irrigation, and mechanized agriculture. Graduate courses are offered in the late afternoon or evening permitting students to earn a degree within two or three years when working closely with an adviser.

Admission Requirements. The master's degree in Plant Science assumes preparation equivalent to a Bachelor of Science in Plant Science. Students having undergraduate majors in fields other than plant science may enter the program, but may reasonably expect additional requirements to produce equivalent preparation. The following courses or equivalents are expected to be completed prior to admission to the master's program:

3 units - Plant Physiology

3 units - Statistics

3 units - Soils

3 units - Plant Health (entomology, pathology, nematology, integrated pest management, biological control, etc.)

6 units - Life Science (chemistry, physics, etc.) of which a minimum of **3 units** must be in chemistry

9 units - Natural Science (biology, ecology, genetics, agricultural sciences, etc.)

Students who do not have all the prerequisite courses may be admitted to the program with conditionally classified standing and would be expected to complete the prerequisites before being granted classified standing.

To apply, students must complete the online application required for university admission at http://www.fresnostate.edu/gradstudies/admission. The following materials are required to complete the application:

- one complete set of transcripts of all prior college or university work
- statement of research interest (minimum of 500 words)
- three letters of recommendation from individuals in a position to make an evaluation in support of graduate study
- Institutional Score Report of the Graduate Record Exam (GRE)
- Institutional Score Report of the Teaching of English as a Foreign Language (TOEFL) exam -- for applicants whose native

language is not English (unless the baccalaureate degree is from an institution using English as their language of instruction)

The packet of application materials must be submitted by the following deadlines:

Spring Semester: **September 30** (Aug. 30, International students)*

Fall Semester: **March 1** (February 1, International students)*

*or as reported at Graduate Studies.

Admission will be based on all of the following criteria:

1. Official GRE scores (suggested minimum of 480 verbal, 580 quantitative and 4.0 grade point average for the last 60 units (minimum 2.75 GPA
2. Grade point average (GPA) for the last 60 units (minimum 2.75)
3. TOEFL score: for those required to take this exam, scores of 213 (computer-based), 550 (paper-based), or 80 (Internet-based)
4. Official college transcript verifying completion of prerequisite courses and conferral of the bachelor's degree
5. Three letters of reference
6. Statement of research interest

Classified standing may be granted to students who meet all of the admission criteria.

Conditional classified standing may be granted to applicants meeting most, but not all, of the admission requirements. In this case, students must fulfill the criteria for "classified standing" and submit the required paperwork by the semester in which a minimum of 10 units to be used toward the degree are completed. Prerequisite courses are not included in the 30-unit master's program and students must achieve a 3.0 GPA for all coursework (prerequisite and graduate)

Program Requirements

All students must complete a 15-unit common core consisting of four 3-unit courses and three 1-unit topic seminars. Students must also complete 9 additional units of elective courses. Each student is also expected to complete 6 units of thesis research (PLANT 299) in consultation with a thesis committee.

Core (15 units)
AGRI 200, 201, 220; PLANT 257, 270 (3 units required)

Electives (9 units)
Three courses from the list below. With prior approval, one course from the list of approved, non-departmental electives can substitute.
PLANT 251, 261, 252, 255, PLANT 250T (Topics in Plant Science)

Thesis Research (6 units)
PLANT 299 (3 units in each of two semesters)

Total minimum requirements (30 units) *

* Under certain circumstances students may need to take additional units at the discretion of the thesis adviser.

Graduate Advising Notes

1. Non-departmental elective courses may have prerequisites other than those listed as **Admission Requirements.**
2. Upon acceptance to the M.S. program in Plant Science, students should obtain the Graduate Student Handbook from the department office (559. 278.2861). Students will be assigned an initial faculty adviser by the graduate coordinators. Soon after, students should identify a research interest and find a faculty member willing to serve as their thesis adviser, notifying the graduate coordinators once finalized.
3. To progress through the graduate program, the student must (a) complete all prerequisite coursework, (b) attain classified standing, (c) maintain a minimum GPA of 3.0, (d) meet the university graduate writing requirement, (e) successfully present and defend the thesis proposal, (f) file for advancement to candidacy, (g) file a thesis committee assignment form, (h) complete all program requirements, and (i) satisfactorily present and defend the thesis research results.
4. Advancement to candidacy requires the completion of 9 program units in residence with a 3.0 or higher GPA, meeting the university graduate writing requirement, and filing a Petition for Advancement to Candidacy a minimum of one semester prior to enrollment in thesis units (PLANT 299) and within the deadline.

5. To meet the university graduate writing competency requirement, students must either pass the writing component of AGRI 220, or be approved for writing competency by the graduate coordinators based on their review of the thesis proposal. See the Plant Science Department "Graduate Student Handbook" or the graduate coordinators for details.
6. All students must successfully present and defend their thesis research proposal. The defense must be completed by the end of their second semester in the M.S. program. Information on writing and defending the thesis can be obtained from the graduate coordinators.
7. See the Division of Graduate Studies section in this catalog for university requirements or visit *www.fresnostate.edu/grad-studies*.

Psychology, Ed.S.

Educational Specialist Doctoratal Program

The Educational Specialist in School Psychology is a three-year, full-time graduate program and requires a minimum of 76 units. Practicum experience is required during the first two years of coursework. The internship experience, completed during the third year of the program, requires a minimum of 1,200 hours with at least half of these hours completed in a school setting.

Students who wish to become eligible for the Pupil Personnel Credential with a specialization in School Psychology as granted by the California Commission on Teacher Credentialing should contact the department for application materials and additional information.

Minimum Course Requirements for the Ed.S.

PSYCH 205 (4 units)
PSYCH 225T (3 units)
PSYCH 244A (4 units)
PSYCH 244B (4 units)
PSYCH 267 (12 units)
PSYCH 274S (4 units)
PSYCH 277 (4 units)
PSYCH 278 (4 units)
PSYCH 279 (4 units)
PSYCH 282 (4 units)
PSYCH 284 (4 units)
PSYCH 285 (4 units)
PSYCH 286 (4 units)
PSYCH 287 (4 units)
PSYCH 288 (4 units)
PSYCH 299 (Thesis) or 298 (Project) (6 units)
COUN 200 (3 units)
Total (76 units)

Graduate Programs

The Master of Arts and Educational Specialist degrees in Psychology are designed to provide students with a broad background in psychology while allowing them opportunities to pursue areas of special interest. Completion of the requirements for either master's degree prepares students for positions in community mental health service agencies, school settings, community college teaching, research, or entry into Ph.D. or Psy.D. programs in Psychology.

Admission to the Master of Arts and Ed.S. programs in Psychology is based upon the satisfactory completion of prerequisite courses selected from the core courses required for the California State University, Fresno undergraduate major in psychology, or their equivalent. Potential graduate students should submit transcripts of all academic work and three letters of recommendation. In addition, students must submit scores from the GRE general test to be considered for admission. School Psychology program applicants must submit scores from the CBEST as well and complete other prerequisites as outlined in the department's application. All students must submit applications to both the Division of Graduate Admissions and the Department of Psychology.

Admission to the graduate program in psychology is based on the evaluation of a student's capacity to successfully complete master's level work. The graduate committee uses multiple criteria to assess an applicant's qualifications including coursework completed, grades, test scores, essays, and letters of recommendation. In addition, an applicant's professional interests and goals are evaluated in terms of the interests of the faculty and the resources of the Department of Psychology. Separate evalu-

ations of applicants are made for the M.A. general/experimental program and the Ed.S. School Psychology program. Although many applicants meet our minimum admission requirements, we are limited in the number of positions available and many qualified applicants cannot be offered admission.

Admission to classified graduate standing requires a minimum undergraduate grade point average of 3.0, as well as a minimum grade point average of 3.0 in undergraduate psychology courses. A combined score of 1,000 or higher on the Verbal and Quantitative sections of the GRE General Test is preferred. Applicants lacking minimum scores in one area with compensating strengths in other areas may apply. The Department of Psychology does not typically admit unclassified students into the graduate program.

In order to apply for advancement to candidacy, students in psychology graduate programs must earn grades of A or B in PSYCH 244A and PSYCH 244B and pass the Psychology Department Graduate Writing Requirement.

The graduate writing requirement can be fulfilled in PSYCH 244A. Further information can be found in the course syllabus and graduate handbook.

Under the direction of a graduate adviser, a coherent program is prepared and submitted, directed toward the achievement of the student's goal in graduate study.

Psychology - Applied Behavior Analysis Option, M.A.

Requirements

Master of Arts Degree Requirements

Psychology Graduate Program, Applied Behavior Analysis Option

The Applied Behavior Analysis Option in the Master of Arts degree program in psychology is a two-year, full-time graduate program option that meets the degree, coursework, and experience requirements needed in preparation for national certification as a Board Certified Behavior Analyst (BCBA). Students are required to take 43 hours of coursework, including 3 thesis hours and 4 hours of practicum. A minimum of 1,000 contact hours of practicum are required over the two years of the program. Students must apply for admission to the ABA Option of the M.A. program during the graduate application process.

This program option emphasizes behavior analytic applications with typically developing and developmentally disabled children.

Course Requirements for the Applied Behavior Analysis Option

Core
PSYCH 221 (4 units)
PSYCH 223 (4 units)
PSYCH 244A (4 units)
PSYCH 245 (4 units)
PSYCH 299 (Thesis) (3 units)
Total (19 units)

Additional requirements
PSYCH 231 (3 units)
PSYCH 268 (Practicum) (4 units)
PSYCH 271 (3 units)
PSYCH 288 (4 units)
PSYCH 289 (4 units)
Total (18 units)

Electives (7 units)
Courses must be approved by the ABA program coordinator.

Total (44 units)

Graduate Programs

The Master of Arts and Educational Specialist degrees in Psychology are designed to provide students with a broad background in psychology while allowing them opportunities to pursue areas of special interest. Completion of the requirements for either master's degree prepares students for positions in community mental health service agencies, school settings, community college teaching, research, or entry into Ph.D. or Psy.D. programs in Psychology.

Admission to the Master of Arts and Ed.S. programs in Psychology is based upon the satisfactory completion of prerequisite courses selected from the core courses required for the California State University, Fresno undergraduate major in psychology, or their equivalent. Potential graduate students should submit transcripts of all academic work and three letters of recommendation. In addition, students must submit scores from the GRE general test to be considered for admission. School Psychology program applicants must submit scores from the CBEST as well and complete other prerequisites as outlined in the department's application. All students must submit applications to both the Division of Graduate Admissions and the Department of Psychology.

Admission to the graduate program in psychology is based on the evaluation of a student's capacity to successfully complete master's level work. The graduate committee uses multiple criteria to assess an applicant's qualifications including coursework completed, grades, test scores, essays, and letters of recommendation. In addition, an applicant's professional interests and goals are evaluated in terms of the interests of the faculty and the resources of the Department of Psychology. Separate evaluations of applicants are made for the M.A. general/experimental program and the Ed.S. School Psychology program. Although many applicants meet our minimum admission requirements, we are limited in the number of positions available and many qualified applicants cannot be offered admission.

Admission to classified graduate standing requires a minimum undergraduate grade point average of 3.0, as well as a minimum grade point average of 3.0 in undergraduate psychology courses. A combined score of 1,000 or higher on the Verbal and Quantitative sections of the GRE General Test is preferred. Applicants lacking minimum scores in one area with compensating strengths in other areas may apply. The Department of Psychology does not typically admit unclassified students into the graduate program.

In order to apply for advancement to candidacy, students in psychology graduate programs must earn grades of A or B in PSYCH 244A and PSYCH 244B and pass the Psychology Department Graduate Writing Requirement.

The graduate writing requirement can be fulfilled in PSYCH 244A. Further information can be found in the course syllabus and graduate handbook.

Under the direction of a graduate adviser, a coherent program is prepared and submitted, directed toward the achievement of the student's goal in graduate study.

Psychology, M.A.

Requirements

Master of Arts Requirements

Psychology Graduate Program

The Master of Arts degree program in psychology may be arranged to include interest areas such as general experimental, developmental, and social psychology, as well as special master of arts programs for individuals. This 30-unit degree program is intended primarily to prepare graduates for entry into doctoral programs in general experimental, developmental, social, or clinical psychology, and may serve as preparation for community college teaching or professional employment requiring a master's degree.

Minimum Course Requirements for the M.A.

Core
PSYCH 244A (4 units)
PSYCH 244B (4 units)

PSYCH 205 or 250T or 255T (one course) (3 units)
PSYCH 220T or 225T (one course) (3 units)
PSYCH 299 (Thesis) (3 units)
Total (17 units)

Electives
Must include two additional courses in psychology or a related field; maximum of 6 units independent study. Program must be approved by graduate adviser (13 units)

Total (30 units)

Graduate Programs

The Master of Arts and Educational Specialist degrees in Psychology are designed to provide students with a broad background in psychology while allowing them opportunities to pursue areas of special interest. Completion of the requirements for either master's degree prepares students for positions in community mental health service agencies, school settings, community college teaching, research, or entry into Ph.D. or Psy.D. programs in Psychology.

Admission to the Master of Arts and Ed.S. programs in Psychology is based upon the satisfactory completion of prerequisite courses selected from the core courses required for the California State University, Fresno undergraduate major in psychology, or their equivalent. Potential graduate students should submit transcripts of all academic work and three letters of recommendation. In addition, students must submit scores from the GRE general test to be considered for admission. School Psychology program applicants must submit scores from the CBEST as well and complete other prerequisites as outlined in the department's application. All students must submit applications to both the Division of Graduate Admissions and the Department of Psychology.

Admission to the graduate program in psychology is based on the evaluation of a student's capacity to successfully complete master's level work. The graduate committee uses multiple criteria to assess an applicant's qualifications including coursework completed, grades, test scores, essays, and letters of recommendation. In addition, an applicant's professional interests and goals are evaluated in terms of the interests of the faculty and the resources of the Department of Psychology. Separate evaluations of applicants are made for the M.A. general/experimental program and the Ed.S. School Psychology program. Although many applicants meet our minimum admission requirements, we are limited in the number of positions available and many qualified applicants cannot be offered admission.

Admission to classified graduate standing requires a minimum undergraduate grade point average of 3.0, as well as a minimum grade point average of 3.0 in undergraduate psychology courses. A combined score of 1,000 or higher on the Verbal and Quantitative sections of the GRE General Test is preferred. Applicants lacking minimum scores in one area with compensating strengths in other areas may apply. The Department of Psychology does not typically admit unclassified students into the graduate program.

In order to apply for advancement to candidacy, students in psychology graduate programs must earn grades of A or B in PSYCH 244A and PSYCH 244B and pass the Psychology Department **Graduate Writing Requirement.**

The graduate writing requirement can be fulfilled in PSYCH 244A. Further information can be found in the course syllabus and graduate handbook.

Under the direction of a graduate adviser, a coherent program is prepared and submitted, directed toward the achievement of the student's goal in graduate study.

Public Administration, M.P.A.

Requirements

Master of Public Administration Program

The M.P.A. Program builds on the belief that effective leadership of public agencies requires a basic set of abilities and public values irrespective of the particular characteristics of an organization. Courses in the program focus on the development of critical thinking and analytical skills, as well as an appreciation for ethical decision making.

All students in the program complete a core program of 21 units within the 36 units required for the M.P.A. In consultation with their advisers, students will select the remaining units from graduate public administration courses and courses offered by other departments and programs. These units can be used to further develop a general competence in public administration or to provide students with an opportunity to pursue additional topics of interest. The M.P.A. student can meet the university Graduate Writing Requirement by passing the writing component of the course MPA 210. Please see program director for the written policy. To finish the program students may elect to write a thesis or to take a comprehensive examination.

The curriculum of the program follows the guidelines established by the National Association of Schools of Public Affairs and Administration (NASPAA) and was designed following consultation with senior public administrators in the Fresno area. Consistent with the NASPAA guidelines, the program seeks to prepare administrative specialists who understand the place and role of public agencies and their staffs in the political, social, and economic systems of the United States; who have the analytic tools, both quantitative and qualitative, to diagnose problems and analyze alternative courses of public action; who have the leadership abilities to develop and make effective use of the talents and abilities of agency staffs; who have the abilities required to formulate, implement, and evaluate public policies which are responsible and effective; and who are able to manage an agency in such a way as to make responsible and effective use of its resources now and in the future.

Master of Public Administration Degree Requirements

Core (18 units)
MPA 200, 201, 210, 230, 245, 260

Additional core (3 units)
MPA 215, 240, 250, or 280T

Approved electives (3-15 units)

Practitioner's Seminars (0-6 units)
MPA 289T

Internship (0-3 units)
MPA 287

Comprehensive examination (0 units)

Thesis (0-3 units)
MPA 299

Minimum total (36 units)

All students will be required to take 21 core units; 18 of these core units are prescribed for students. The remaining 3 core units must be selected from the courses listed under the "Additional Core" heading. Students may take more than one course listed under the "Additional Core" heading. If they do, these courses will count towards meeting their "Approved Electives" requirement. MPA students may also choose to take units offered as Practitioner Seminars (MPA 289T). Pre-service or in-service students with less than six months of experience in the public or non-profit sector will be advised to take MPA 287. This will provide them with both a valuable learning and working experience. To culminate their MPA experience, students may choose either the comprehensive exam or thesis. The comprehensive exam does not count for any units towards the degree, but does satisfy the requirement that students be provided with a culminating experience to their program. The thesis (MPA 299) is worth 3 units toward the degree and also satisfies the culminating experience requirement.

Approved elective courses may used to build on the foundation of the program's core offerings. The courses to be used as electives in the MPA program are to be chosen in consultation with the student's adviser and must be approved by the MPA director. The students' selection of electives should be guided by their interest in a particular course/topic and its relationship to the practice of public administration.

Admission. Applicants may qualify for admission to the program and thereby take program courses by achieving classified graduate standing. Classified standing requires:

1. An acceptable baccalaureate degree from an institution accredited by a regional accrediting association;
2. Good standing at the last college attended;
3. Submission to the university of transcripts of college work; scores from the Graduate Record Examination Aptitude Test (GRE) or the Graduate Management Admission Test (GMAT); a written statement indicating why the applicant wishes to pursue an M.P.A.; and, if any, evidence of work performance in a public or nonprofit agency (see 4d below); and
4. Recommendation for admission by the Admissions Committee of the Graduate Public Administration Program. Candidates will be recommended on the basis of the prom ise they show for successfully completing the program and achieving a successful career in public management and administration. Candidates will be evaluated using a combination of: (a) grade point average (those with averages of less than 2.75 overall or 3.0 on the last 60 semester units attempted must have compensating strength in other areas); (b) aptitude for academic work (those with scores of less than 475 on either part of the GRE or on the GMAT must have compensating strength in other areas); (c) professional goals of the applicant; (d) successful performance in public or nonprofit agency employment as demonstrated by the character of work accomplished, distinctions achieved, and letters of recommendation from persons who can knowingly and comparatively evaluate the on-the-job performance of the candidate over a period of time (this basis for evaluation may be waived for candidates showing great strength in (a) or (b) above). Applicants whose native language is not English must also achieve a minimum score of 550 on the Test of English as a Foreign Language.

Public Administration, M.P.A. - Continuing & Global Education

Requirements

The Master of Public Administration (MPA) program at California State University, Fresno, provides a professional degree to individuals seeking to serve the public through the effective and ethical administration of public programs. To accomplish this, the program faculty promote and teach the following core competencies: To lead and manage in public governance; to participate in and contribute to the public policy process; to analyze, synthesize, think critically, solve problems, and make decisions; to articulate and apply a public service perspective; and to communicate and interact with a diverse and changing workforce and citizenry.

For more information, please contact Dr. Kurt Cline at 559-278-2865 or e-mail *kcline@csufresno.edu*.

All students who want to apply for the Master of Public Administration must visit CSU Mentor at *www.csumentor*.

Public Health - Health Promotion Option, M.P.H.

Requirements

Master of Public Health Degree Program Requirements

This program is designed to prepare students in the broad area of public health. It includes preparation in the public health core and in the following options: Health Promotion or Health Policy and Management. Each option includes a field experience and a culminating experience.

Each fall, the MPH program admits students who demonstrate high academic ability and promise and have the professional values and ethics appropriate to maintaining professional standards in the field. Applicants are expected to have a high degree of academic and professional preparation for this program and the ability to make significant contributions to the program.

Admission to the MPH program is a two-phase process. The first phase requires that a candidate meet the graduate divisions requirements for admission to the university, and the second phase is the admission to the MPH program. Applicants are required to complete the department application.

A. Admission to the university: A candidate must have achieved an under graduate GPA of 2.5 on the last 60 units and submit official copies of university transcripts, and scores on the GRE.

B. Admission to the MPH program: Candidates for admission to the program will be selected based on the following:

1. Academic ability and preparation as demonstrated by: (a) 3.0 GPA in the major (b) scores on the GRE (c) official transcripts, and (d) satisfactory completion of all prerequisites.
2. Professional capabilities as demonstrated through: (a) three letters of recommendation (from employers and at least one from a former faculty member) (b) a statement of intent, and (c) an oral interview.

Once admitted to the program the student will be assigned to a faculty adviser in the option selected, and under the adviser's direction the student will follow a pattern of study designed to be completed in three years of late afternoon and evening study. Admission commences during the fall semester, and each student is admitted for a specific term. If a student is admitted and is unable to start the program, he or she will have to reapply for admission to another term.

Graduate-Level Writing Competence. The university requires that students have graduate-level writing abilities before being advanced to candidacy for the master's degree. Students must demonstrate these abilities by passing the writing requirements in PH 210. Check the program's Web site for the most current copy of the policy.

Culminating Experience. A culminating experience is required of all California State University, Fresno students earning master's degrees. This requirement is met by completing a thesis, project, or comprehensive exam. A limited number of students may be permitted to undertake a thesis or project, depending on the availability of faculty or committee members.

Students considering a thesis or project need to consult with the faculty very early in their graduate program to assure completion of the assignment prior to graduation. Selecting a thesis or project is recommended for students who may at some point consider working toward a doctoral degree. Students who do not participate in a thesis or project must complete a comprehensive written examination. Further information about this options is available from the graduate program adviser.

The MPH program is designed around the following framework:

Thesis or Project

Public Health Core (19 units)
Option (12 units)
Elective (3 units)
Field Experience (4 units)
Thesis or Project (4 units)
Total (42 units)

Comprehensive Examination

Public Health Core (19 units)
Option (12 units)
Elective (6 units)
Field Experience (5 units)
Total (42 units)

For additional information, please contact the Department of Public Health at California State University, Fresno; 2345 E. San Ramon Ave. M/S MH30; Fresno, CA 93740-8031; 559.278.8324.å

Social Work, M.S.

Requirements

Master of Science Requirements

Social Work Graduate Program

Master of Social Work Degree Requirements

In the 60-unit program, all students are required to take the following courses: SWRK 200, 203, 212, 213, 220, 221, 224, 225, 227, 246, 247, 260, 261, 280, 281, 282, 283, and 292, in addition to completing a project (298) or a thesis (299), for a total of 54

units. The remaining 6 units may be selected from social work electives. Electives from other departments must be approved by the graduate coordinator.

Master of Social Work Writing Requirement

The graduate writing requirement for the Master of Social Work is satisfied by passing a writing exam administered in SWRK 200 during the first semester of graduate coursework. The student must pass the writing exam as a prerequisite to advancement to candidacy. For more information about the writing requirement and the appeals process, refer to the Graduate Handbook. The Graduate Handbook is available on the Department of Social Work Education website.

Master of Social Work

This program is designed to prepare students for advanced social work practice — as social work practitioners who are capable of intervening at individual, family, small group, organization, and community levels. Students achieve competence in problem identification, assessment, development of intervention plans, and evaluation of practice. Students build cross-cultural awareness and learn to use empowerment and social justice perspectives when making interventions with client systems of various sizes.

Students complete a total of 60 units of graduate work, including 10 units of supervised internship with participating agencies in the community. They will prepare an acceptable master's project or thesis which investigates social problems and appropriate intervention strategies for the purpose of building upon the profession's knowledge base.

The program prepares students for practice and advancement in the social work profession. Students develop the knowledge and skills necessary to provide direct services, consultation, training, program development, practice evaluation, and social service research on behalf of clients and community and contribute to the advancement of the profession.

Students accepted to the program must maintain an average GPA of 3.0 in all coursework. They must also complete a project or thesis under faculty supervision. In addition, all students complete two (year-long) internship experiences in participating community agencies. A limited extended degree program option is available. Consult the graduate coordinator in department office.

The M.S.W. program is accredited by the Council on Social Work Education.

Credential Programs

As part of the M.S.W., the Department of Social Work Education offers a program which satisfies the requirements for the California Pupil Personnel Services Credential with Specializations in School Social Work and Child Welfare and Attendance Services. Advising and admissions information are available through the P.P.S. coordinator in the Department of Social Work Education.

Spanish, M.A.

Requirements

Master of Arts Requirements

Spanish Graduate Program

The Department of Modern and Classical Languages and Literatures offers the Master of Arts degree in Spanish.

The Master of Arts degree program in Spanish language and literature serves several categories of students: those anticipating doctoral studies, those teaching or preparing to teach in high school and community college, and those interested in further study beyond the baccalaureate degree. For specific requirements, consult the departmental graduate committee chair. For general requirements, see Division of Graduate Studies.

Master of Arts in Spanish

The Master of Arts degree in Spanish is awarded upon satisfactory completion of a 30-unit program of study. For the culminating

experience, students may select either a thesis/project or comprehensive examination.

Program Prerequisites. Admission to the M.A. program in Spanish requires a minimum 3.0 GPA and assumes an undergraduate major in Spanish but is open to others with a bachelor's degree who show intellectual promise and ability to perform at a satisfactory level during their graduate studies. Students lacking the B.A. in Spanish will be required to make up deficiencies prior to acceptance into the M.A. program.

(See also Admission to Graduate Standing, Advancement to Candidacy, Program Requirements, and Criteria for Thesis and Project.)

Admission Prerequisites. When making application for admission to the program, students must submit a copy of their GRE scores.

Program Requirements. Students meet the Graduate Writing Requirement by preparing three study questions for the qualifying exam. Students must write three five-page essays in English - a minimum of 15 pages - which are assessed in content, organization, and writing style. For more information, please contact the graduate program coordinator.

In order to achieve classified standing, students must demonstrate an acceptable level of competence in Spanish by passing a written departmental examination. In addition, under the direction of the graduate adviser, students prepare a coherent program. Each student's program of study must include at least 24 units of 200-level work.

Thesis/Project Plan
SPAN 202, SPAN 203, and SPAN 249 (9 units)
Graduate seminars in Spanish (15-18 units)
Independent Study (SPAN 290) (0-6 units)
SPAN 298 and/or 299 (3-6 units)
Electives (must see adviser) (0-6 units)
Select from SPAN 137, 139, 142, 143, 145, 147, 148T, 149, 150
Approved elective in related fields (0-3 units)
Total (30 units)

Comprehensive Examination Plan
SPAN 202, SPAN 203, and SPAN 249 (9 units)
Graduate seminars in Spanish (15-18 units)
Independent Study (SPAN 290) (0-6 units)
Electives (0-6 units)
Elect from SPAN 142, 143, 145, 147, 148T, 149, 150
Approved elective in related fields (0-3 units)
Total (30 units)

Specific requirements. The following areas must be covered by graduate or undergraduate courses and may be satisfied in undergraduate preparation: Peninsular Spanish literature (two courses including SPAN 142), Latin American literature (two courses including SPAN 143), Hispanic linguistics (one course).

Students who intend to go on to a Ph.D. program at another institution are strongly advised to study at least one other foreign language.

Special Education, M.A.

Requirements

Master of Arts Requirements

Special Education Graduate Program

Admission Requirements

In addition to the admission requirements listed in the Graduate Education Program section of this catalog, M. A. in Special Edu-

cation program applicants must meet the following requirements:

1. Evidence of a minimum GPA of 3.0 on all postbaccalaureate coursework.
2. For Clear Credential and/or master's degree only, students must provide evidence of Level I/Preliminary Credential.
3. An interview with the program coordinator.*

*Required for applicants coming from programs other than those at Fresno State.

Program Requirements. Under the direction of the graduate adviser, each student prepares and submits an individually designed program within the following framework:

Core requirements (19 units)
SPED 155 [or equivalent - Level I Credential holders] (3 units)
and
SPED 175 (M/M) or 176 (M/S) [or equivalent] (6 units)

or

SPED 125 [or equivalent - Preliminary Credential holders] (3 units)
and
SPED 175 (M/M) or 176 (M/S) [or equivalent] (6 units)

SPED 219 (3 units)
SPED 233 (3 units)
SPED 243 (3 units)
SPED 298 or 299 (4 units)

Area of specialization (9 units)
Mild/Moderate Disabilities
SPED 235, 236, and 246
Moderate/Severe Disabilities
SPED 235, 236, and 247

Total (31 units)

* Students meet the Graduate Writing Requirement by passing the writing component of SPED 233. Contact the coordinator of the Special Education Program for more information.

Water Resource Management, M.S. - Continuing & Global Education

Master of Science in Water Resource Management Degree Requirements

The M.S. in Water Resources Management is an online degree program offered through the Division of Continuing and Global Education. Classes within the degree program can only be taken after qualifying for admission to the M.S. degree program. In addition to meeting the requirements for a classified graduate student standing set forth by the university's Division of Graduate Studies, students must complete the predetermined courses in a predetermined sequence over the five-semester period.

The M.S. in Water Resource Management was developed to meet the growing demand for advanced knowledge in water resources and their use in the urban, industrial, and agricultural environment. The degree includes political and policy aspects of water use as well as an understanding of the economics involved. The program of study will rely upon the use of Geographic Information Systems (GIS) to assemble and analyze databases describing water availability, use, and reclamation. The student will also gain a proficiency in water management that relies on spatial visualizations and basic modeling skills used to track the natural variability of water supplies and water-use forecasting. Each student will acquire a deep understanding of the physical processes of water delivery and storage along with the management of these water resources.

The aim and goal of the M.S. degree in Water Resource Management is to introduce the student to a systematic understanding of how water is delivered to the terrestrial environment from our climate system, follow it through its storage and use. Water moves through the natural and manmade environment where it is monitored, pumped, and applied to urban and agricultural

systems. Once used, it then must be treated as effluent and returned to the natural environment. The student is expected to integrate the effects of changes in water availability in terms of supply and also the effect on its economics and the politics surrounding these changes.

The M.S. in Water Resource Management consists of eight courses, an internship with 150 hours working in a professional environment, and a culminating project course (Water Resource Management Project) for a total of 30 units of graduate level academic credit. Each of the classes will be taught entirely online with instructors using a variety of delivery styles and methods to interact with the students. The desired design is to complete the program as a cohort (i.e., lock-step program). Courses are based on the concepts learned[in previous courses and students must enroll in courses in the chronological order listed below. Successful completion of all courses is required to earn the M.S. in Water Resources Management.

The students are required to complete a "Fundamentals of Geographic Information Systems (GIS)" class that will instruct them on the basics of ArcGIS software prior to the programs initiation. This prerequisite can be satisfied by taking EES 211 (offered through Continuing and Global Education), baccalaureate GIS classes, or technical classes offered through ESRI or other GIS software companies. GIS will be used in many of the assignments throughout the program.

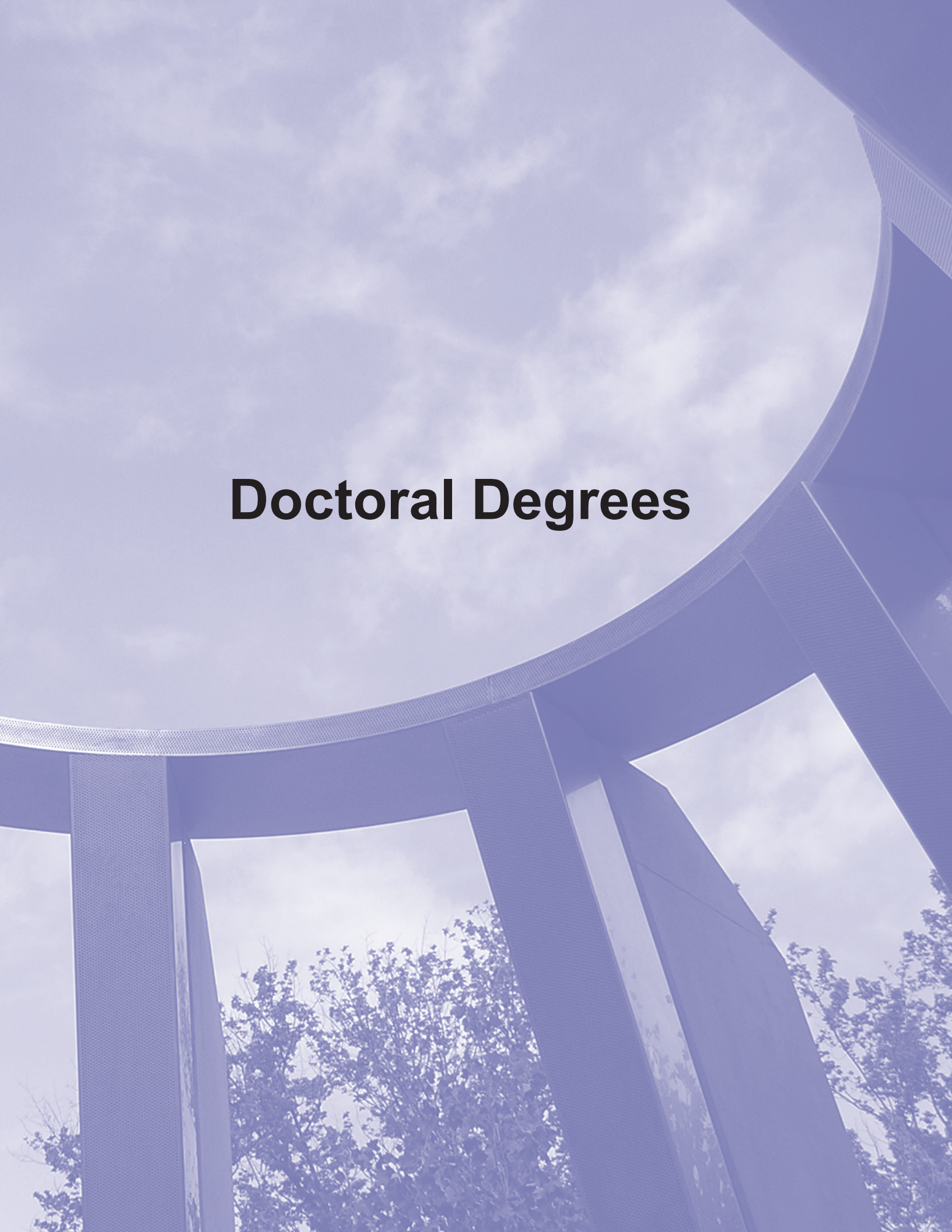
Formal admission to Fresno State through CSU mentor is required for participation in the M.S. in Water Resource Management with the exception of graduate students who are currently admitted to the university. All candidates interested shall meet the university admission requirements including the following criteria. Applicants will qualify if they already hold a bachelor's degree from an accredited institution of higher education and hold a 3.0 or higher grade point average (GPA calculated from the last 60 unites from an accredited institution)

Core Classes (24 units)
EES 212, 264, 265, 266, 267, 268, 269, 270

Internship (3 units)
EES 263

Final Project (3 units)
EES 298

Total (30 units)



Doctoral Degrees

Doctor of Educational Leadership CC-CI, ED.D.

Collaborative Online Doctorate in Educational Leadership

Doctoral Program in Educational Leadership (Ed.D.)

California State University, Fresno
Kenneth Magdaleno, Co-Director
Education Building, Room 310
559.278.0427
www.fresnostate.edu/dpelfs/

California State University, Channel Islands
Kaia Tollefson, Co-Director
Madera Hall, 1405
805.437.3125
http://education.csuci.edu/

Admission Requirements

Applicants must meet the general admission requirements for California State University, Fresno. These include a master's degree from an accredited institution, a grade point average of at least 3.0 in upper-division undergraduate and master's degree coursework, and evidence of receipt of scores from the Graduate Record Examination (GRE) General Test. Applicants must also demonstrate high potential for educational leadership and scholarly achievement through professional experience, academic accomplishment, and professional recommendations. Applicants who plan to pursue a Professional Administrative Services Credential must complete the required 24 Preliminary Administrative Services Credential units prior to admittance.

The deadline for application to the program is in March. Finalists are interviewed by the Doctoral Program Admissions Committee.

Program Requirements

Students in the program move through three phases of study, comprising 60 units. Phase one comprises nine core courses, phase two comprises specialization courses, and phase three comprises the dissertation. All students move through phase one as a cohort. Students may choose to specialize in pre-K-12 or post-secondary education leadership with a focus on organizational studies; supervision, curriculum, and instruction; assessment and evaluation; and sociocultural contexts.

CODEL Program Structure. The CODEL program is a 60-unit degree with 27 units of core courses (27 units= 9 courses), 21 units of specialization courses (21 units = 7 courses), and 12 dissertation units. Fieldwork components are embedded in many of the core and specialization courses. The program has two strands, one in P-12 Educational Leadership and the other in Higher Education Leadership. Students will progress through the program in cohorts, and each cohort will include students from both strands. This model ensures that "educational leadership" is broadly conceived, allowing students in the P-12 strand to develop deep understandings about what they are preparing P-12 students for, and allowing students in the post-secondary strand to develop deep understandings about where their students are coming from. Students from both strands will take 9 core courses together, and then will split off during their specialization phase of 7 courses. The program can be completed in three years. Students will attend an intensive residency each of at least three summers they are enrolled in the program (in the range of 8-10 days per residency). During residencies, students and faculty will live in dormitory housing on the Channel Islands or Fresno State campus and engage together in community-building, orientation, advising, and coursework activities.

Most of the core and specialization courses will take place online, making the CODEL program accessible to working professionals. During the academic year, therefore, the CODEL program will be a virtual campus experience of interactive classes, delivered online and incorporating the latest social networking tools. Courses are offered using the Blackboard online platform with enhanced features. The courses use a balance of synchronous and asynchronous tools available in Blackboard, in addition to email, videoconference, teleconference, and other technology as appropriate (e.g., Skype, Google Hangout, GoogleDocs). While CODEL students may not have entered the program with skills on the cutting edge of technology, they will leave the program prepared to lead innovations in teaching and learning online.

Doctor of Educational Leadership P-12-CI, ED.D.

Collaborative Online Doctorate in Educational Leadership

Doctoral Program in Educational Leadership (Ed.D.)

California State University, Fresno
Kenneth Magdaleno, Co-Director
Education Building, Room 310
559.278.0427
www.fresnostate.edu/dpelfs/

California State University, Channel Islands
Kaia Tollefson, Co-Director
Madera Hall, 1405
805.437.3125
http://education.csuci.edu/

Admission Requirements

Applicants must meet the general admission requirements for California State University, Fresno. These include a master's degree from an accredited institution, a grade point average of at least 3.0 in upper-division undergraduate and master's degree coursework, and evidence of receipt of scores from the Graduate Record Examination (GRE) General Test. Applicants must also demonstrate high potential for educational leadership and scholarly achievement through professional experience, academic accomplishment, and professional recommendations. Applicants who plan to pursue a Professional Administrative Services Credential must complete the required 24 Preliminary Administrative Services Credential units prior to admittance.

The deadline for application to the program is in March. Finalists are interviewed by the Doctoral Program Admissions Committee.

Program Requirements

Students in the program move through three phases of study, comprising 60 units. Phase one comprises nine core courses, phase two comprises specialization courses, and phase three comprises the dissertation. All students move through phase one as a cohort. Students may choose to specialize in pre-K-12 or post-secondary education leadership with a focus on organizational studies; supervision, curriculum, and instruction; assessment and evaluation; and sociocultural contexts.

CODEL Program Structure. The CODEL program is a 60-unit degree with 27 units of core courses (27 units= 9 courses), 21 units of specialization courses (21 units = 7 courses), and 12 dissertation units. Fieldwork components are embedded in many of the core and specialization courses. The program has two strands, one in P-12 Educational Leadership and the other in Higher Education Leadership. Students will progress through the program in cohorts, and each cohort will include students from both strands. This model ensures that "educational leadership" is broadly conceived, allowing students in the P-12 strand to develop deep understandings about what they are preparing P-12 students for, and allowing students in the post-secondary strand to develop deep understandings about where their students are coming from. Students from both strands will take 9 core courses together, and then will split off during their specialization phase of 7 courses. The program can be completed in three years. Students will attend an intensive residency each of at least three summers they are enrolled in the program (in the range of 8-10 days per residency). During residencies, students and faculty will live in dormitory housing on the Channel Islands or Fresno State campus and engage together in community-building, orientation, advising, and coursework activities.

Most of the core and specialization courses will take place online, making the CODEL program accessible to working professionals. During the academic year, therefore, the CODEL program will be a virtual campus experience of interactive classes, delivered online and incorporating the latest social networking tools. Courses are offered using the Blackboard online platform with enhanced features. The courses use a balance of synchronous and asynchronous tools available in Blackboard, in addition to email, videoconference, teleconference, and other technology as appropriate (e.g., Skype, Google Hangout, GoogleDocs). While CODEL students may not have entered the program with skills on the cutting edge of technology, they will leave the program prepared to lead innovations in teaching and learning online.

Doctor of Physical Therapy, DPT

Entry-Level Doctor of Physical Therapy Program

The doctorate in Physical Therapy (D.P.T.) is the educational standard for the field and required for physical therapy licensure. Physical Therapy is a profession dedicated to the improvement of the quality of life. It serves humanity, which is holistic in nature and provides services to persons of all ages, gender and cultures. In concert with the mission of the university and to meet the

needs of the community, the physical therapy department faculty has developed the following mission statement.

Mission Statement:

The mission of the department is to graduate a diverse physical therapy practitioner of the highest quality, committed to life-long learning, self-development, and critical inquiry, with the ability to apply researched data and physical evidence in order to function autonomously in current and future culturally sensitive healthcare environments. The professional physical therapy education at Fresno State seeks to stimulate scholarly inquiry and critical thinking, while supporting and encouraging research and its dissemination, to develop future leaders of the profession engaged in the community who will enhance the economic vitality and quality of life for all. In concert with the American Physical Therapy Association APTA's Vision Statement for the Physical Therapy Profession (2013), we will prepare graduates to examine, evaluate, and establish a diagnosis and prognosis within the scope of physical therapy practice; implement and manage a physical therapy plan of care; and provide a sound rationale for evaluation and treatment procedures, based on a theoretical framework for practice including evidence-based practice.

Departmental/Program Goals: The department seeks to (1) attract high quality applicants from a variety of academic, ethnic, and cultural backgrounds; (2) develop future intellectual leaders of the profession engaged in the community who will enhance the economic vitality and quality of life for the region; and (3) develop clinical partnerships and professional alliances to enhance the quality of the graduate program and delivery of health care services by our graduates.

D.P.T. Program Student Learning Outcomes: The graduate will be a competent physical therapy practitioner who can function safely and effectively. Upon successful completion of the DPT program, students will be prepared for the following:

1. Demonstrate comprehension and integration of the foundational, applied and clinical sciences of anatomy, physiology, neurology, and pathology for application to the physical therapy clinical setting.
2. Expressively and receptively communicate in a professional and ethical manner to a culturally diverse population in classroom activities and in clinical settings including patients/clients, families, care givers, practitioners, consumers, payers, and policy makers utilizing terminology appropriate to the context of the communication.
3. Demonstrate competent professional practice independently and interdependently while providing patient centered care services, including wellness/prevention, to patients whether referred or self-referring. And, to know federal and state regulations, professional practice and association history and regulations, payer requirements and state practice acts.
4. Demonstrate appropriate clinical decision-making skills, including clinical reasoning, clinical judgment, differential diagnosis, reflective practice, and self-reflection/assessment.
5. Critically review existing research and expand their clinical research skills in order to build the evidence of practice for clinical decision making skills and innovative physical therapy interventions based on solid theoretical constructs.

Admissions to the Entry-Level Doctor of Physical Therapy Graduate Program. Individuals must possess a baccalaureate degree from a regionally accredited college or university and complete all prerequisite requirements prior to beginning the professional major. Students are only admitted for the fall semester. Students should apply to the program in the fall prior to anticipated entry into the Physical Therapy Program. Admission to the entry-level three-year D.P.T. program requires a two-part application. The department application is submitted through the Physical Therapist Centralized Application Service (PTCAS) (www.ptcas.org). Applications are typically available in July the year prior to the fall semester of the D.P.T program. The CSU Graduate/Postbaccalaureate application is submitted online through CSU Mentor (www.csumentor.edu). Please refer to the department website for appropriate deadlines for these two applications.

Physical Therapy Program Application Filing Period: Please see *www.fresnostate.edu/physicaltherapy* for specific dates.

In addition to the PTCAS and CSU Graduate/Postbaccalaureate applications, transcripts are required from all prior institutions attended by the applicant, official GRE test scores, physical therapy observation hours verification, and letters of reference. GRE scores are considered during program admissions; however, there is no minimum GRE requirement. Late transcripts or documentation will result in not being considered. Please review the Physical Therapy Department's website for additional admissions information.

Prerequisite requirements for entry-level D.P.T. program

Human Physiology
Fresno State: BIOL 65
Transfer: Human physiology with lab

Human Anatomy and Physiology
Fresno State: BIOL 64 and BIOL 65 or BIOL 67A and 67B
Transfer: Human anatomy with lab
Combined Human Anatomy and Physiology with labs accepted.

Chemistry

Fresno State: CHEM 1A and 1B, or CHEM 3A, 3B, 3BL or CHEM 1A, 1AL, 1B, 1BL
Transfer: Inorganic and organic or biochemistry with labs

Psychology #1
Fresno State: PSYCH 10, PSYCH 123, PSYCH 155
Transfer: General introductory psychology, Developmental or Lifespan

Psychology #2
Fresno State: PSYCH 66 or 169
Transfer: Psychological Aspects of Disability or Abnormal Psychology)

Physics
Fresno State: PHYS 2A and 2B
Transfer: Physics with lab including mechanics, heat, light, sound, and electricity

Statistics
Fresno State: PH 92 or MATH 11
Transfer: Introduction to basic statistics

All science courses must include laboratories and cannot be at an introductory level. Human anatomy and physiology must be taken from an anatomy, physiology, anatomy and physiology, biology, or zoology department. Combined human anatomy and physiology courses will be considered only if a combined course sequence is completed.

In addition, the following courses are recommended to enhance success in the program:

- Oral communication skills
- Computer literacy
- General biology
- Microbiology
- Neurophysiology
- Neuroanatomy
- Kinesiology/biomechanics
- Exercise physiology
- Gerontology/Geriatrics
- Medical Terminology

The screening committee reviews admission criteria. Prior to admission to the program, the applicant must meet the following requirements:

1. Hold or be eligible to receive a bachelor's degree from a regionally accredited college or university by the end of the spring semester prior to admission to the program.
2. Have completed a minimum of 7/9 of the specified prerequisite courses at time of application. No more than two prerequisite courses (1 science/1 non-science) can be in-progress during the fall term of application.
3. Submit GRE test scores to PTCAS by the application deadline. Students are encouraged to take the GRE early to avoid delays in acceptance for graduate work.
4. Receive a grade of C or better in each prerequisite course and maintain a total prerequisite GPA of 3.0. No course may be repeated more than one time and no more than three prerequisite courses may be repeated. AP credit, CR/NC grades, or independent study courses cannot be used for prerequisite requirements. All prerequisite courses must be taken for a letter grade.
5. Provide evidence of knowledge of physical therapy through employment, volunteer work, or observation in a physical therapy department for a minimum of 100 hours (with at least 20/100 hours in a general inpatient setting). All observation hours must be under the supervision of a licensed physical therapist.
6. Submit three letters of recommendation, as specified in application instructions.
7. Participate in a personal interview. Only 160 applicants are interviewed; therefore, meeting the foregoing criteria does not guarantee an applicant an interview.
8. Submit grades and final transcripts from institutions other than Fresno State as soon as grades are posted. Transcripts should be requested prior to the end of the term.

Meeting the foregoing criteria does not guarantee acceptance into the three-year entry-level D.P.T. program. Applicants from other colleges or universities who meet the foregoing criteria are considered on the same basis as California State University, Fresno applicants applying for admission to the program.

Criteria for Departmental Retention and Progression

Criteria for retention in the three-year entry-level D.P.T. program and progression to the next semester in the program:

- Maintaining a minimum 3.0 GPA each semester in the program
- Maintaining a minimum cumulative 3.0 GPA in D.P.T. degree requirements
- Achieving a minimum grade of C (or CR) in each PHTH course.*
- Enrolling in and completing all required courses in sequence.

Students must carry malpractice insurance, must purchase an appropriate laboratory coat, and must provide their own transportation to hospitals and clinics for off-campus classes and clinical laboratories. Additional laboratory fees may be required. Students must also provide for all expenses while enrolled in clinical internships. Expenses include student fees, housing, meals, and travel.

*Any student receiving a grade less than C will not be able to continue in the program, regardless of semester or overall GPA. Please note that grade substitution is not permitted at the graduate level. A student must receive a grade of CR in all clinical education courses (PHTH 554-559). A student receiving a grade of less than a C or NC in a PHTH course will have one opportunity to repeat the course. A second grade of less than a C or NC in a repeated PHTH course will result in disqualification from the program. Any student who repeats a course will be dropped back into a previous cohort of students since all coursework is sequential. A student cannot drop back to a previous cohort more than one time throughout the three-year program.

Requirements for the Doctor of Physical Therapy

Core Requirements (96 units)
PHTH 506, 507, 508, 509, 510, 511, 512, 517, 518, 526, 527, 528, 529, 533, 534, 535, 536, 537, 538, 539, 554, 555, 556, 560, 561, 563, 564, 565, 591, 592, 593, 594, 595, 596, 597, 598

Clinic Course Requirements (14 units)
PHTH 557, 558, 559
(see Advising Note)

Total (110 units)

Advising Note

PHTH 557, 558, and 559 clinical experiences are conducted in a variety of clinical facilities throughout the state or out of state. Students must provide for all expenses including housing, meals, and travel. These are offered CR/NC only. A certification of clinical completion plus the D.P.T. must be completed to be eligible to take the state examination for licensure.

Advancement to Candidacy Requirements

Students usually advance to candidacy in the fall semester of their third year of the D.P.T. Students must meet the following criteria:

1. Classified graduate student standing.
2. A minimum GPA of 3.0 (overall, program, and California State University, Fresno) on all coursework completed after the date of the first course to be included in the doctor of physical therapy degree program, with no grade below C.
3. Successful completion of their qualifying exam given in the spring semester of the second year. The qualifying exam consists of a written and oral Patient Case Report.
4. Demonstrated required competency in clinical coursework (PHTH 554-559) with grade of CR or a letter grade of B or better.
5. Demonstrated graduate-level writing proficiency. (Satisfactory completion of PHTH 591 Research Methods will fulfill this requirement.)
6. Approval from the faculty to enroll in PHTH 598 as the doctoral project.

A culminating event is required of all Fresno State doctor of physical therapy degree candidates. Students in physical therapy satisfy the requirement through an oral and written presentation of an evidence-based review of a clinical practice question or clinical research project.

Educational Leadership CC, Ed.D.

Doctoral Program in Educational Leadership Requirements

Admission Requirements

Applicants must meet the general admission requirements for California State University, Fresno. These include a master's degree from an accredited institution, a grade point average of at least 3.0 in upper-division undergraduate and master's degree coursework, and evidence of receipt of scores from the Graduate Record Examination (GRE) General Test. Applicants must also demonstrate high potential for educational leadership and scholarly achievement through professional experience, academic accomplishment, and professional recommendations. Applicants who plan to pursue a Professional Administrative Services Credential must complete the required 24 Preliminary Administrative Services Credential units prior to admittance.

The deadline for application to the program is in March. Finalists are interviewed by the Doctoral Program Admissions Committee.

Program Requirements

Students in the program move through three phases of study, comprising 60 units. Phase one comprises nine core courses, phase two comprises specialization courses, and phase three comprises the dissertation. All students move through phase one as a cohort. Students may choose to specialize in pre-K-12 or post-secondary education leadership with a focus on organizational studies; supervision, curriculum, and instruction; assessment and evaluation; and sociocultural contexts.

Phase 1 Core (27 units)
EDL 501, 502, 503, 504, 506, 507, 508, 509, 511

Phase 2 Specialization (21 units)
EDL 510, 580T, 590

Phase 3 Dissertation (12 units)
EDL 599

Total (60 units)

Educational Leadership PK-12, Ed.D.

Doctoral Program in Educational Leadership Requirements

Admission Requirements

Applicants must meet the general admission requirements for California State University, Fresno. These include a master's degree from an accredited institution, a grade point average of at least 3.0 in upper-division undergraduate and master's degree coursework, and evidence of receipt of scores from the Graduate Record Examination (GRE) General Test. Applicants must also demonstrate high potential for educational leadership and scholarly achievement through professional experience, academic accomplishment, and professional recommendations. Applicants who plan to pursue a Professional Administrative Services Credential must complete the required 24 Preliminary Administrative Services Credential units prior to admittance.

The deadline for application to the program is in March. Finalists are interviewed by the Doctoral Program Admissions Committee.

Program Requirements

Students in the program move through three phases of study, comprising 60 units. Phase one comprises nine core courses, phase two comprises specialization courses, and phase three comprises the dissertation. All students move through phase one as a cohort. Students may choose to specialize in pre-K-12 or post-secondary education leadership with a focus on organizational studies; supervision, curriculum, and instruction; assessment and evaluation; and sociocultural contexts.

Phase 1 Core (27 units)
EDL 501, 502, 503, 504, 506, 507, 508, 509, 511

Phase 2 Specialization (21 units)
EDL 510, 580T, 590

Phase 3 Dissertation (12 units)
EDL 599

Total (60 units)

Nursing, D.N.P.

The Doctor of Nursing Practice Program

The purpose of the Doctor of Nursing Practice (DNP) Program is to prepare experts in specialized advanced nursing practice. The DNP program prepares graduates for leadership and clinical roles and to engage in evidence-based inquiry. Graduates may also 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. The program is designed for working professionals with the majority of coursework provided via distance modalities. The DNP program is cohort-based and designed to be completed in two years of full-time study. It consists of 37 doctoral units with a culminating doctoral project.

Admission Requirements. Application requirements consist of the following:

1. The applicant must meet the general admission requirements for California State University, Fresno.
2. The applicant must have earned an acceptable master's degree from an institution accredited by a regional accrediting association and the national professional accrediting association, as applicable.
3. The applicant must have attained a cumulative grade point average of at least 3.0 in an acceptable master's degree program.
4. The applicant must maintain active licensure to practice as a registered nurse in the state in which practicum experiences will be completed.
5. The applicant must meet all requirements for credentialing or certification eligibility as appropriate to the nursing specialty area.
6. The applicant must demonstrate sufficient preparation and experience pertinent to advanced nursing practice.

Evidence considered in the admission process shall include, but not be limited to the following:

1. Three letters of recommendation from professional persons knowledgeable about the applicant's advanced nursing practice experience, as well as the potential for scholarship and leadership.
2. A written statement of purpose reflecting what the applicant expects to accomplish in the DNP program and how the DNP program will advance the applicant's nursing career and practice.

Program Requirements. Students in the DNP program move through the coursework as a cohort. A minimum of 37 units are required for completion of the degree. Students must maintain a 3.0 grade point average and demonstrate professional behavior to progress in the program. In order to achieve the DNP competencies, students must complete a minimum 1,000 hours of practice post-baccalaureate as part of a supervised academic program. Students shall be required to pass a qualifying assessment within two attempts in order to continue in the program and prior to advancing to candidacy. The qualifying examination will be administered at the end of the first year, when the student's mastery of essential elements of the core advanced nursing concepts can be fairly evaluated and when the student is considered ready to begin the doctoral project.

The Doctoral Project. The Doctoral Project consists of three interrelated scholarly manuscripts which are developed in conjunction with the student's Project Committee. The project will relate to advanced practice and focus on a potential or existing health problem or issue affecting a group or community, rather than an individual. The project is developed, implemented, and evaluated in the second year of the program with guidance from a Project Committee selected by the student. The project will be presented to the Project Committee in a public forum, and the final paper submitted for publication to an appropriate peer-reviewed journal.

Minors

Aerospace Studies, Minor

Aerospace Studies, Minor Requirements

A Minor in Aerospace Studies consists of satisfactory completion of the AFROTC program (16 upper-division units of which 6 must be in residence) and a 2.0 GPA.

Africana Studies, Minor

Africana Studies, Minor Requirements

Lower-division requirements (6 units)
AFRS 10, 27, 36

Upper-division requirements (6 units)
AFRS 137, 144

Approved Africana Studies electives (6 units)

Total (18 units)

Note: For students interested in the general dimensions of the Africana experience, the following courses are recommended: AFRS 10, 27, 36, 38, 135, 137, 140, 145, 150

For students interested in the following careers, the following courses are recommended:

- Education: AFRS 38, 130T, 135
- Performing Arts: AFRS 21, 24, 27, 35, 121, 130T, 144, 189
- Business: AFRS 38, 130T, 135, 189, 190
- Preprofessional (nursing, criminology, prelaw, etc.): AFRS 56, 130T, 135, 144, 146, 189, 190
- Writing: AFRS 104W, 127, 190
- Social Sciences: AFRS 27, 38, 135, 140, 178, 189

Agricultural Business Minor

Agricultural Business, Minor Requirements

This minor field of study is principally designed for agricultural science and business majors. Those students majoring in animal, plant, and food sciences as well as agricultural education may seek to complement their technical knowledge with competencies in agricultural business for professional advancement. Students majoring in one of the business degree options may anticipate staying in the San Joaquin Valley where they will most likely become involved with and require an understanding of the agricultural sector as employees, clients, or customers of agribusiness firms. The minor also provides a foundation for graduate study in agricultural business or agricultural economics.

You should consult with your faculty adviser in the Agricultural Economics Department to plan your program. The adviser and the department chair must approve the minor program of study before it can be filed with the Degree Advising Office, and recorded on your transcript.

The minor consists of 24 units, of which equivalent courses are acceptable for a maximum of 12 units.

Core Requirements

Intro Microeconomics: AGBS 1 (3 units)
Financial Accounting: AGBS 31 (3 units)
Intermediate Microeconomics: AGBS 100 (3 units)
Financial Principles: AGBS 130 (3 units)
Organizational Behavior: AGBS 120 (3 units)
Production Operations: AGBS 110 or AGBS 124 (3 units)
Agricultural Marketing: AGBS 160 (3 units)
Government Policy: AGBS 150 (3 units)
Total (24 units)

Note: The Agricultural Business Minor also requires a 2.0 GPA and 6 upper-division units in residence.

Advising Notes

1. University policy states that courses fulfilling requirements for a minor may be counted toward General Education.
2. Students pursuing a minor are expected to have basic computer competencies (AGBS 76 recommended) and fundamental quantitative reasoning skills (AGBS 78 or DS 71 or MATH 75 recommended) before enrolling in the required upper-division courses.
3. The department waives AGBS 1, 31, 120, and 130 for students who have already received credit for ECON 40, ACCT 4A, MGT 104 or 110, and FIN 120 respectively. Such course waivers correspondingly reduce the unit requirement for the minor from the maximum of 24 to a possible 12 - the minimum allowable under the Title 5 code. This adjustment accommodates the university policy that "courses in a major cannot be applied toward a minor unless designated as 'additional requirements' to the major."
4. Concerning the course selections to satisfy the production operations core requirement, consult with the minor adviser about which choices match your career plans.
5. All courses in the minor must be taken for a letter grade; CR/NC grading is not acceptable.

Prerequisite Notice

1. **Agricultural business majors** must complete the lower-division business management base courses (AGBS 2, 28, 31, 32, 71, 76) and the lower-division additional requirements to the major in General Education Foundation Area B4 (DS 71 or MATH 75) and Breadth Area D3 (AGBS 1) before enrolling in upper-division AGBS courses.
2. **Non-agricultural business majors** who select the Production Management Option (Animal Sciences Major), the Production Management Emphasis (Plant Science Major), or the Teacher Preparation Option (Agricultural Education Major) must complete AGBS 1, 31, and 76 before enrolling in any upper-division AGBS courses. ***Note:*** DS 71 or its equivalent is a prerequisite for some core upper-division AGBS courses. Permission of instructor may be necessary to register for some upper-division AGBS courses because of the general prerequisite structure indicated in note 1 above for students majoring in agricultural business and the specific prerequisites listed in individual course descriptions.

American Indian Studies, Minor

American Indian Studies, Minor Requirements

Lower-division requirements (6 units)
AIS 5, 50

Upper-division requirements (6 units)
AIS 103, 170

Approved American Indian Studies electives (6 units)

Total (18 units)

It is anticipated that AIS 100 may be used for the American Indian Studies Minor and to satisfy General Education requirements.

Note: The minor also requires a 2.0 GPA and 6 upper-division units in residence.

About the Program

The American Indian Studies program (AIS) at California State University, Fresno offers an interdisciplinary curriculum that provides culturally-appropriate knowledge and skills through an understanding of the American Indians in North America. The pro-

gram also involves its faculty and students in research, experiential learning, career counseling, computer technology, curriculum development, conference participation, and day, evening, and weekend courses.

The program offers courses leading to a minor in American Indian Studies. Students can seek other professional degrees in such areas as business, human resources, teacher education, and law. The program teaches appreciation for the heritage of American Indians and their contributions to the shaping of the fabric of American life and history.

Faculty Specialties

The AIS program is made up of faculty with backgrounds and expertise in business, English, history, education, Anthropology, and American Indian affairs.

American Indian Studies is a discipline within the Anthropology Department that focuses on the indigenous cultures of ancient, historical, and contemporary America. American Indian cultures include American Indians, Arctic Natives, as well as the indigenous populations of Northern Mexico. This program recognizes the artificiality of both the Canadian and the Mexican borders, but is primarily concerned with the indigenous populations of the USA. The courses offer a distinctively American perspectives that is crucial to an understanding of the historical and social processes that have led to the development of contemporary American society. This program is intended to strengthen the position of American Indian students and communities in this region as well as introduce these cultures to all students. Courses are interdisciplinary and are principally drawn from the social sciences and the humanities.

Student Life and Community Events

The office of the AIS program serves as a resource and information center for American Indian student organizations and the community at large.

First Nations American Indian Student Organization

First Nations is a student organization that works to bring awareness of indigenous cultures by building upon the camaraderie of the indigenous communities of the Americas. The organization actively seeks to raise social consciousness by creating an environment of awareness and understanding of First Nations peoples. First Nations members include those directly connected to a sovereign nation existing prior to colonization, and those who support First Nations through participating in cultural, political, and social events.

Animal Sciences, Minor

Animal Sciences, Minor Requirements

This program is designed for students in other majors who desire instruction in the various disciplines of animal science. Students may design a minor with an animal science adviser to best satisfy their interests.

Students must consult with a faculty adviser in the Animal Sciences Department to plan the minor. The adviser and department chair must approve the minor program before it can be certified by the college dean. It is then filed with the Evaluations Office and recorded on the transcript.

A Minor in Animal Sciences consists of a minimum of 21 units, 9 units of which must be upper division. The minor program of study must be designed from the following courses:

Select from: ASCI 1, 21, 31, 41, 51, 61, 71 (3-6 units)
Select from: ASCI 11, 35, 65 (3-6 units)
Select from: ASCI 101, 125, 135, 145, 155, 165 (9-10 units)
Select from: ASCI 121, 131, 151, 161, 171 (3 units)
Total (21-22 units)

Note: The Animal Sciences Minor also requires a 2.0 GPA and 6 upper-division units in residence.

Advising Notes

1. Courses in a major cannot be applied toward a minor unless designated as additional requirements.
2. All courses in the minor must be taken for a letter grade. CR/NC grading is not acceptable.
3. A minor may be earned only at the time a student earns the first baccalaureate degree.

The Master of Science in Animal Science will be available in fall 2003 pending approval by the Chancellor's Office. Please contact the department office for additional information.

Anthropology, Minor

Anthropology, Minor Requirements

A. Core curriculum (9 units)
ANTH 2 (3 units)
ANTH 3 (3 units)
ANTH 100 (3 units)

B. Elective curriculum (9 units)
Three upper-division courses (9 units)

Total (18 units)

Note: The Anthropology Minor also requires a 2.0 GPA and 6 upper-division units in residence.

Advising Note

1. CR/NC grading is not permitted in the anthropology major or minor unless the grading method for the course is CR/NC only.

Armenian Studies, Minor

Armenian Studies, Minor Requirements

ARM 1A, 1B, 2A, 2B (6-8 units)*
ARMS 45 or ARM 148 (3 units)
ARMS 10 and 20 (6 units)
ARMS 121 or 123 (3 units)
ARMS 120T (3 units)
ARMS 108A or 108B (3 units)
Total (24-26 units)

* Students must take two of these courses in consultation with the program coordinator. Students who can speak, read, and write Armenian may elect to challenge one or two of these classes CBE (see Credit by Examination).

Note: The Armenian Studies Minor also requires a 2.0 GPA and 6 upper-division units in residence.
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Art, Minor

Art, Minor Requirements

The Art Minor consists of a minimum of 21 units of which 9 must be upper division.
A maximum of six units of CR/NC grading will be accepted.

ARTH 10 and 11 **(6 units)**
ART 13 and 20 **(6 units)**

ARTH elective (upper division) **(3 units)**
ARTH or studio electives (upper division) **(6 units)**
Total (21 units)

Note: The Art Minor also requires a 2.0 GPA and 6 upper-division units in residence

Asian American Studies, Minor

Asian American Studies, Minor Requirements

The Asian American Studies Program offers a minor with classes that focus upon the history and contemporary experience of Asians in the United States. These courses explore themes in local and ethnic history, trans-Pacific contact, cultural change and adaptation, and interethnic relations. Those who major in business, social science, international relations, and the human service professions recognize their relevance.

Courses in the Asian American Studies minor familiarize students with the historical, socioeconomic, and cultural adaptations that peoples from Asia make when coming to the United States. The curriculum is designed to enable professional men and women to understand and to interact with people from ethnic subcultures in our pluralistic society. The Asian American Studies Minor therefore complements any major dealing with human behavior. For more information, see Asian American Studies.

Asian American Organizations

The Asian American clubs on campus welcome new members. For further information about the Asian American Studies Program, contact the coordinator at 559.278.3002, or write to:

Asian American Studies Program
c/o Department of Anthropology
California State University, Fresno
Fresno, CA 93740

Asian American Studies Minor

Select from ANTH 2, ASAM 110, AFRS 1 (6 units)
Select from ASAM 15, 30 (6 units)
Select from ASAM 150, 180T; ANTH 123, 124 (9 units)
Total (21 units)

Note: The minor also requires a 2.0 GPA and 6 upper-division units in residence.

Astronomy, Minor

Astronomy, Minor Requirements

PHYS 150 (3 units)
PHYS 151 (4 units)
Remaining requirements (6 units)
Choose two courses from EES 112 or 150T (Planetary Science), PHYS 110, 136, 137, 175T (Computational Physics), 175T (Galaxies and Cosmology), or 190 by approval
Total (13 units)

Notes

Prerequisites may include MATH 75, 76, 77, 81, PHYS 4A, 4AL, 4B, BL, 4C, and 102. All prerequisites must also be completed. Courses in the Astronomy Minor may not count toward a physics major (or any other major), except as additional requirements to that major. PHYS 190 may not be counted for more than 2 credits for the Astronomy Minor.

Biology, Minor

Biology, Minor Requirements

The Minor in Biology may be earned by completing the 22-unit biology core:
BIOL 1A, 1B and 1BL, 101, 102, 103, 104, 105.

Note: The Biology Minor also requires a 2.0 GPA and 6 upper-division units in residence.

Chemistry, Minor

Chemistry, Minor Requirements

A Minor in Chemistry for a bachelor's degree requires at least 21 units, of which at least 7 are upper-division. Specific course requirements are General Chemistry (CHEM 1A, 1AL and 1B, 1BL or 3A), Organic Chemistry (CHEM 8 or 128A-B and 129A), and Quantitative Analysis (CHEM 105).

Those students requiring additional upper-division chemistry units may choose from courses such as the following: CHEM 125, 150, 155A, 155B, and 156.

Note: The Chemistry Minor also requires a 2.0 GPA and 6 upper-division units in residence.

Chicano/Latino Studies, Minor

Chicano/Latino Studies, Minor Requirements

The Chicano and Latin American Studies Department offers two minors - one in Chicano/Latino Studies and one in Latin American Studies. Students intending to pursue a minor in either area must see a CLAS adviser. The CLAS adviser must approve the selected courses.

Note: The minors also require a 2.0 GPA and 6 upper-division units in residence.

Students are encouraged to focus on an area of interest in Chicano/Latino studies or on a social issue affecting the Chicano/Latino population in the United States. General Education can be double-counted for the minor. See Minor Advising Note 2.

Lower division: CLAS 3, 5, and 9 **(9 units)**
CLAS upper-division or acceptable substitutes **(12 units)**
Total (21 units)

Minor Advising Notes

1. *Special topics or directed reading courses must have subject matter dealing with Latin America, the Caribbean, or must focus on issues affecting those areas.
2. Courses taken to complete major requirements cannot be double-counted for the minor.
3. Courses taken to complete General Education Integration requirements can be double-counted for the minor.
4. Other acceptable courses can be substituted to satisfy minor requirements with approval of your CLAS adviser.

Child and Family Science, Minor

Child and Family Science, Minor Requirements

A Minor in Child and Family Science consists of 21 units, of which 12 must be upper-division. The minor program must include CFS 31, 39, and 153. The remaining coursework for the minor will be determined in consultation with an adviser, and must be certified by the student's CFS adviser and the department chair. The certified minor program is filed with the university's Degree Advising Office once all minor coursework is completed. Some CFS courses (CFS 37, 130W, 139, 140, 145A, 145B, 193) are restricted to majors and not open to minors. Students must formally add the CFS Minor before being allowed to enroll in upper-division restricted classes. Students are required to earn a grade of C or better in all minor courses.

Chinese, Minor

Chinese, Minor Requirements

Select from CHIN 1A, 1B, 2A, 2B, 100, and LING 190 **(15 units)**

Approved elective **(3 units)**
Select from ANTH 124, 125, 126, or a course approved by the Chinese program coordinator

Total (18 units)

Note: The Chinese minor also requires a 2.0 GPA and 6 upper-division units in residence.

Classical Studies, Minor

Minor in Classical Studie, Minor Requirements

The Classical Studies Minor is an interdisciplinary program designed for students interested in classical civilization and for those who wish to teach classical languages and culture or who wish to enter a graduate program in which a minor would give a sound foundation for further work.

The minor allows for three areas of interest: Latin, Greek, and Classics (Greek and Latin).

Latin
HIST 112 or HUM 110 (3 units)
LATIN 1A, 1B (6 units)
LATIN 131T (2) (6 units)
Approved electives (9 units)
Total (24 units)

Greek
HIST 111 or HUM 108 (3 units)
GRK 1A, 1B (6 units)
GRK 131T (2) (6 units)
Approved electives (9 units)
Total (24 units)

Classics
HIST 111 or HUM 108, HIST 112 or HUM 110 (6 units)
LATIN 1A, 1B (6 units)
GRK 1A, 1B (6 units)
LATIN 131T or GRK 131T (3 units)
Approved electives (3 units)

Total (24 units)

Note: The Classical Studies Minor also requires a 2.0 GPA and 6 upper-division units in residence.

Approved Course Electives

The following list includes the elective courses most directly concerned. For further information, consult Honora H. Chapman or Bruce S. Thornton.

Art History
ARTH 10 The Ancient and Primitive World (3 units)
ARTH 109T Topics in Art History (1-3 units; max 3 per area)

Drama
DRAMA 185 History of the Theatre and Drama (3 units)

Humanities
HUM 108 Humanities in Classical Athens (3 units)
HUM 110 Humanities in Republican and Imperial Rome (3 units)

English
ENGL 112 World Literature: Ancient (4 units)

Foreign Language

Greek
GRK 1A, 1B Elementary Greek (3, 3 units)
GRK 131T Greek Literature (3; max total 12 units if no topic repeated)
GRK 190 Independent Study (1-3 units)

Latin
LATIN 1A, 1B Elementary Latin (3, 3 units)
LATIN 131T Latin Literature (3 units; repeatable with different topic)
LATIN 132 Classical Mythology (3 units)
LATIN 190 Independent Study (1-3 units)

History
HIST 1 Western Civilization I (3 units)
HIST 103 History of Early Christianity (3 units)
HIST 110 Ancient Near East (3 units)
HIST 111 Ancient Greece (3 units)
HIST 112 Ancient Rome (3 units)
HIST 116 Greek and Roman Religion (3 units)
HIST 119T Studies in Ancient History (1-3; max total 6 units if no topic repeated)
HIST 190 Independent Study (1-3 units)

Philosophy
PHIL 101 Ancient Philosophy (3 units)

Kinesiology
KINES 111 The Olympic Games (3 units)

Political Science
PLSI 110 Seminar in History of Political Thought to Macchiavelli (3 units)

Cognitive Science, Minor

Cognitive Science, Minor Requirements

The Cognitive Science Minor requires 19-23 units. Students are required to take the foundational CGSCI course: CGSCI 100 (4 units).

In addition, students are required to take five courses (15-19 units) from the list below, with no more than two courses from the same department. Please ***Note:*** students are not allowed to count any courses taken as part of the Cognitive Science Minor toward their major.

Foundational course: CGSCI 100 **(4 units)**
Five of the following: CSCI 119*, 164*, 166*; PHIL 145, 146, 151; PSYCH 121, 124**, 126**, 128; LING 142***, 143***, 165***; CGSCI 101**** **(15-19 units)**
Total (19-23 units)

* These courses have the following prerequisites: CSCI 40, 41, 60. CSCI 119 is also a prerequisite for CSCI 164 and 166.
** These courses have the following prerequisites: PSYCH 10, 42, 144.
*** These courses have the following prerequisites: LING 100.
**** Course may be taken twice.

Communication, Minor

Communication, Minor Requirements

Increasingly, oral and written communication, problem solving and decision making, leadership, and conflict resolution skills are being recognized as vital skills for professionals in all fields of work. The Communication Minor is designed to develop these competencies in order to help students better meet their particular career goals. While a specific minor is recommended, you may wish to consult with your department adviser about designing a minor to suit your special objectives.

Core requirements (15 units)
COMM 5, 7, 8, 100, 140

Electives (6 units)
Approved upper-division communication courses

Total (21 units)

Note: The Communication Minor also requires a 2.0 GPA and 6 upper-division units in residence.

Communicative Disorders, Minor

Communicative Disorders, Minor Requirements

A Minor in Communicative Disorders is designed to provide students in psychology, education, and the health professions with an appreciation and understanding of the problems and procedures related to people who have speech, language, and hearing disorders.

Select one of the following:

Speech Pathology/Audiology
CDDS 80, 91, 95, 101, 102, 109
(18 units)

Deaf Studies
CDDS 80, 91, 92, 93, 139, 141
(18 units)

Note: With permission of the department chair, substitutions can be made. The Communicative Disorders Minor also requires a 2.0 GPA and 6 upper-division units in residence.

Computational Linguistics, Minor

Computational Linguistics, Minor Requirements

LING 100, 149, 152 (9 units)
LING 139 and 142 or 143 and 144(6 units)
Total (15 units)

Note: The minor also requires a 2.0 GPA and 6 upper-division units in residence.

Advising Note

A strong background in computer science is necessary for the Computational Linguistics Minor. It is open to computer science majors or by consent of the Linguistics Department chair.

Computer Engineering, Minor

Computer Engineering, Minor Requirements

The minor requires 21 units total, of which 9 units must be exclusive (not double counted for a major or another minor).

All students pursuing the minor must complete the following courses: CSCI 40 or ECE 71, ECE 72, 85, 90 or 91, 118, 106, 174 or 176.

If short in total or exclusive units, select from the following with the chair's approval: ECE 85L, 90L, 115, 118L, 128, 128L, 174, 176, 178, CSCI 41, CSCI 150.

Minor Advising Notes

1. All course prerequisites are enforced.
2. Courses in minor must be taken for a letter grade.
3. The Computer Engineering Minor requires 2.0 GPA and 9 upper-division units in residence.

Computer Science, Minor

Computer Science, Minor Requirements

The Computer Science Minor requires 20 units of computer science courses consisting of CSCI 40, CSCI 41, and 12 units from CSCI 1, 60, or upper-division courses. At least 6 of the 20 units must be upper division. No CR/NC courses will be accepted toward the Minor in Computer Science.

Suggested minor sequences (after completion of CSCI 40, 41):

Artificial Intelligence: CSCI 60, 112, 117, 164, 166
Computer Architecture: CSCI 112, 113, 176, 177
Computer Graphics: CSCI 112, 172, 173
Computer Languages: CSCI 60, 112, 115, 117, 134
Database Emphasis: CSCI 60, 115, 124, 126, 144
Scientific Computation: CSCI 60, 112, 154*, 172*
Secondary Teaching: CSCI 60, 112, 113, 115, 117
Software Engineering: CSCI 60, 112, 115, 150, 152
System Software: CSCI 112, 113, 144, (146 or 148)

Theory of Computation: CSCI 60, 119, 174, 186, 188

* CSCI 154 and 172 have a mathematics prerequisite. Note that these are only suggested combinations. While attention must be given to prerequisites, many combinations are available to interested students.

Construction Management, Minor

Construction Management, Minor Requirements

Students from interrelated disciplines will acquire professional and specialized construction knowledge and skills. Preparation for participation in the construction-related professions leads to careers in solving the infrastructure needs of society and the environment.

Required Core courses **(16 units)**
CM 1S, 4, 7S, 20, 110, 116

Additional elective courses **(6 units)**
The student will select two additional construction courses in consultation with a faculty adviser. Emphasis may be placed upon a variety of specialization areas.

Total (22 units)

Note: The Construction Management Minor also requires a 2.0 GPA and 6 upper-division units in residence.

Creative Writing, Minor

Creative Writing, Minor Requirements

The Creative Writing Minor offers substantial training for students wishing to supplement their major area work, prepare themselves better for graduate work, prepare for classroom teaching and other fields, or who simply have an interest in the art of literary writing. The Creative Writing Minor requires 20 units, at least 12 of which must be upper-division units. Courses taken as CR/NC may not apply to the minor.

Lower Division
ENGL 41, 43, or 44 (4-8 units)
(Select a minimum of one course; transferrable credit acceptable)

Upper Division
ENGL 161, 163, or 164 (8-12 units)
(Select a minimum of two courses; if lower division was transferred, select three courses. Each course may be repeated one time.)

Literature
Select one: ENGL 101, 102, or 103 (4 units)

Total (20 units)

Note: The English Minor also requires a 2.0 GPA and 8 upper-division units in residence. Prerequisites for courses may be waived only with permission of adviser and specific course instructor on the basis of an adequate writing sample.

Criminology, Minor

Criminology, Minor Requirements

CRIM 2, 20, 100 **(9 units)**
Upper-division CRIM electives **(12 units)**
Total (21 units)

CRIM 100, 120, and 153 may still be used to meet requirements for both General Education and the minor, for catalogs prior to the 1999-2000 General Catalog.

Note: The Criminology Minor also requires a 2.0 GPA and 6 upper-division units in residence.

This interdisciplinary minor is open to students in any academic discipline or chosen profession.

Economics, Minor

Economics, Minor Requirements

ECON 40, 50 (6 units)
Select one: ECON 100A, 100B, 101 (3 units)
Economics electives (9 units)
Total (18 units)

Note: The minors also require a 2.0 GPA and 6 upper-division units in residence.

Advising Note for Minors

ECON 25, 40, and 50 may also meet General Education requirements. ECON 165 cannot be used as an elective for any minor in the Economics Program.

Electrical Engineering, Minor

Electrical Engineering, Minor Requirements

The minor requires 21 units total, of which 9 units must be exclusive (not double counted for a major or another minor).

All students pursuing the minor must complete the following courses: ECE 71 or CSCI 40, ECE 72, 85, 90 or 91, 102, 124, 128 or 121.

If short in exclusive units, select from the following with the chair's approval: ECE 85L, 90L, 118, 118L, 121, 126, 128, 128L, 134, 138, 138L, 173.

Minor Advising Notes

1. All course prerequisites are enforced.
2. Courses in minor must be taken for a letter grade.
3. The Electrical Engineering Minor requires 2.0 GPA and 9 upper-division units in residence.

English, Minor

English, Minor Requirements

Students in many vocational fields often realize that special skill in writing may be of great use in their future work -- and such skill can best be obtained through an English minor. The English Minor requires 20 units above ENGL 5B or 10, at least 12 of which must be upper division, and 4 of these units must be from 189 or 193T/194T. ENGL 160W does not apply to the English Minor. Courses taken as CR/NC may not apply to the minor with the exception of 4 units total of 175T and 186.

ENGL 189, 193T, or 194T **(4 units)**
Other upper-division English courses (not including ENGL 160W) **(8 units)**
Other English courses (not including ENGL 5B or 10) **(8 units)**
Total (20 units)

Note: The English Minor also requires a 2.0 GPA and 6 upper-division units in residence.

Entrepreneurship, Minor

Business Minors*

Entrepreneurship, Minor Requirements

ENTR 81, 151, 153; MGT 127 **(12 units)**
Elective courses: BA 152; ENTR 155, 157, 161, 163S, 165, 167, 169; FIN 131 or courses approved by the option coordinator **(6 units)**
Total (18 units)

* Students must earn a grade of at least C in each course.

Advising Notes

1. All minors also require a 2.0 GPA and 6 upper-division units in residence.
2. No course taken for the business minors can be graded on a CR/NC basis except for courses with mandatory CR/NC grading. Courses in a major cannot be applied toward a minor unless designated as “additional requirements.”

Fashion Merchandising, Minor

Fashion Merchandising, Minor Requirements

Required courses (12 units)
FM 20, 21, 120, 128

Electives (9 units)
Determined in consultation with an adviser

Minimum Total (21 units)

Note: The minor requires 6 upper-division units in residence. Students are required to earn a grade of C or better in all minor courses.

Food & Nutritional Sciences, Minor

Food and Nutritional Sciences, Minor Requirements

The Minor in Food and Nutritional Sciences consists of 21 units, of which 9 must be upper-division. All courses must be selected in consultation with the department chair. The minor program must be certified by the department chair. The certified minor program will be filed with the Degree Advising Office.

Note: The Food and Nutritional Sciences Minor also requires a 2.0 GPA and 6 upper-division units in residence.

French, Minor

French, Minor Requirements

Depending on the specific minor, the student is responsible for 21-24 units. The minors also require a 2.0 GPA and 6 upper-division units in residence. Consult a departmental adviser for planning your program.

See Classical Studies and Humanities for their minors.

French
Lower-division courses (6-9 units)
Upper-division courses (12-15 units)
Total (21 units)

Note: The minor also requires a 2.0 GPA and 6 upper-division units in residence.

General Business, Minor

Business Minors*

General Business, Minor Requirements

ACCT 4A (3 units)
Select from: BA 18; DS 73; FIN 120; IS 130; MGT 104, 106, 110; MKTG 100S (6-8 units)
Select upper-division courses from not more than two fields: ACCT, BA, DS, ENTR, FIN, HRM, IS, MGT, MKTG (11 units)
Total (20-22 units)

* Students must earn a grade of at least C in each course.

Advising Notes

1. All minors also require a 2.0 GPA and 6 upper-division units in residence.
2. No course taken for the business minors can be graded on a CR/NC basis except for courses with mandatory CR/NC grading. 3. Courses in a major cannot be applied toward a minor unless designated as “additional requirements.”

Geography, Minor

Geography, Minor Requirements

GEOG 4 (3 units)
GEOG 5 or 7(3 units)
GEOG 167(3 units)
Select from upper-division geography* (12 units)
Total (21 units)

* No more than 3 units earned in GEOG 195 may be applied to the minor. Students completing a Minor in Geography are encouraged to seek faculty advice relative to course selection and program planning.

Geology, Minor

Geology, Minor Requirements

The minor consists of 20 units of coursework approved by a departmental faculty member and must include 6 upper-division units in residence. Minimum GPA is 2.0.

German, Minor

German, , Minor Requirements

Depending on the specific minor, the student is responsible for 21-24 units. The minors also require a 2.0 GPA and 6 upper-division units in residence. Consult a departmental adviser for planning your program.

See Classical Studies and Humanities for their minors.

German
GERM 1A, 1B (0-6 units)
GERM 2A, 2B (0-6 units)
GERM 101, 150 (6 units)
German electives, upper division (0-12 units)
Total (18 units)

Note: The minor also requires a 2.0 GPA and 6 upper-division units in residence.

Gerontology, Minor

Gerontology, Minor Requirements

The Minor in Gerontology (study of aging) is open to students in any major. It is designed to serve undergraduate majors in business; communicative sciences and disorders; child, family, and consumer science; health science; nursing; kinesiology; physical therapy; psychology; therapeutic recreation; social work; and sociology.

The minor consists of 15 semester units of credit. Students should register in the Gerontology Program Office and meet with the gerontology director if they plan to request a minor.

Coursework must be completed with a C or better.

Required (6 units)
GERON 10S or GERON 100; GERON 161

Electives (9 units)*
GERON 103, 111, 115, 117, 125, 132, 134, 137 (1-3 units), 139, 140, 148, 150

Total (15 units)

*Other gerontology courses may be approved as alternatives with permission of a gerontology adviser.

Note: The Gerontology Minor also requires a 2.0 GPA and 6 upper-division units in residence. If students take a cross-listed course from their major, the cross-listed course only counts toward the Gerontology Minor if the unit requirements for the major can be met without using the cross-listed course toward their major.

A Special Major for those interested in Gerontology may be designed. The process for this is initiated through the University Advising Center, 559.278.1787, Joyal Administration, Room 224.

Graduate Business Prep, Minor

Graduate Business Preparation, Minor Requirements

ACCT 4A and IS 52, 52L (6 units)
ECON 40 and 50 (6 units)
DS 71, 73, 123 (9 units)
FIN 120 and BA 174 (7 units)
MGT 104 and MGT 124 (7 units)
Total (35 units)

* Students must earn a grade of at least C in each course.

The Graduate Business Preparation Minor is for students who wish to pursue the Craig M.B.A. after completing an undergraduate major outside the Craig School of Business. By completing the requirements of the minor, all Group I coursework (15 units) usually required of non-business majors for the Craig M.B.A. may normally be waived. See M.B.A. for further information on admission requirements.

Advising Notes

1. All minors also require a 2.0 GPA and 6 upper-division units in residence.
2. No course taken for the business minors can be graded on a CR/NC basis except for courses with mandatory CR/NC grading.
3. Courses in a major cannot be applied toward a minor unless designated as “additional requirements.”

History, Minor

History, Minor Requirements

The History Minor consists of 18-21 units of upper-division history courses. Students will choose six upper-division courses from the three fields (U.S., European, and World Regions). Students may take HIST 100W as one of the six courses, but in order to do so they must take the prerequisite of HIST 4. Therefore, students who take HIST 100W will take a total of seven classes for the minor. History minors are not permitted to take history courses by CR/NC grading.

Note: The History Minor also requires a 2.0 GPA and 6 upper-division units in residence.

Hmong, Minor

Hmong, Minor Requirements

HMONG 1A, 1B, 4, 100, 101; LING 121
Total (20 units)

Note: The minor also requires a 2.0 GPA and 6 upper-division units in residence.

Humanities Interdisciplinary Minor

Humanities, Interdisciplinary Minor Requirements

The Humanities Interdisciplinary Minor surveys relationships among philosophy, literature, music, architecture, sculpture, and painting. It also makes some use of science, popular culture, contemporary events, and whatever else is relevant that may come to hand in order to explore as richly as possible the interrelationships among arts and ideas. And it does so for entire cultures, subdivided, of course, into their major periods.

Humanities Interdisciplinary Minor
HUM 10 and 11 (6 units)
HUM 15 or 104 or 118 (3 units)
HUM 108 and 110 (6 units)
Approved Electives (select from remaining humanities courses or from other pertinent courses approved by the faculty adviser) (6 units)
Total (21 units)

Note: The Humanities Minor also requires a 2.0 GPA and 6 upper-division units in residence.

Industrial Technology, Minor

Industrial Technology, Minor Requirements

The Minor in Industrial Technology consists of 20 units of which 9 must be upper-division. At least 12 units must be taken in one of these specialized areas of study: CAD/CAM systems management, industrial control systems management, quality systems management, or transportation systems management.

Note: The Industrial Technology Minor also requires a 2.0 GPA and 6 upper-division units in residence.

International Political Economy Minor

International Political Economy, Minor Requirements

International political economy is the systematic inquiry into the political and economic forces generating wealth and social change on a global scale. As an interdisciplinary program it is administered from two departments: Political Science and Economics. Students who desire a greater understanding of the complex political and economic interactions of nations are encouraged to learn more about this program by consulting with a faculty adviser in either department.

Political Science
PLSI 120 (3 units)
Electives* (6 units)
Select from: PLSI 121, 125, 126, 128T, 140, 141, 142T, 143T, 144T, 145T, 146T, 149T

Economics

Electives** (9 units)
Select from: ECON 114, 178, 179, 181, 183, 185, 190

Total (18 units)

* PLSI 1 or 2 may be listed as a prerequisite for some of these courses.
** ECON 40 and 50 are prerequisites for some of these courses.

Note: The minors also require a 2.0 GPA and 6 upper-division units in residence.

Advising Note for Minors

ECON 25, 40, and 50 may also meet General Education requirements. ECON 165 cannot be used as an elective for any minor in the Economics Program.

Japanese, Minor

Japanese, Minor Requirements

JAPN 1A, 1B, 2A, 2B, 100, 101, LING 120
Total (23 units)

Note: The minor also requires a 2.0 GPA and 6 upper-division units in residence.

Latin American Studies, Minor

Latin American Studies, Minor Requirements

Students are encouraged to focus on an area of interest in Latin America, such as a country, region, or social issue affecting a particular region. The Latin American Studies Minor is an interdisciplinary program consisting of courses dealing with Latin America and the Caribbean with course offerings from several departments.

Lower division: CLAS 3, 70 (6 units)

Choose one of the following: HIST 3 or 8 (3 units)

Upper-division courses (12 units)
Select from CLAS 112, 114, 115, 180T*, 190*; AFRS 130T*; ARTH 173, 175; ECON 114, 178, 179, 181, 188T*; SPAN 125, 143, 145, 147, 148T*; GEOG 170T; HIST 145, 160, 162, 165, 166, 169T, 183; HUM 130; PHIL 132; PLSI 121, 126, 146T; WS 135

Total (21 units)

Minor Advising Notes

1. *Special topics or directed reading courses must have subject matter dealing with Latin America, the Caribbean, or must focus on issues affecting those areas.
2. Courses taken to complete major requirements cannot be double-counted for the minor.
3. Courses taken to complete General Education Integration requirements can be double-counted for the minor.
4. Other acceptable courses can be substituted to satisfy minor requirements with ap proval of your CLAS adviser.

Linguistics, Minor

Linguistics, Minor Requirements

The minor also requires a 2.0 GPA and 6 upper-division units in residence.

Linguistics Minor
LING 100, 139, 142, 143, 148, 151, 154, 165
Total (24 units)

Mass Communication & Journalism, Minor

Mass Communication and Journalism, Minor Requirements

Required (6 units)
MCJ 1, 10

Minimum Electives (12 units)
Any four or more courses selected with the advice and consent of a member of the departmental faculty

Minimum Total (18 units)

Note: The Mass Communication Minor also requires a 2.0 GPA and 6 upper-division units in residence.

Mathematics, Minor

Mathematics, Minor Requirements

The minor requires 20 units in mathematics, MATH 75 (or MATH 75B) or above, excluding MATH 75A, 100, 133, 134, 137, 138, 139, and 149.

Minor Advising Note

Courses in the minor may be taken CR/NC, subject to university regulations. The Mathematics Minor also requires a 2.0 GPA and 6 upper-division units in residence.

Media Arts, Minor

Media Arts Interdisciplinary, Minor Requirements

Media arts is the study of the theories and techniques involved in computer animation, graphic design, video and audio production, digital photography, music composition, digital storytelling, and Web design. It brings students and faculty together in the key areas of art and design, music, and digital media production. The Minor in Media Arts is a 20-21 unit program, with at least 12 upper-division units taken in residence. Students in the minor must maintain a minimum GPA of 2.5. The Media Arts Minor adviser must approve the program. Courses taken for the minor may count toward fulfilling General Education requirements, but not toward fulfilling the student's major.

Lower-Division Courses (8-9 units)
Select two courses from: ART 13, GD 35, MCJ 30, MUSIC 9
Select one course from: MUSIC 47, ART 30, ART 37, GD 37

Upper-Division Courses (12 units)
Select four courses from: ART 107, ART 133, ART 185, ART 188, MCJ 106, MCJ 112, MCJ 115, MCJ 131S, MUSIC 147

Total (20-21 units)

For more information and advising, contact the Department of Mass Communication and Journalism 559.278.2087.

Medical Physics, Minor

Medical Physics, Minor Requirements

PHYS 4A, 4AL, 4B, 4BL, 4C (11 units)
PHYS 136 (3 units)
PHYS 137 (3 units)
Choose one course from
PHYS 135 (Intro to MRI/MRS), PHYS 175T (Nuclear Medicine), or PHYS 175T (Radiation Biology)(4 units)
Total (21 units)

Note: The Medical Physics Minor also requires a 2.0 GPA and 6 upper-division units in residence.

Meteorology, Minor

Meteorology, Minor Requirements

The Meteorology Minor requires the successful completion of four meteorology/climatology courses within the Geography Department and three other elective courses that are drawn from Chemistry, Computer Science, Engineering, Environmental Sciences, Geography, and Physics departments.

Core courses:GEOG 5, 111, 112, 114 (12 units)

Electives (9 units)*
With the approval of a program adviser, elect 9 units from the following list of courses: CHEM 3A, CSCI 40, EES 109, EES 125, EES 167, GEOG 118, PHYS 2A.

Total (21 units)

*All courses must be passed with a letter grade of C or better to count as credit toward the undergraduate Minor in Meteorology.

Middle East Studies, Minor

Middle East Studies, Minor Requirements

The Minor in Middle East Studies is a broad, interdisciplinary program designed to provide students from all disciplines with an introductory foundation of knowledge about different subjects related to the Middle East. Students will select from a variety of courses offered throughout the university that study the linguistic, social, cultural, artistic, literary, historical, political and economic factors that define this region of the world. Upon completion of the minor, students will be able to communicate in one of the languages spoken in the region, have a broad contextual understanding of the region, and be afforded the opportunity to gain in-depth knowledge in one or more areas of study related to the region. The minor is composed of 21-23 units. These include 3 units of a required lower-division introductory course MES 10; 6-8 units of lower-division courses in Middle Eastern languages selected from Arabic, Armenian, Hebrew, and Persian; and 12 upper-division units selected from courses offered by the depart-

ments participating in this program. Courses taken for the minor may count toward fulfilling General Education requirements, but not toward fulfilling the student's major. Students in the minor must maintain a minimum GPA of 2.5.

Required Course (3 units)
MES 10 (fulfills G.E. Area D3)

Lower-division Language Requirement (6-8 units)
Select from: ARAB 1A-1B; ARM 1A-1B; HEBR 1A-1B; PERS 1A-1B (some courses fulfill G.E. Area C2)

Electives (select 4 courses) (12 units)
ANTH 135; ECON 183; ENGL 179, ENGL 193T; HIST 107, HIST 109T, HIST 110; MUSIC 171; PHIL 139, PHIL 158; PLSI 144T; SSCI 150T

Total (21-23 units)

Other courses can be used to fulfill electives upon approval by minor adviser.

Military Science, Minor

Military Science, Minor Requirements

Each student enrolled in the ROTC Advanced Course and who completes the 21 units (19 upper -division) necessary for commissioning will be eligible for the award of a Minor in Military Science. Coordination with the department faculty adviser is required.

Required courses (21 units)
MS 50A, 50B, 131, 132, 141, 142, 150A, 150B; HIST 144; KAC 42

Optional course (3 units)
MS 192

Total (21-24 units)

Note: The Military Science Minor also requires a 2.0 GPA and 6 upper-division units in residence.

Professional Military Education Requirements (PME). In addition to the required courses above, students in the ROTC Advanced Course must fulfill prescribed professional military education requirements by satisfactorily completing courses in written communication, human behavior, military history, and computer literacy. Students must obtain approval from their military science department faculty adviser to ensure their planned course of study will satisfy this requirement prior to graduation and commissioning.

Music, Minor

Music, Minor Requirements

The minor in Music is reserved for students pursuing a degree in a field other than music. Courses taken for the minor may count toward fulfilling General Education requirements but will not count toward fulfilling a music major. The minor requires completion of 20 units of music courses with a minimum of a 2.0 GPA. At least 7 upper-division units must be completed in residence. The program must be approved by the department minor adviser. Music minors must pass the Jury I examination in their declared area of concentration (composition, instrument, or voice) by the completion of the fourth unit of studio instruction.

Required (9 units)
MUSIC 40; 41; 74, or 1A and one of 47 or 58

Studio Instruction (4 units)
Choose one of the following (concurrent enrollment in approved Performance unit required): MUSIC 31, 32, 33, 34, 35, 38, 48. If a voice minor, choose 39 or 110 or a combination of the two, upon recommendation of voice faculty.

Performance (4 units)
Choose from the following: MUSIC 102, 103, 117, 118 (Ensembles taken for credit must be approved by the minor adviser and studio teacher.)

Elective (3 units)
Choose one of the following: MUSIC 160T, 161A, 161B, 170A, 170B, 171, 187

Total (20 units)

Peace & Conflict Studies, Minor

Peace and Conflict Studies, Minor Requirements

Peace and Conflict Studies (21-unit minor) prepares students, including potential leaders, with peacemaking and conflict management skills they can apply to daily life situations. This interdisciplinary minor is open to students in any academic discipline or chosen profession. The program has been developed to provide an interdisciplinary perspective to the study of conflict, violence, war, and peace. Such an approach is essential in view of the highly complex, interconnected, interdependent world in which we live. This requires an understanding that allows people to respond creatively, rather than thoughtlessly, to conflict and violence at various levels.

Core Faculty

Veena Howard, Philosophy, Coordinator
Andrew Fiala, Philosophy

Requirements for the Minor

A total of 21 units, which will include:

1. 15 units from the Areas of Study. It is strongly recommended that 3 units be taken from each of the five Areas of Study. However, four out of the five areas must be covered.

2. PAX 185 - Internship (3 units) or PAX 190 - Independent Study (3 units).

3. PAX 100. Peace and Conflict (3 units)
Provides an overview of causes and types of conflict, critical examination of issues related to war, peace, and justice.

4. The minor also requires a minimum 2.0 GPA and six upper-division units in residence.

5. Courses also can fulfill General Education requirements as appropriate.

Areas of Study

AREA I - Personal and Interpersonal Issues
SOC 162, 165, 168; COMM 108, 162; PHIL 10, 157; PSYCH 61

AREA II - Community and Social Issues
ANTH 120; AFRS 144; CRIM 140; CLAS 128; ECON 140; ISC 93; SOC 111; PHIL 120, 125; PLSI 116; WS 108, 116

AREA III - International and Global Issues
AGBS 140; AFRS 150; BA 174; ECON 114, 179; GEOG 163; HIST 105; PLSI 120, 121, 122, 125; SOC 157

AREA IV - Conflict Management
AGBS 117; BA 156; HIST 166, 185; HRM 152; PLSI 126; COMM 164, 169

AREA V - Education for Peace and Nonviolence

AFRS 145; KINES 111; PHIL 131; SOC 122

Philanthropic and Community-based Leadership, Minor

Philanthropic and Community-based Leadership, Minor Requirements

The Philanthropic and Community-based Leadership Minor prepares students for career paths ranging from grassroots organizing and work in nonprofit, community benefit and non-governmental organizations to employment in government agencies, legislative offices, "think tanks," advocacy organizations, or private consulting. Through an emphasis on servicelearning pedagogy, the minor is designed to provide an interdisciplinary perspective to the study of diverse communities and issues facing these communities. Critical and creative analytical skills are honed in real-world settings to prepare individuals to be able to work towards viable solutions to social problems. The minor degree emphasizes a social justice approach and offers students hands-on experience in exercising critical sociological consciousness in venues concerned with pressing local, national, and international issues. Such knowledge and skills are essential for students to become leaders who are able to transform our region and society as a whole.

Requirements for the Minor

The Minor in Philanthropic and Community-based Leadership requires a minimum of 22 units, including 300 hours of experiential learning with a CBO. Involvement in the Humanics AFP Collegiate Chapter and participation in a professional development conference are required. Courses/Internships may be double-counted towards a sociology degree or used to fulfill requirements of other certificate programs and are open to undergraduate and graduate students of all majors and programs as well as to community individuals through Open University. A special major can be arranged with an adviser as well.

Required Core Coursework* (19 units minimum):

SOC 183S (3 units)
SOC 184S (3 units)
SOC 144 (3 units)
SOC 185, Field Experience in Sociology or approved internship course (3 units)
SOC 186S (3 units)
SOC 187S or MGT 133S or ENTR 163S (3 units)
SOC 190, Independent Study (1 unit)

Elective Options (3 units minimum)
ACCT 148. Accounting for Governmental and Nonprofit Organizations (4 units)
ANTH 111. Introduction to Ethnographic Fieldwork (3 units)
COMM 164. Intercultural Communication (3 units)
COMM 167. Leadership in Groups and Organizations (3 units)
COMM 168. Communication in Organizations (3 units)
COMM 171. Communication and Planning Change in the Social System (3 units)
COMM 176. Communication Consulting and Training (3 units)
CFS 118. Program Evaluation: Models & Tools (3 units)
CRIM 150. Victim Services Program Management (3 units)
CRIM 176. Victim Services (3 units)
CSH 117/GERON 117. Resource Management of Aging (3 units)
ECON 119. Urban & Regional Economics (3 units)
GERON 125/SWRK 125. Social Services for the Aging (3 units)
HRM 150. Administration of Personnel (3 units)
MCJ 152S. Public Relations (3 units)
MGT 127. Contemporary Leadership (3 units)
MKTG 100S. Marketing Concepts (4 units)
MKTG 144. Services Marketing (4 units)
PAX 110. Peace Building (3 units)
PAX 120. Mediation (3 units)
PH 100. Community Health (3 units)
PH 163. Public Health Administration (3 units)
PHIL 122. Introduction to Professional Ethics (3 units)
PLSI 181. Public Administration (3 units)
PLSI 182. Administrative Analysis: Management and Organization (3 units)
PLSI 183. Comparative Administration (3 units)

PLSI 185. Public Personnel Management (3 units)
PSYCH 155. Developmental Psychology (4 units)
PSYCH 156. Social Psychology (4 units)
PSYCH 176. Industrial Psychology (3 units)
RA 113. Serving At-Risk Youth (3 units)
RA 115. Community Placements in Leisure Settings (1-3 units)
RA 117. Special Event Planning (3 units)
RA 121. Community & Nonprofit Recreation Services (3 units)
RA 125. Diversity and Inclusive Practices in Recreation. Parks. and Tourism (3 units)
RA 135. Recreation. Parks. and Tourism Marketing (3 units)
SOC 130W or SOC 130WS. Contemporary Social Issues (4 units)
SOC 145. Social Organization (3 units)
SWRK 123. Social Welfare Policies & Programs (3 units)
SWRK 136. Cultural Diversity and Oppression (3 units)
SWRK 137. Principles in Cross-Cultural Competence (3 units)
SWRK 152. Intro to Conflict Resolution for Human Service Professionals (3 units)
WS 162. Community Service in Women's Studies (1-3 units)

Philosophy, Minor

Philosophy, Minor Requirements

The Minor in Philosophy consists of 15 units in philosophy, of which at least 9 units must be upper division. Philosophy courses taken to satisfy the minor must be letter-graded.

Note: The Philosophy Minor also requires a 2.0 GPA and 6 upper-division units in residence.

Physical Science, Minor

Physical Science, Minor Requirements

The Physical Science Minor offers an opportunity for both nonscience and science majors to diversify into important and interesting fields. It consists of 21-22 units of courses selected according to one of the patterns below:

A. CHEM 3A and 3B* (7 units)
PHYS 2A and 2B* (8 units)
Upper-division electives** (6 units)
Total (21 units)

B. CHEM 10 (4 units)
PHYS 2A and 2B* (8 units)
EES 1 (4 units)
Upper-division electives** (6 units)
Total (22 units)

C. CHEM 3A and 3B* (7 units)
PHYS 10 (4 units)
EES 1 (4 units)
Upper-division electives** (6 units)
Total (21 units)

For chemistry, geology or physics majors, all courses must be outside the major department. The revised program must be approved by the chair of the major department.

Note: The Physical Science Minor also requires a 2.0 GPA and 6 upper-division units in residence.

* CHEM 1A/1AL may be substituted for CHEM 3A, and CHEM 1B/1BL may be substituted for CHEM 3B. PHYS 4A and 4AL may be substituted for PHYS 2A, and PHYS 4B and 4BL may be substituted for PHYS 2B.

** The upper-division electives may be any upper-division courses for which the student is qualified, from the three departments. Courses with very few prerequisites are EES 105, 114, 154, 168, 169; PHYS 100; PSCI 131, 168.

Physics, Minor

Physics, Minor Requirements

PHYS 4A, 4AL, 4B, 4BL, 4C (11 units)
PHYS 102 (3 units)
Other upper-division physics (6 units)
Total (20 units)

Note: The Physics Minor also requires a 2.0 GPA and 6 upper-division units in residence.

Plant Science, Minor

Plant Science, Minor Requirements

The 21 units of courses will constitute a basic background in plant science. The program is similar to the major core and provides students with an introduction to the broad spectrum of plant science. Other majors in the School of Agricultural Sciences and Technology, particularly the Agricultural Business and Education majors, require students to be knowledgeable of plant science in order to pursue their careers or teach the subjects of agricultural production. This minor would be a way in which students could acquire those courses they need and get credit for completing a program of study rather than only a series of courses.

Select from the following (3 units)
PLANT 100: Aspects of Crop Productivity* (BIOL 11)
PLANT 107: Plant Propagation
PLANT 150: Crop Improvement* (BIOL 11)

Select from the following (6 units)
PLTH 103: Economic Entomology* (BIOL 1A or 11)
PLTH 105: Weeds* (BIOL 1A or 11 and CHEM 3A)
PLTH 106: Plant Pathology* (BIOL 1A or 11)

Select from the following (3 units)
SW 2: Agricultural Water
SW 100: Soils* (CHEM 3A)

Select from one of the following three prefix groups in Plant Science in consultation with an academic adviser (9 units)
(at least 6 units must be upper division)
Group 1: CRSC, SW
Group 2: HORT, OH, VIT
Group 3: PLTH

Total (21 units)

*Course requires a prerequisite.

Note: The Plant Sciences Minor also requires a 2.0 GPA and 6 upper-division units in residence.

Political Science, Minor

Political Science, Minor Requirements

The following minor requirements are in addition to the General Education requirement in social science.

Political Science

PLSI 1, 110 or 111 (6 units)
Political Science Electives (upper-division), including PLSI 158, 187 (15 units)
Total (21 units)

No course used to satisfy a General Education requirement may be used to satisfy requirements for the Political Science and Public Administration minors.

Precision Agriculture Technology Minor

Precision Agriculture Technology, Minor Requirements

The minor in Precision Agriculture Technology consists of 15 units, which includes IT 52, IT 116, IT 156, IT 186 courses and one of IT 190, IT 194 or IT 199 independent activity. The minor provides students with the necessary skills in basic electricity and electronics, sensors and controls, applied programming, and geo-spatial technology for site-specific crop management in agriculture.

Note: The Precision Ag Technology minor also requires a 2.0 GPA and 6 upper-division units in residence.

Semester 1 (6 units)
IT 52, IT 116

Semester 2 (6 units)
IT 156, IT 186

Semester 3 (3 units)
IT 190, or IT 194, or IT 199
Choice of topic must be related to the minor.

Psychology, Minor

Psychology, Minor Requirements

A Psychology Minor must have prior approval of the psychology department faculty adviser. The minor consists of 22 units of psychology courses, 15 of which must be upper division. The required courses for the minor are PSYCH 10 (Intro to Psychology) completed with a grade of C or better, one course from Area B (Basic Knowledge and Skills), and one course from Area C (Basic Applications). The remaining courses may be selected to satisfy the needs of individual students but must be worked out in advance with an adviser from the department and be approved.

Note: The Psychology Minor also requires a 2.0 GPA and 6 upper-division units in residence.

Public Administration, Minor

Public Administration, Minor Requirements

The following minor requirements are in addition to the General Education requirement in social science.
Public Administration

PLSI 1, 181, 182, 183, 184, 185, or 189T (12 units)
Select from PLSI 103, 110, 111, 114, 150, 151, 160, 163, 170, or 175 (9 units)
Total (21 units)

No course used to satisfy a General Education requirement may be used to satisfy requirements for the Political Science and Public Administration minors.

Public Health, Minor

Public Health, Minor Requirements

The Public Health Minor allows students to receive coursework that complements their major courses and prepares them for career opportunities in public health.

Requirements (15 units)
PH 92, 100, 109, 161, 163

Additional requirements (9 units)
Take all three courses from one of the following special topic areas:
1. Health Foundations
   PH 114, 131, 188
2. Health Care Utilization
   PH 104, 129, 154
3. Environmental Occupational Health and Safety
   PH 162A, 170, 175

Total (24 units)

Recreation Administration, Minor

Recreation Administration, Minor Requirements

The Minor in Recreation Administration consists of 22 units. Students completing the minor develop a basic knowledge of leisure services management that has application in many diverse fields.

RA 55, 73S, 77S, 125, 80 or 101 (15 units)
Select from RA 113, 117, 121, 131, 133, 135, 142, 146, or 150 (9 units)
Total (24 units)

Note: The Recreation Administration Minor also requires a 2.0 GPA and 6 upper-division units in residence.

Sociology, Minor

Sociology, Minor Requirements

Minor requirements (6 units)
SOC 1, 125

Sociology upper-division Electives (15 units)
Students may substitute SOC 3 for 3 units of upper-division electives

Total (21 units)

Note: The Sociology Minor also requires a 2.0 GPA and 6 upper-division units in residence. CR/NC grading is not permitted in the Sociology Minor, except for courses offered only under CR/NC grading.

Southeast Asian Studies, Minor

Southeast Asian Studies, Minor Requirements

Lower-division courses (6 units)
ASAM 15 and an additional course approved by coordinator

Language courses (6 units)
(Pre-approved by coordinator)
HMONG 1A-B, 4, 100, 101; LING 40T

Upper-division courses (9 units)
ANTH 123, 190; ASAM 110, 138, 140, 190; GEOG 177T;LING 190; SWRK 181

Total (21 units)

Note: The minor also requires a 2.0 GPA and 6 upper-division units in residence.

Notes

1. Interdisciplinary course designed to introduce students with no previous background to the understanding of multiculturalism and ethnic diversity in mainland Southeast Asia. Using a contemporary historical and socioeconomic framework, this course examines concepts of ethnic identity, gender relations, nation states, ethnic conflicts, war and global conflict, diaspora, and transnationalism.

The Minor in Southeast Asian Studies focuses on the cultures and peoples of Southeast Asia, and on their communities outside Southeast Asia, especially those in the United States. For further information, contact Dr. Franklin Ng, Department of Anthropology, at 559.278.3002.

Spanish, Minor

Spanish, Minor Requirements

Depending on the specific minor, the student is responsible for 21-24 units. The minor also requires a 2.0 GPA and 6 upper-divi-

sion units in residence. Consult a departmental adviser for planning your program.

See Classical Studies and Humanities for their minors.

Spanish
Select from SPAN 2A, 2B, 3, 4A, 4B, 5 (0-9 units)
Spanish electives, upper division (12-21 units)
Total (21 units)

Note: The minors also require a 2.0 GPA and 6 upper-division units in residence.

Sports Coaching, Minor

Sports Coaching, Minor Requirements

KINES 1 (3 units)
KINES 38 (3 units)
KINES 109, or 110, or 125A, or 125B, or 125C, or 125D , or 190 (3 units)
KINES 146 (3 units)
KINES 159 (3 units)
KINES 162 (3 units)
Total (18 units)

Note: The Coaching Minor also requires a 2.0 GPA.

Supplementary Authorization in Physical Education
(formerly Physical Education Minor) - see Kinesiology Department's credential adviser.

Advising Notes

1. Students must consult with an adviser.
2. Advanced First Aid and CPR must be current at the time of graduation.

Teaching English As A Second Language, Minor

TESL, Minor Requirements

Teaching English as a Second Language Minor

LING 100, 155, 141, 146, 171 (15 units)
Approved Electives (6 units)
Select from: LING 139, 142, 143, 144, 147, 148, and 165
Total (21 units)

Note: The minor also requires a 2.0 GPA and 6 upper-division units in residence.

Theatre Arts - Dance Option, Minor

Theater Arts (Dance), Minor Requirements

DANCE 20 (3 units)
DANCE 117A, 117B, 117C, 158A, 158B, 158C (8 units)
DANCE 70, 164, 166, 170 (11 units)
DANCE 115 (1 units)

Total (23 units)

Note: The minor also requires a 2.0 GPA and 6 upper-division units in residence.

Theatre Arts - Drama Option, Minor

Theater Arts (Drama), Minor Requirements

Theatre Arts Minor (Drama)
DRAMA 10, 32 or 33, 34, 163 (12 units)
DRAMA 15 and 115 (2 units)
Approved electives. 3 units must be upper division (See adviser) (6 units)
Total (20 units)

Note: The minor also requires a 2.0 GPA and 6 upper-division units in residence.

Urban Civic Education, Minor

Urban Civic Education, Minor Requirements

Minor Requirements

The Urban Civic Education Minor (15-units) prepares students to become leaders of civic engagement working to address community issues. This interdisciplinary minor is available to all students in any academic discipline and is an excellent complement for students pursuing careers in education, psychology, criminal justice, social services, international affairs, and community advocacy. Through an emphasis on service-learning pedagogy, the program has been developed to provide an interdisciplinary perspective to the study of diverse urban cultural communities, issues facing these communities, and cultural and community influences on urban children's education. Students will actively engage in service-learning experiences to support community organizations in diverse urban contexts. Students will also implement projects with local K-12 school districts in order to learn how service-learning can serve as an instructional method to impact children's academic achievement and civic engagement. Such knowledge and skills are essential for students to become leaders who are able to transform our region and society as a whole.

Core Faculty
Steven Hart, Literacy, Early, Bilingual, and Special Education, Coordinator
James Mulooly, Anthropology
Matt Jendian, Sociology/Humanics
Chris Fiorentino, Richter Center

Affiliated Faculty
Janell Morillo, Liberal Studies Coordinator
Meta L. Schettler, Africana Studies Program
Xinchun Wang, Linguistics

Requirements for the Minor

A total of 15 units, which will include the following:

1. COMS 1. Community Service-Learning (3 units)
2. LEE 144S. Service-Learning Pedagogy and Practice (3 units) 180T (Literacy and Service Learning)
3. 3-6 units from Area I: Diverse Families and Communities
4. 3-6 units from Area 2: Educational Issues
5. The minor also requires a minimum 3.0 GPA and six upper-division units in residence.
6. Courses also can fulfill General Education requirements as appropriate.

AREAS OF STUDY

AREA I Diverse Families and Communities: AFRS 104W; CFS 133S; CFS 134; ASAM 110; CLAS 3; CLAS 120; SWRK 128;

SWRK 137; SOC 130WS; SOC 144

AREA II Educational Issues: ANTH 111; CFS 141; COMM 114; LING 141; LING 147; SOC 148; SPED 120; SPED 121

Advising Notes

Students must consult with an advisor to plan the minor. The advisor and minor coordinator must approve the minor program before it can be filed with the Degree Advising Office and recorded on the transcript.

1. Complete an Urban Civic Education Minor advising sheet with an adviser for selection of courses.
2. Courses in a major cannot be applied toward a minor unless designated as additional requirements.
3. A minor may be earned only at the time a student earns the first baccalaureate degree.

Urban Studies, Minor

Urban Studies (Interdisciplinary), Minor Requirements

The interdisciplinary Urban Studies Minor provides exposure to the analysis of urban and regional problems and serves as an excellent supplement to other academic degree programs offered throughout the university. A special major in urban studies may be designed to meet the needs of students with an interest in this area. See Special Major, undergraduate and graduate.

Coordinator: Consult department chair, Geography Department.

Faculty Advisers: Undergraduate advisers of the Geography Department, Anthropology Department, and Sociology Department.

Required Courses

Concepts and Issues* (9 units)
GEOG 160 or SOC 163 (3 units)
PLSI 181 (3 units)
GEOG 181 (3 units)

Methods and Techniques* (6-9 units)
Select from the following list of courses: GEOG 30, 132, 141; PLSI 90; SOC 175

Electives (3-6 units)
With the approval of a program adviser, elect 3-6 units with no more than 3 lower-division units from the following list of courses: AFRS 1, 104W, 135; ANTH 120; BA 154; CLAS 3; CRIM 2; ECON 40, 50; FIN 180; GEOG 128, 132, 141, 142, 143, 146, 149, 160, 181, 187T, 190, 192; HIST 137; PLSI 90, 103, 160, 163; SOC 2, 111, 125, 131, 163. Senior students may elect internship by registering for SSCI 185 (1-3 units).

Total (21 units)

* Students with a course equivalent to one in this category, taken in their major, may, with the approval of the coordinator, substitute additional units from the electives list for the units required here.

Note: The minor also requires a minimum of 2.0 GPA and 6 upper-division units in residence.

Women's Studies, Minor

Women's Studies, Minor Requirements

The minor in women's studies requires a minimum of 20 units, including WS 103, 143, 153, and 175. The other 8 units must be selected from a list of approved courses. Courses from this list also may satisfy General Education requirements as appropriate.

Note: The Women's Studies Minor also requires a 2.0 GPA and 6 upper-division units in residence.

Credentials

Administrative Services Certificate of Eligibility

Requirements

Program requirements are pending.

Administrative Services - Internship Credential

Requirements

Administrative Internship Credential (Preliminary)

Linda Hauser, Coordinator
Education Building, Room 459
559.278.0362

Individuals who wish to serve as educational administrators must complete preliminary and advanced levels of preparation. Holders of the Preliminary Administrative Services Credential and the Professional Clear Administrative Services Credential are authorized to serve in such positions as district superintendent, principal, program director, and any related administrative assignments at all school levels.

In special circumstances, students may be eligible for the **Administrative Internship Credential**. This credential allows students to have a full-time position requiring an administrative credential while they are working toward the completion of the Preliminary Administrative Services Credential.

P-12 Administration. The Preliminary Administrative Services Credential Program is a 24 semester unit program that provides basic preparation for employment in a P-12 public school administrative position. The Professional Administrative Services Credential Program is a 10 semester unit program. Once an individual completes the Preliminary Administrative Services Credential and obtains an administrative position, an application must be made to the Professional Administrative Services Credential Program within the first year of employment. The program provides individually designed advanced preparation in professional development, transformational leadership, school law, school finance, school human resource management, and other areas necessary for leadership in all education settings.

Grade Requirements. To be recommended for the Administrative Credential, a student must maintain academic excellence in all coursework. Once an NC or one letter grade of C or less has been earned in any course, the student will be placed on program academic probation. Upon the receipt of two NCs or letter grades of C or lower, at any point in the administrative credential program, the student will automatically be disqualified from the program.

Admission Requirements. In addition to the admission requirements listed in the Graduate Education Program section of this catalog, Administrative Services Credential and Administrative Internship Credential program applicants must meet the following requirements:

1. Provide verification of advising.
2. Evidence of possession of a valid basic prerequisite credential (Multiple Subject, Single Subject, Education Specialist, or Pupil Personnel Services credentials).
3. Evidence of having passed the California Basic Educational Skills Test (CBEST).

Program Requirements. Candidates for the Preliminary Administrative Services Credential who have been admitted to the program and who want to be recommended for this authorization must meet the following requirements:

1. Possess a valid California teaching credential based on a bachelor's degree or a Pupil Personnel Services Credential.
2. Verify three years of successful, full-time experience in public schools (or in private schools of equivalent status.)
3. Complete ERE 288 (or CI 285); EAD 261, 262, 263, 269, 272, and 274.
4. Receive a passing score on the California Basic Educational Skills Test (CBEST).
5. Pass the competency exit review.
6. Complete a master's degree.

Administrative Services - Preliminary Credential

Requirements

Administrative Services Credential

Linda Hauser, Coordinator
Education Building, Room 459
559.278.0362

Individuals who wish to serve as educational administrators must complete preliminary and advanced levels of preparation. Holders of the Preliminary Administrative Services Credential and the Professional Clear Administrative Services Credential are authorized to serve in such positions as district superintendent, principal, program director, and any related administrative assignments at all school levels.

In special circumstances, students may be eligible for the **Administrative Internship Credential**. This credential allows students to have a full-time position requiring an administrative credential while they are working toward the completion of the Preliminary Administrative Services Credential.

P-12 Administration. The Preliminary Administrative Services Credential Program is a 24 semester unit program that provides basic preparation for employment in a P-12 public school administrative position. The Professional Administrative Services Credential Program is a 10 semester unit program. Once an individual completes the Preliminary Administrative Services Credential and obtains an administrative position, an application must be made to the Professional Administrative Services Credential Program within the first year of employment. The program provides individually designed advanced preparation in professional development, transformational leadership, school law, school finance, school human resource management, and other areas necessary for leadership in all education settings.

Grade Requirements. To be recommended for the Administrative Credential, a student must maintain academic excellence in all coursework. Once an NC or one letter grade of C or less has been earned in any course, the student will be placed on program academic probation. Upon the receipt of two NCs or letter grades of C or lower, at any point in the administrative credential program, the student will automatically be disqualified from the program.

Admission Requirements. In addition to the admission requirements listed in the Graduate Education Program section of this catalog, Administrative Services Credential and Administrative Internship Credential program applicants must meet the following requirements:

1. Provide verification of advising.
2. Evidence of possession of a valid basic prerequisite credential (Multiple Subject, Single Subject, Education Specialist, or Pupil Personnel Services credentials).
3. Evidence of having passed the California Basic Educational Skills Test (CBEST).

Program Requirements. Candidates for the Preliminary Administrative Services Credential who have been admitted to the program and who want to be recommended for this authorization must meet the following requirements:

1. Possess a valid California teaching credential based on a bachelor's degree or a Pupil Personnel Services Credential.
2. Verify three years of successful, full-time experience in public schools (or in private schools of equivalent status.)
3. Complete ERE 288 (or CI 285); EAD 261, 262, 263, 269, 272, and 274.
4. Receive a passing score on the California Basic Educational Skills Test (CBEST).
5. Pass the competency exit review.
6. Complete a master's degree.

Agriculture Specialist Credential

Requirements

Agricultural Specialist Credential Program

The Agricultural Specialist Credential, which authorizes holders to teach secondary school vocational agriculture, is offered jointly by the School of Agricultural Sciences and Technology and the Kremen School of Education and Human Development. It requires completion of the Single Subject Waiver Program (see above), professional education courses (see Education Single Subject Credential Program Requirements, Professional Preparation), and an approved fifth-year program of 30 postgraduate units including AGED 135, 150, 187, 189; EHD 155B; CI 161; and AGRI 280, 281.

Early Childhood - Specialist Credential

Requirements

Early Childhood Specialist Credential

Susan R. Macy, Coordinator
Education Building, Room 259
559.278.0267
e-mail: smacy@fresnostate.edu
http://www.fresnostate.edu/lee/

An Early Childhood Education Specialist Credential may be earned by those who possess an elementary teaching credential (California Multiple Subject, Standard Elementary, or General Elementary Teaching Credential); who complete a commission-approved specialist program, including teaching; and who have two years of teaching experience at two levels of Early Childhood Education at the time the specialist credential is bestowed. The ECE Specialist Credential requires 30 units of postbaccalaureate study. Courses taken in the ECE Specialist Credential Program may be used to meet part or all of the requirements for the master's degree. It is strongly advised that application for the master's degree be completed at the same time as the application for the specialist credential is submitted.

Admission Requirements. In addition to the admission requirements listed in the Graduate Education Program section of this catalog, Early Childhood Education Specialist Credential program applicants must meet the following requirements:

1. Be qualified for ECE Master Teaching Permit (B.A./B.S. plus 12 units of ECE or Child Development and 3 units of supervised ECE fieldwork) or hold a valid teaching credential.
2. Provide verification of advisement.

Program Requirements. Under the direction of the graduate adviser, each student prepares and submits an individually designed program within the following framework:

1. Required Early Childhood Education Core Courses:
   LEE 235 and 241 (6 units)
2. Select three of the four additional Early Childhood Education Core Courses: LEE 171, 232, 233, 271 (9 units)
3. Electives are selected from fields including early childhood education, special education, education administration, bilingual education, and other fields as determined in consultation with the ECE faculty adviser (15 units)
4. Experience: Two years of successful teaching experience in at least two levels in early childhood education.

Total (30 units)

Education Specialist Deaf & Hard of Hearing - Clear Credential

Requirements

Required CDDS courses for the Clear DHH Credential

All Education Specialist: DHH Clear credential candidates must satisfy the Fresno State requirements for a DHH Preliminary

credential before beginning the DHH clear credential program.

CDDS 278 Application of Theory into Practice in Deaf Education (3 units)
CDDS 279 Induction Plan-based Field Experience in Deaf Education (3 units)

Education Specialist Deaf and Hard of Hearing - Preliminary Credential

Requirements

Required CDDS courses for the Preliminary DHH Credential

CDDS 95 Introduction to Speech and Language Development (3 units)
CDDS 114 or equivalent course, Education of Exceptional Children (3 units)
CDDS 139 Deaf Culture (3 units)
CDDS 141 Education of Deaf Children and Their Parents (3 units)
CDDS 200 Graduate Studies and Research in Communicative Disorders & Deaf Studies (3 units)
CDDS 201 Interviewing and Counseling in Communicative Sciences and Disorders (3 units)
CDDS 202 Aural Rehabilitation (3 units)
CDDS 255 Seminar: Assessment of Deaf & Hard of Hearing Students (3 units)
CDDS 260 Advanced Clinical Practice: Deaf & Hard of Hearing Children & Youth (2 units)
CDDS 262 Seminar: Speech for Deaf & Hard of Hearing Children & Youth (3 units)
CDDS 263 Seminar: Language for Deaf & Hard of Hearing Children & Youth (3 units)
CDDS 264 Seminar: School Subjects for Deaf & Hard of Hearing Children & Youth (3 units)
CDDS 258 Student Teaching: Deaf and Hard of Hearing (6 units) and
CDDS 268 Externship with Deaf Children or Youth (6 units),or
CDDS 258 Student Teaching: Deaf and Hard of Hearing (12 units)
LEE 172 Cultural and Language Context of the Classroom (3 units)
LEE 173 Teaching Reading and Social Studies in Grades 4-8 (3 units)
LEE 177 Teaching Reading and The Arts in K-3 (3 units)
CI 171 Understanding the Learner, Instructional Design, and Assessment (3 units)
CI 175 Science Instruction and Applied Technology (3 units)
CI 176 Mathematics Instruction and Applied Assessment (3 units)
EHD 174 Field Study A/Grades 4-8 (2 units)
EHD 178 Field Study B/Grades K-3 (2 units)

Education Specialist Mild/Moderate - Clear Credential

Requirements

Program requirements are pending.

Education Specialist Moderate/Severe - Clear Credential

Requirements

Program requirements are pending.

Education Specialist Mild/Moderate - Internship Credential

Requirements

Teaching Internships

Teacher in Preparation (TIP) Internship Program. The TIP Internship program is designed for qualified individuals who have prior classroom experience and who seek an alternative route to obtaining a Preliminary Teaching Credential. Students must possess a bachelor's degree from an accredited institution and meet all criteria for admission to a basic credential program. Candidates who have been instructional assistants or successful long-term substitute teachers and who are holders of provisional short-term permits or short-term staff permits are good candidates for the internship program.

Interns have a year-long contract with a participating school district, earning a modestly reduced salary. In addition, interns enroll in coursework leading to a Preliminary Teaching Credential (Single Subject or Multiple Subject) or Level I Teaching Credential (Special Education).

For further information, please contact the Internship Office at 559.278.0232.

Admission Requirements. Applicants must complete the following:

1. Verify admission to California State University, Fresno with a Notice of Admission or a current enrollment transcript.
2. Verify admission to the Kremen School of Education and Human Development
3. Demonstrate subject matter competence.
4. Pass the California Basic Educational Skills Test (CBEST).
5. Complete a bachelor's degree from an accredited institution.
6. Provisions and Principles of the U.S. Constitution. Completion of a course (two semester units or three quarter units) in the provisions and principles of the United States Constitution or passage of examination in the subject given by a regionally accredited junior college, college, or university or verification of meeting the interstate agreement requirement.

Applicants must also participate in an interview with internship program faculty. Candidates must also be offered a teaching contract by a participating school district. Interns have the responsibility for finding their own jobs with participating districts.

Multiple Subject Teacher in Preparation (TIP) Internship Program Requirements. Contact the Teacher Internship Office, 559.278.0232.

Single Subject Teacher in Preparation (TIP) Internship Program Requirements. Contact the Teacher Internship Office, 559.278.0232.

Special Education Teacher in Preparation (TIP) Internship Program Requirements. Contact the Teacher Internship Office, 559.278.0232.

Education Specialist Moderate/Severe - Internship Credential

Requirements

Teaching Internships

Teacher in Preparation (TIP) Internship Program. The TIP Internship program is designed for qualified individuals who have prior classroom experience and who seek an alternative route to obtaining a Preliminary Teaching Credential. Students must possess a bachelor's degree from an accredited institution and meet all criteria for admission to a basic credential program. Candidates who have been instructional assistants or successful long-term substitute teachers and who are holders of provisional short-term permits or short-term staff permits are good candidates for the internship program.

Interns have a year-long contract with a participating school district, earning a modestly reduced salary. In addition, interns enroll in coursework leading to a Preliminary Teaching Credential (Single Subject or Multiple Subject) or Level I Teaching Credential (Special Education).

For further information, please contact the Internship Office at 559.278.0232.

Admission Requirements. Applicants must complete the following:

1. Verify admission to California State University, Fresno with a Notice of Admission or a current enrollment transcript.
2. Verify admission to the Kremen School of Education and Human Development
3. Demonstrate subject matter competence.
4. Pass the California Basic Educational Skills Test (CBEST).
5. Complete a bachelor's degree from an accredited institution.
6. Provisions and Principles of the U.S. Constitution. Completion of a course (two semester units or three quarter units) in the provisions and principles of the United States Constitution or passage of examination in the subject given by a regionally accredited junior college, college, or university or verification of meeting the interstate agreement requirement.

Applicants must also participate in an interview with internship program faculty. Candidates must also be offered a teaching contract by a participating school district. Interns have the responsibility for finding their own jobs with participating districts.

Multiple Subject Teacher in Preparation (TIP) Internship Program Requirements. Contact the Teacher Internship Office, 559.278.0232.

Single Subject Teacher in Preparation (TIP) Internship Program Requirements. Contact the Teacher Internship Office, 559.278.0232.

Special Education Teacher in Preparation (TIP) Internship Program Requirements. Contact the Teacher Internship Office, 559.278.0232.

Education Specialist Mild/Moderate - Preliminary Credential

Requirements

TEACHING Special Education

Preliminary Level I Education Specialist Credential

Options:

- Mild/Moderate Disabilities
- Moderate/Severe Disabilities

Hong Shen, Interim Coordinator
Education Building, Room 345
559.278.0289

Program Description. The Education Specialist Credential authorizes the holder to teach students with mild/moderate or moderate/severe disabilities (K-age 22) in public or private school programs, clinics, special schools, resource classrooms, educational programs, residential facilities, hospitals, and other agencies serving persons with special needs. This credential program prepares the teacher candidates through required coursework and fieldwork.

The Preliminary Level I Education Specialist Credential has two areas of specialization: Mild/Moderate and Moderate/Severe Disabilities. These areas of professional emphasis distinguish the student population with which the candidate seeks to pursue a special education career.

1. **Mild/Moderate Disabilities**. This credential authorizes the provision of services to individuals with mild to moderate disabilities, in grades K through 12 (including adults to age 22). Students have high incident disabilities (e.g. eligibility categories of autism, learning disability, emotional/behavioral disorders, language delays). Students are typically on diploma track and will be served in general education (inclusive settings). Services may use the titles of resource specialist or teachers in a special

day class. Students may have variable academic performance, attending (distractible) behaviors, and/or social behavioral needs.

2. **Moderate/Severe Disabilities**. This credential authorizes the provision of services to individuals with moderate to severe disabilities in grades K through 12 (including adults to age 22). Students have lower incidence disabilities (e.g. eligibility categories of autism, learning disability, emotional/behavioral disorders, language delays). Students are served in a range of settings, such as center-based sites, special day classes, and some inclusive and/or integrated settings. Students may have academic, functional, communication, and vocational learning needs.
3. **Dual Certification Program**. This program leads to the Multiple Subjects Credential and the Preliminary Level I Education Specialist Credential in Mild/Moderate or Moderate/Severe Disabilities. It is designed to prepare preservice multiple subjects and special education teachers to work cooperatively in serving the needs of an increasingly diverse student population. Special advising is required.

Requirements for Initial Admission. Applicants who already possess a Multiple Subject or Single Subject Credential will find the application process to be somewhat streamlined. Holders of one of these Basic Teaching Credentials may be exempted from some of the Admission Requirements below. Please see an adviser for further clarification.

Admission Requirements

1. Attend an Education Specialist Credential Program orientation meeting.
2. Provide evidence of successful completion of an appropriate pre-program field experience (48 hours) or EHD 50, Introduction to Teaching.
3. Complete an application to the credential program. Required application materials and forms are available online at http://education.fresnostate.edu. All admission requirements (forms, documents, prerequisites) must be completed prior to enrollment in professional program courses.
4. Provide evidence of having taken all three sections of the California Basic Educational Skills Test (CBEST) with passing scores. Verification of a minimum score of 41 is required when passing only the reading and writing sections.
5. Provide evidence of having taken and passed all three sections of the California Subject Examinations for Teachers (CSET) Multiple Subjects. (Exception for Blended students)
6. Verify application for admission to California State University, Fresno with a Receipt of Application or admission with a current enrollment transcript.
7. Provide verification of a cumulative GPA of 2.67 or 2.75 on the last 60 units.
8. Complete an Admission Interview Form and obtain an interview from a education specialist credential faculty member.
9. Provide the signed Education Specialist Credential Program Advising Form obtained at orientation.
10. Obtain a medical clearance at the University Health Center or from a private physician.
11. Obtain two Letters of Recommendation written by instructors, supervisors, or other individuals in a position to recommend for admission into a teacher education program.
12. Obtain appropriate clearance to teach in a public school by presenting a valid California Teaching Credential or applying for a Character and Identification Clearance.

Program Completion Requirements
(University and State Credentialing)

Prerequisites to all programs (6 units)
EHD 50, SPED 120

Basic Program
SPED core courses (15 units)
SPED 125, 130, 135, 145, 155

Area of Emphasis
Multiple Subjects (14 units)
EHD 178; CI 171; LEE 172, 173, 177
Single Subject
EHD 155A; CI 151, 152, 159; LEE 172, 173, 177

Practicum

Mild/Moderate Disabilities (9 units)
SPED 175 or
Moderate/Severe Disabilities (9 units)
SPED 176

Total (38-46 units)

Dual Certification

Multiple Subjects Core (33 units)
EHD 110D, 170, 174; CI 171, 175, 176; LEE 172, 173, 177

Special Education Core (15 units)
SPED 125, 130, 135, 145, 155

Practicum (9 units)
Mild/Moderate Disabilities (9 units)
SPED 175 or
Moderate/Severe Disabilities (9 units)
SPED 176

Total (57 units)

New Students Beginning Spring 2011

Students entering the credential program in spring 2011 must take the following sequenced courses. The program was revised to meet new California Commission on Teacher Credentialing Standards in Special Education.

Program Completion Requirements
(University and State Credentialing)

Prerequisites to Basic Dual Programs (9 units)
EHD 50, SPED 120, CI 100

Basic Program
Semester 1: CI 171; LEE 172,173; SPED 130; EHD 174 **(14 units)**
Semester 2: LEE 177; CI 175, 176; SPED 125; EHD 178 **(14 units)**
Semester 3: Mild/Moderate SPED 126, 136, 171
or Moderate/Severe SPED 145, 146, 172 **(9 units)**
Semester 4: Mild/Moderate SPED 137, 156, 175, 177
or Moderate/Severe SPED 147, 156, 176, 177 **(14 units)**
Total (54 units)

Dual Program
Semester 1: CI 171; LEE 172,173; SPED 130; EHD 174 **(14 units)**
Semester 2: LEE 177; CI 175, 176; SPED 125; EHD 110D **(15 units)**
Semester 3: Mild/Moderate SPED 126, 136; EHD 170 ***or*** Moderate/Severe SPED 145, 146; EHD 170 **(15 units)**
Semester 4: Mild/Moderate SPED 156, 137, 175, 177 ***or*** Moderate/Severe SPED 147, 156, 176, 177 **(14 units)**
Total (58 units)

Note: Teacher candidates must earn a GPA of 3.0 with a C or better, or a CR (Credit), on all professional preparation courses to be recommended for the credential.

2. Demonstrate subject matter competence by passing the California Subject Exam for Teachers (CSET) Multiple Subjects. (All candidates)

3. Complete a bachelor's degree from an accredited institution.

4. Provisions and Principles of the U.S. Constitution. Completion of a course (two semester units or three quarter units) in the provisions and principles of the United States Constitution or passage of examination in the subject given by a regionally accredited junior college, college, or university or verification of meeting the interstate agreement requirement.

5. Pass the Reading Instruction Competence Assessment (RICA).

6. Pass the California Basic Educational Skills Test (CBEST). (All sections)

7. Verify completion of CPR training.

Requirements for the Preliminary and Professional (clear) Credentials can change, and subject matter tests can be revised. For an update or other information, contact the Certification and Graduate Programs Office in ED 151 at 559.278.0299.

Time Restrictions. Courses required for preliminary credentials must be completed no more than 10 years prior to credential application.

Requirements for Admission to Student Teaching

1. Submit a field placement information sheet by the specified deadline.
2. Maintain a GPA of 3.0 on all professional preparation courses.

Requirements for Admission to Practicum (SPED 175/176 or EHD 160D)

1. Submit an application form for SPED 175/176 or EHD 160D by the specified deadline.
2. Demonstrate subject matter competence by successfully passing all three sections of the California Subject Examinations for Teachers (CSET) Multiple Subjects. (All candidates, including Blended)
3. Complete an approved program of professional preparation in a specific program option (see Program Option section) and maintain a GPA of 3.0 with no individual course grade lower than a C. All courses (except those offered for CR/NC only) must be taken for a letter grade.
4. If admitted as an exception with conditions, satisfy all conditions specified.
5. Provide evidence of passing all sections of the California Basic Educational Skills Test (CBEST) by presenting a CBEST Permanent Verification card.

Note: Individuals must complete practicum and fieldwork courses with a grade of B or better. Up to 9 units of Preliminary Level I coursework may be applied to the Master of Arts.

Education Specialist Moderate/Severe - Preliminary Credential

Requirements

TEACHING Special Education

Preliminary Level I Education Specialist Credential

Options:

- Mild/Moderate Disabilities
- Moderate/Severe Disabilities

Hong Shen, Interim Coordinator
Education Building, Room 345
559.278.0289

Program Description. The Education Specialist Credential authorizes the holder to teach students with mild/moderate or moderate/severe disabilities (K-age 22) in public or private school programs, clinics, special schools, resource classrooms, educational programs, residential facilities, hospitals, and other agencies serving persons with special needs. This credential program prepares the teacher candidates through required coursework and fieldwork.

The Preliminary Level I Education Specialist Credential has two areas of specialization: Mild/Moderate and Moderate/Severe Disabilities. These areas of professional emphasis distinguish the student population with which the candidate seeks to pursue a special education career.

1. **Mild/Moderate Disabilities**. This credential authorizes the provision of services to individuals with mild to moderate disabilities, in grades K through 12 (including adults to age 22). Students have high incident disabilities (e.g. eligibility categories of autism, learning disability, emotional/behavioral disorders, language delays). Students are typically on diploma track and will be served in general education (inclusive settings). Services may use the titles of resource specialist or teachers in a special day class. Students may have variable academic performance, attending (distractible) behaviors, and/or social behavioral needs.
2. **Moderate/Severe Disabilities**. This credential authorizes the provision of services to individuals with moderate to severe

disabilities in grades K through 12 (including adults to age 22). Students have lower incidence disabilities (e.g. eligibility categories of autism, learning disability, emotional/behavioral disorders, language delays). Students are served in a range of settings, such as center-based sites, special day classes, and some inclusive and/or integrated settings. Students may have academic, functional, communication, and vocational learning needs.

3. **Dual Certification Program**. This program leads to the Multiple Subjects Credential and the Preliminary Level I Education Specialist Credential in Mild/Moderate or Moderate/Severe Disabilities. It is designed to prepare preservice multiple subjects and special education teachers to work cooperatively in serving the needs of an increasingly diverse student population. Special advising is required.

Requirements for Initial Admission. Applicants who already possess a Multiple Subject or Single Subject Credential will find the application process to be somewhat streamlined. Holders of one of these Basic Teaching Credentials may be exempted from some of the Admission Requirements below. Please see an adviser for further clarification.

Admission Requirements

1. Attend an Education Specialist Credential Program orientation meeting.
2. Provide evidence of successful completion of an appropriate pre-program field experience (48 hours) or EHD 50, Introduction to Teaching.
3. Complete an application to the credential program. Required application materials and forms are available online at http://education.fresnostate.edu. All admission requirements (forms, documents, prerequisites) must be completed prior to enrollment in professional program courses.
4. Provide evidence of having taken all three sections of the California Basic Educational Skills Test (CBEST) with passing scores. Verification of a minimum score of 41 is required when passing only the reading and writing sections.
5. Provide evidence of having taken and passed all three sections of the California Subject Examinations for Teachers (CSET) Multiple Subjects. (Exception for Blended students)
6. Verify application for admission to California State University, Fresno with a Receipt of Application or admission with a current enrollment transcript.
7. Provide verification of a cumulative GPA of 2.67 or 2.75 on the last 60 units.
8. Complete an Admission Interview Form and obtain an interview from a education specialist credential faculty member.
9. Provide the signed Education Specialist Credential Program Advising Form obtained at orientation.
10. Obtain a medical clearance at the University Health Center or from a private physician.
11. Obtain two Letters of Recommendation written by instructors, supervisors, or other individuals in a position to recommend for admission into a teacher education program.
12. Obtain appropriate clearance to teach in a public school by presenting a valid California Teaching Credential or applying for a Character and Identification Clearance.

Program Completion Requirements
(University and State Credentialing)

Prerequisites to all programs (6 units)
EHD 50, SPED 120

Basic Program
SPED core courses (15 units)
SPED 125, 130, 135, 145, 155

Area of Emphasis
Multiple Subjects (14 units)
EHD 178; CI 171; LEE 172, 173, 177
Single Subject
EHD 155A; CI 151, 152, 159; LEE 172, 173, 177

Practicum

Mild/Moderate Disabilities (9 units)
SPED 175 or
Moderate/Severe Disabilities (9 units)
SPED 176

Total (38-46 units)

Dual Certification

Multiple Subjects Core (33 units)
EHD 110D, 170, 174; CI 171, 175, 176; LEE 172, 173, 177

Special Education Core (15 units)
SPED 125, 130, 135, 145, 155

Practicum (9 units)
Mild/Moderate Disabilities (9 units)
SPED 175 or
Moderate/Severe Disabilities (9 units)
SPED 176

Total (57 units)

New Students Beginning Spring 2011

Students entering the credential program in spring 2011 must take the following sequenced courses. The program was revised to meet new California Commission on Teacher Credentialing Standards in Special Education.

Program Completion Requirements
(University and State Credentialing)

Prerequisites to Basic Dual Programs (9 units)
EHD 50, SPED 120, CI 100

Basic Program
Semester 1: CI 171; LEE 172,173; SPED 130; EHD 174 **(14 units)**
Semester 2: LEE 177; CI 175, 176; SPED 125; EHD 178 **(14 units)**
Semester 3: Mild/Moderate SPED 126, 136, 171
or Moderate/Severe SPED 145, 146, 172 **(9 units)**
Semester 4: Mild/Moderate SPED 137, 156, 175, 177
or Moderate/Severe SPED 147, 156, 176, 177 **(14 units)**
Total (54 units)

Dual Program
Semester 1: CI 171; LEE 172,173; SPED 130; EHD 174 **(14 units)**
Semester 2: LEE 177; CI 175, 176; SPED 125; EHD 110D **(15 units)**
Semester 3: Mild/Moderate SPED 126, 136; EHD 170 ***or*** Moderate/Severe SPED 145, 146; EHD 170 **(15 units)**
Semester 4: Mild/Moderate SPED 156, 137, 175, 177 ***or*** Moderate/Severe SPED 147, 156, 176, 177 **(14 units)**
Total (58 units)

Note: Teacher candidates must earn a GPA of 3.0 with a C or better, or a CR (Credit), on all professional preparation courses to be recommended for the credential.

2. Demonstrate subject matter competence by passing the California Subject Exam for Teachers (CSET) Multiple Subjects. (All candidates)

3. Complete a bachelor's degree from an accredited institution.

4. Provisions and Principles of the U.S. Constitution. Completion of a course (two semester units or three quarter units) in the provisions and principles of the United States Constitution or passage of examination in the subject given by a regionally accredited junior college, college, or university or verification of meeting the interstate agreement requirement.

5. Pass the Reading Instruction Competence Assessment (RICA).

6. Pass the California Basic Educational Skills Test (CBEST). (All sections)

7. Verify completion of CPR training.

Requirements for the Preliminary and Professional (clear) Credentials can change, and subject matter tests can be revised. For an update or other information, contact the Certification and Graduate Programs Office in ED 151 at 559.278.0299.

Time Restrictions. Courses required for preliminary credentials must be completed no more than 10 years prior to credential application.

Requirements for Admission to Student Teaching

1. Submit a field placement information sheet by the specified deadline.
2. Maintain a GPA of 3.0 on all professional preparation courses.

Requirements for Admission to Practicum (SPED 175/176 or EHD 160D)

1. Submit an application form for SPED 175/176 or EHD 160D by the specified deadline.
2. Demonstrate subject matter competence by successfully passing all three sections of the California Subject Examinations for Teachers (CSET) Multiple Subjects. (All candidates, including Blended)
3. Complete an approved program of professional preparation in a specific program option (see Program Option section) and maintain a GPA of 3.0 with no individual course grade lower than a C. All courses (except those offered for CR/NC only) must be taken for a letter grade.
4. If admitted as an exception with conditions, satisfy all conditions specified.
5. Provide evidence of passing all sections of the California Basic Educational Skills Test (CBEST) by presenting a CBEST Permanent Verification card.

Note: Individuals must complete practicum and fieldwork courses with a grade of B or better. Up to 9 units of Preliminary Level I coursework may be applied to the Master of Arts.

Elementary School Teaching Credential (Multiple Subject Credential Program)

Requirements

Program Description

Holders of Multiple Subject Credentials are authorized to teach in self-contained classrooms commonly found in elementary schools. The Kremen School of Education and Human Development offers the Preliminary Multiple Subject Credential (2042). The cooperating departments are primarily responsible for developing subject matter competency and a baccalaureate degree in liberal studies. The Kremen School of Education and Human Development offers required coursework in professional education.

Career Opportunities
Teacher in an elementary setting (K-6) or self-contained (K-8) classroom.

A Preliminary Multiple Subject Credential (2042) provides authorization to teach in a self-contained classroom for a maximum time period of five years.
Requirements for Initial Admission

1. Attend a Multiple Subject Credential Program orientation meeting.
2. Provide evidence of successful completion of an appropriate pre-program field (45 hours) experience or EHD 50, Introduction to Teaching.
3. Complete an application to the credential program. Required application timelines and materials and forms are available online at *www.fresnostate.edu/kremen*. All admission requirements (forms, documents, prerequisites) must be completed prior to enrollment in professional program courses.
4. Provide evidence of having taken all three sections of the California Basic Educational Skills Test (CBEST) with passing scores. Verification of a minimum score of 41 is required when passing only the reading and writing sections.
5. Provide evidence of having taken and passed all three sections of the California Subject Examinations for Teachers (CSET) – Multiple Subject (exception for Blended students.)
6. Verify application for admission to California State University, Fresno with a Receipt of Application or admission with a current enrollment transcript.
7. Provide a complete verification of a cumulative GPA of 2.67 or 2.75 on the last 60 units.
8. Complete an Admission Interview Form and obtain an interview from a Multiple Subject credential faculty member. Sign up for interviews in ED 250.
9. Provide the signed Multiple Subject Program Advising Form obtained at orientation.

10. Obtain a medical clearance at the University Health Center or from a private physician.
11. Obtain two letters of recommendation written by instructors, supervisors, or other individuals in a position to recommend for admission into a teacher education program.
12. Obtain appropriate clearance to teach in a public school by presenting a valid California Teaching Credential or applying for a Character and Identification Clearance.

Program Completion Requirements

(University and State Credentialing)

1. Successful completion of a core of profession education courses, dispositional assessments, and all performance assessment tasks associated with the Fresno Assessment of Student Teachers (FAST).

Professional Preparation
The courses have been sequenced by phases to provide a cohesive program. Teacher candidates must complete all courses in a phase before moving to the next phase.

Phase 1
CI 171 (3 units)
LEE 172 (3 units)
LEE 173(3 units)
EHD 174 (2 units)
EHD 174A (1 unit)

Phase 2
CI 175 (3 units)
CI 176 (3 units)
LEE 177 (3 units)
EHD 178 (2 units)
EHD 178A (1 unit)

Phase 3
SPED 179 (3 units)
EHD 170 (9 units)
EHD 170A (2 units)
Total (38 units)

Note: Teacher candidates must earn a GPA of 3.0 with a C or better, or a CR (Credit), on all professional preparation courses to be recommended for the credential.

2. Demonstration of subject matter competence by passing the California Subject Exam for Teachers (CSET) – Multiple Subject. Passing scores on the CSET are valid for five (5) years. (All candidates, including Blended)

3. Complete a bachelor's degree from an accredited institution.

4. Provisions and Principles of the U.S. Constitution. Completion of a course (two semester units or three quarter units) in the provisions and principles of the United States Constitution or passage of examination in the subject given by a regionally accredited junior college, college, or university or verification of meeting the interstate agreement requirement.

5. Pass the Reading Instruction Competence Assessment (RICA).

6. Pass the California Basic Educational Skills Test (CBEST). (All sections)

7. Verify completion of CPR training.

Requirements for the Preliminary and Professional (clear) Credentials can change, and subject matter tests can be revised. For an update or other information, contact the Certification and Graduate Programs Office in ED 151 at 559.278.0299.

Time Restrictions. Courses required for preliminary credentials must be completed no more than 10 years prior to credential application. A preliminary credential provides authorization to teach for a maximum of five years. Requirements for completing the Professional (Clear) Multiple Subject Credential will be provided by the employing school district.

Health Services, Credential

Requirements

School Nurse Services Credential Program

Postbaccalaureate Health Services (School Nurse) Credential

The School Nurse Services Credential Program provides basic preparation for professional roles in school nursing. The program, approved by the California Commission on Teacher Credentialing, leads to the School Nurse Services Credential. The Department of Nursing, in conjunction with the School of Education and Human Development, recommends qualified candidates for credentialing as providers of health services in California public schools (preschool, K-12, adult).

The program of study for credential students consists of a minimum of 27 units. Courses taken in CCNE/NLN accredited baccalaureate programs may be accepted for the credential at the discretion of the Department of Nursing. The core school nursing classes are offered online. For more information, see the department's Web site at www.fresnostate.edu/nursing.

Audiology coursework
CDDS 125 (3 units)

Special Education coursework
SPED 120 (3 units)

Counseling coursework (select one)
COUN 174 (3 units)
COUN 200 (3 units)

Physical Assessment
NURS 136* (3 units)

Health Teaching
NURS 137* (3 units)

School Nursing
NURS 184* (3 units)
NURS 185* (3 units)
NURS 186* (3 units)
NURS 187* (3 units)

Advanced pathophysiology and pharmacology courses are recommended.

* Courses only available through regular enrollment in the university following acceptance into the Credential Program.

Note: A minimum of 15 units in the credential program must be taken on this campus. The use of any comparable course is contingent upon departmental approval. Coursework taken more than 10 years ago is not acceptable to meet program requirements.

An introductory statistics course and nursing theory/research course are required for admission into the School Nurse Services Credential Program.

A 3-unit introductory statistics course and a 3-unit nursing theory/research course are required for admission into the Health Services Credential Program.

A maximum of 9 units is allowed through courses taken in Continuing and Global Education or concurrent enrollment.

Proof of current California RN license, malpractice insurance, current CPR certification, and current valid Student Health Center clearance are required prior to enrollment in NURS 186 and 187.

The student must hold either a Certificate of Clearance or a School Nurse Services Credential prior to enrollment in NURS 186 and 187. Contact the credentials analyst, Education Building, Room 100, 559.278.0300, or the county office of education in your area for application information.

All admission requirements (credential program application form, admission to the university, all documents, and prerequisites) must be completed prior to en rollment in any of the nursing courses.

Admission Criteria

1. Baccalaureate degree in nursing from a NLN accredited program
2. Admission to the university at the postbaccalaureate level
3. Current California Registered Nurse License
4. California Public Health Nurse Certificate or 5 units of university community health coursework
5. Overall GPA of 2.5 and 3.0 in nursing
6. Three satisfactory letters of recommendation (at least one from a recent employer or nursing faculty)

Admission Procedures

1. Complete application for admission to postbaccalaureate standing, Admissions Office, Joyal Building. Forward copy of application to Department of Nursing, school nurse coordinator.
2. Complete Credential Program application, available online at www.fresnostate.edu/nursing.
3. Attach official transcripts of previous academic work.
4. Attach photocopies of required documents (R.N. License, P.H.N. Certificate).
5. Submit three letters of reference/recommendation (forms available online at www.fresnostate.edu/nursing).
6. Arrange appointment with School Nurse Services Credential Program coordinator for program planning and advisement.

Note: All candidates are required to sign a statement on the application form regarding conviction or plea of nolo contendere for any violation of law other than minor traffic offenses.

Candidates with a conviction may be refused a School Nurse Services Credential. For further information, contact the CCTC Professional Practices Division at (916) 445-0234.

Time Restrictions. All requirements for a School Nurse Services Credential must be completed within five years of the date of issuance of the preliminary credential.

Multiple Subject - Preliminary - Early Chilhood Emphasis, Credential

Requirements

Early Childhood Education

Emphasis in Early Childhood Education. Prepares elementary teachers with special expertise and experience in grades K-3. This nationally accredited Early Childhood cohort program emphasizes a developmental knowledge base, professional ethics, and integrated curriculum, and provides field experiences at the preschool, kindergarten, primary, and upper elementary levels. The ECE program is compatible with the Intern, BCLAD, and Blended/Integrated programs. contact Dr. Susan Macy, ECE coordinator, at smacy@csufresno.edu.

Multiple Subject - Preliminary BAP Emphasis: Hmong, Credential

Requirements

Preliminary Multiple Subject Credential (2042)

Emphasis in Bilingual Cross-Cultural Language and Academic Development (BCLAD). Prepares teachers to work with English Learner students. BCLAD (Hmong) will authorize teachers to provide academic instruction to English Learner students in their primary language.

Hmong
HMONG 100* (3 units)
HMONG 101* (3 units)
ANTH 123* (3 units)
LEE 129 (3 units)
LEE 135 (3 units)
Total (15 units)

*Courses taken prior to applying to credential program.

For more information, contact Teresa Huerta, the BCLAD coordinator, at 559.278.0364.

Multiple Subject - Preliminary BAP Emphasis: Spanish, Credential

Requirements

Preliminary Multiple Subject Credential

Emphasis in Bilingual Cross-Cultural Language and Academic Development (BCLAD). Prepares teachers to work with English Learner students. BCLAD will authorize teachers to provide academic instruction to English Learner students in their primary language.

Spanish
SPAN 119* (3 units)
SPAN 121A* (3 units)
SPAN 134* (3 units)
CLAS 120* (3 units)
LEE 136 (3 units)
Total (15 units)

*Courses taken prior to applying to credential program.

For more information, contact Teresa Huerta, the BCLAD coordinator, at 559.278.0364.

Multiple Subject - Preliminary ECE BAP Emphasis: Hmong, Credential

Requirements

Preliminary Multiple Subject Credential (2042)

Emphasis in Bilingual Cross-Cultural Language and Academic Development (BCLAD). Prepares teachers to work with English Learner students. BCLAD (Hmong) will authorize teachers to provide academic instruction to English Learner students in their primary language.

Hmong
HMONG 100* (3 units)
HMONG 101* (3 units)
ANTH 123* (3 units)
LEE 129 (3 units)
LEE 135 (3 units)
Total (15 units)

*Courses taken prior to applying to credential program.

For more information, contact Teresa Huerta, the BCLAD coordinator, at 559.278.0364.

Multiple Subject - Preliminary ECE BAP Emphasis: Spanish

Preliminary Multiple Subject Credential (2042) Program

Emphasis in Bilingual Cross-Cultural Language and Academic Development (BCLAD). Prepares teachers to work with English Learner students. BCLAD (Spanish) will authorize teachers to provide academic instruction to English Learner students in their primary language.

Spanish
SPAN 119* (3 units)
SPAN 121A* (3 units)
SPAN 134* (3 units)
CLAS 120* (3 units)
LEE 136 (3 units)
Total (15 units)

*Courses taken prior to applying to credential program.

For more information, contact Teresa Huerta, the BCLAD coordinator, at 559.278.0364.

Professional Clear Foundation Level General Science

Requirements

Program requirements are pending.

Professional Clear Foundation Level Mathematics

Math and Science Teacher Education Requirements

The college offers baccalaureate degree programs in mathematics and natural sciences that serve as subject matter preparation programs leading to the Single Subject Teaching Credential in Mathematics and Science. In science, a student can select the Single Subject Teaching Credential with an emphasis in Biology, Chemistry, Earth Science, or Physics.

Students can apply to the credential program after completing 90 or more units as undergraduates. Once accepted, they can begin to take credential courses simultaneously as they complete their undergraduate degree. For more information, call Agnes Tuska (Math Education) at 559.278.2992, or David Andrews or Jaime Arvizu (Science Education) at 559.278.5173.

MATH 75 (or 75A and B), 76, 77, 101, 111, 116, 143, 145, 149, 151, 152, 161, 171; PHYS 4A;CSCI 40; MATH 81 or 114 or 128 or 165 or 172 or 181**
Total (59-60 units)

See the description of the Single Subject Credential Program under Curriculum, Teaching, and Educational Technology on this Web site.

* As teacher education programs are subject to state and system legislative control, it is recommended that students consult department credential advisers for current program requirements.
** Math majors should take either MATH 128 or 165 or 172 to fulfill the major requirement.

Pupil Personnel Services - Child Welfare Counseling, Credential

Requirements

Program requirements are pending.

Pupil Personnel Services - School Counseling Credential

Requirements

Pupil Personnel Services (PPS) Credential Requirements

School Counseling

The Pupil Personnel Services Credential is required to function as a counselor in a public school setting, grades K-12.

Admission Requirements

In addition to the admission requirements listed in the Graduate Education Program section of this catalog, Pupil Personnel Services Credential program applicants must meet the following requirements:

1. Must complete the following prerequisite coursework and achieve a 3.0 in overall postbaccalaureate coursework. Prerequisite coursework must be completed with a B or better: ERE 153 and COUN 174 or PSYCH 174. Students applying for the PPS Credential program only do not need to complete COUN 176 or PSYCH 66.
2. Provide evidence of having passed the California Basic Educational Skills Test (CBEST)
3. Obtain and submit a current medical clearance at the University Health Center or from a private physician.
4. Submit a valid Certificate of Clearance to participate in public school field placement activities

Following receipt of the completed packet and the review by program faculty, applicants will receive written notification regarding admission status.

Program Requirements

Candidates for the Pupil Personnel Services Credential who have been approved by the Program Faculty Review Committee for admission to the program and who want to be recommended for the credential must complete the following program requirements:

COUN 150, 200, 201, 202, 203, 206, 208, 220, 233, 240, 241, 242, 249 (8 units), CI 285.
Complete practicum (with a grade of B or better) and field practice.
Pass the competency exit review.

Time restrictions

Courses required for the P.P.S. credential must be completed no more than 10 years prior to credential application.

Pupil Personnel Services - School Psychologist

Requirements

Program requirements are pending.

Pupil Personnel Services - Social Work, Credential

Requirements

Program requirements are pending.

Reading and Literacy Leadership - Specialist Credential

Requirements

Reading and Literacy Leadership Specialist Credential Requirements

Steven Hart, Coordinator
Education Building, Room 250
559.278.0319
http://www.fresnostate.edu/kremen/departments/lebse.html

Program Description. Reading and Language Arts graduate courses are designed to help teachers learn how to make curricular decisions about teaching reading and how to meet the needs of students with varying language communication backgrounds. Students pursuing a degree or credential in Reading and Language Arts also learn to inspire other teachers to upgrade the reading/language abilities of students through demonstrations of effective reading strategies. Graduates will be qualified to plan, organize, and develop reading programs for schools.

Admission Requirements. In addition to the admission requirements listed in the Graduate Education Program section of this catalog, Reading and Literacy Leadership Specialist Credential program applicants must meet the following requirements:

1. Verification of advising.
2. Evidence of possession of a basic teaching credential (Multiple Subject, Single Subject, or Education Specialist credentials).
3. Evidence of having passed the California Basic Educational Skills Test (CBEST).

Program Requirements. Under the direction of the Reading Program Coordinator, each student prepares and submits an individually designed program within the following framework:

1. Course Requirements:
   LEE 213, 214, 215, 224, 230, 234, 244, 254, 278 (27 units)
2. Experience: Completion of two semesters supervised field experience (LEE 230 and 254) and three years of successful teaching experience at any grade level (K-12).

Total (27 units)

Single Subject Credential - Art

Requirements

Credential Program Requirements

The Single Subject Matter Preparation Program in Art at California State University, Fresno educates candidates broadly and deeply in the making of art, art history, art criticism, aesthetics, the connections among the arts and other disciplines, theories of development in art, and connections to professional futures. The program builds a personal sense of enthusiasm and lifelong commitment to the study of these components of art and trains candidates to be educated, highly motivated, and sensitive practitioners of the teaching of art to a multi-cultural population in the California public schools.

The program includes (a) 42 semester units of core coursework in art subjects and related subjects that are commonly taught in departmentalized classes in California public schools and (b) 24 semester units of coursework that provide breadth and perspective to supplement the essential core of the program. These requirements are elaborated below.

1. The core of the program includes two-dimensional art, three-dimensional art, new and emerging art, media art, art history, art criticism, and the history and theories of learning in art.

   Credential Program-Core Courses
   ARTH 10 (3 units)
   ARTH 11 (3 units)
   ART 13 (3 units)
   ART 14 (3 units)
   ART 21 (3 units)
   ART 24, 26, 27, 109T, 126, or 127 (3 units)
   ART 40 (3 units)
   ART 50 (3 units)
   ART 60 (3 units)
   ART 70 or 177S (3 units)
   ART 30, 182, 183, or 185 (3 units)
   ART 37, 107, or 188 (3 units)
   ART 112 (3 units)
   ART 120 (3 units)
   Core Total (42 units)

2. The 24 units of breadth coursework required by the program include courses that provide breadth and perspective to supplement the essential core of the program.

   Credential Program-Breadth Courses
   ARTH 136 (3 units)
   ARTH 120, 122, 124, 126, 131, 132, or 109T (3 units)
   ARTH 160, 170, 173, 175, or 109T (3 units)
   ART 101 (3 units)
   ART 113, 116, 170, or 171 (3 units)
   ART 140 (3 units)
   ART 152, 153, 155, or 160 (3 units)
   ART 179 (3 units)
   Breadth Courses (24 units)

* Topics in Art History (European/Western.)
** Topics in Art History (Non-European/Non-Western.)

Advising Note

Students must earn no less than a C in all art classes required in the program. Students in the Subject Matter Preparation Program are required to meet with their faculty adviser for a portfolio assessment and interview at two points in their academic careers: (1) the lower-division review, including assessment of their portfolio and artist's statement after completing ART 37 and (2) the upper-division review, including a portfolio assessment, presentation, and interview after completing ART 112 and prior to exiting the program.

Single Subject Credential - Biological Science

Requirements

Teaching Credential, Biology Option Requirements

Bachelor of Arts in Natural Sciences

The B.A. in Natural Sciences serves as a waiver program for the Single Subject Teaching Credential in Science. This degree program is designed for students who wish to become high school science teachers. Students may also complete the credential requirements while obtaining a B.S. in biology. Please contact Mr. Jaime Arvizu, College of Science and Mathematics counselor, for advising and more information at 559.278.5173. The B.A. in Natural Sciences with the Biology Option is as follows:

Core requirements (36 units)
Biology (12 units)
BIOL 1A, 1B and 1BL, 101

Chemistry (10 units)
CHEM 1A, 1AL, 1B, 1BL

Geology (7 units)
EES 1 and 168

Natural Science (3 units)
NSCI 106

Physical Science (4 units)
PSCI 21

Biology Option (39-41 units)
CHEM 8 or 128A (3 units)
PHYS 2A, 2B (see note 1) (8 units)
MATH 75 (4 units)
MATH 101 or PSYCH 42 (4 units)
BIOL 102, 103, 104, 105 (10 units)
BIOL 120 (4 units)
Select one course: BIOL 122, 124, 125, 130, 131, 132, 133, 135, 136, 171, 172S (3-4 units)
Select one course: BIOL 160, 161, 162 and 162L, 163 (3-4 units)

General Education requirements (51 units) (See note 2)

Electives and remaining degree requirements (see notes 2,3) **(4-6 units)**

Total (120 units)

Advising Notes for the Natural Sciences Major

1. Substitutions may be made with the permission of the appropriate department chair. PHYS 4A-B-C with labs 4AL, 4BL is recommended instead of PHYS 2A-B for those students well-prepared for physics.
2. This figure takes into account that 12 units required for the major are expected to count toward General Education as follows: CHEM 1A (3 units), BIOL 1A (3 units), EES 168 (3 units), and 3 units if MATH 75 is selected. Consult your major adviser for details.
3. Students should be sure to take sufficient upper-division units in their General Education courses and electives to satisfy the graduation requirements of 40 upper-division units and upper-division writing skills.

Single Subject Credential - Business Preliminary

Requirements

Credential Requirements

Business Teacher Education Program

The Craig School offers a single subject business credential to teach in departmentalized classrooms typically found in middle school and senior high school settings. Information on this fifth year program may be obtained from business teacher education adviser Richard Lacy. See more.

Single Subject Credential - Chemistry

Requirements

Math and Science Teacher Education Requirements

The college offers baccalaureate degree programs in mathematics and natural sciences that serve as subject matter preparation programs leading to the Single Subject Teaching Credential in Mathematics and Science. In science, a student can select the Single Subject Teaching Credential with an emphasis in Biology, Chemistry, Earth Science, or Physics.

Students can apply to the credential program after completing 90 or more units as undergraduates. Once accepted, they can begin to take credential courses simultaneously as they complete their undergraduate degree. For more information, call Agnes Tuska (Math Education) at 559.278.2992, or David Andrews or Jaime Arvizu (Science Education) at 559.278.5173.

Single Subject Credential - English

Requirements

Single Subject, English Credential Requirements

This is a state-approved subject matter preparation program for the Single Subject Teaching Credential. It authorizes students to teach English in grades 7-12.

Single Subject Credential - French

Requirements

Credential Program Requirements

To enter the Single Subject Credential Program, students must have a cumulative GPA of 2.97. In addition, before students are eligible to do final student teaching, they must pass speaking and writing exit tests.

For Bilingual/Cross-Cultural Language and Academic Development Credentials, see Education -- Literacy and Early Education Department.

The Single Subject Preparation Program in French is 33 units: FREN 103 (6 units), 109, 120T (3-6 units), 132, 150, 160T (3-6 units); and 9 units selected from FREN 110, 111, 112, 113.

The Single Subject Preparation Program in Spanish consists of SPAN 117, 119, 121A-B, 125 or 129, 130, 137, 140, 142, 143, 170; and 6 units selected from SPAN 145, 147, 148T, 149, 150.

Single Subject Credential - Geological Science

Requirements

Single Subject Credential, Geology Sciences Requirements

Single Subject Credential (2042)
Jody Daughtry, Coordinator
Education Building, Room 100
559.278.0300
http://www.fresnostate.edu/kremen/departments/ci.html

Program Description. The Single Subject Credential authorizes the holder to teach in the subject area specified on the credential in departmentalized classrooms commonly found at middle schools, high schools, and adult educational settings. The Kremen School of Education and Human Development offers the Preliminary Single Subject Credential in cooperation with various academic departments. The cooperating departments are responsible for developing subject matter competency; the Kremen School of Education and Human Development is primarily responsible for developing professional education competency.

The Single Subject coordinator provides general advisement for Single Subject Credential candidates. Area advisers (see list) provide academic advisement for credential candidates majoring in their respective departments, teach methods courses in their subject fields, assign and supervise student teachers, and act as official liaisons between the subject matter departments and the Single Subject coordinator. Advisers may be contacted through the Kremen School of Education and Human Development's Advising Center.

Single Subject Majors and Advisers
Agriculture: A. Parham/R. Vaughn/S. Rocca
Art: D. Nadaner/P. Fleming
Business: R. Haller
English: K. Godfrey
English (Theatre Arts): K. Morin
English (Speech): R. Powell
Modern and Classical Languages (French): R. Kuhn
Modern and Classical Languages (Spanish): J. Amaral/D. Avila/T. Bergman
Industrial Technology: D. Austin
Kinesiology: D. Kinnunen
Mathematics: A. Tuska/R. Amarasinghe/L. Burger
Music: T. Mowrer
Science: D. Andrews
Social Science (History): L. Clune

Types of Single Subject Credentials (2042)

Students may earn two types of credentials through the Kremen School of Education and Human Development:

- Preliminary Single Subject Credential
- Internship Single Subject Credential

A Preliminary Single Subject Credential provides authorization to teach a specified subject in a departmentalized classroom for a maximum period of five years. Requirements for completing the Professional (Clear) Single Subject Credential will be provided by the employing school district.

Requirements for Initial Admission

1. Attend a Single Subject Credential program orientation meeting.
2. Provide evidence of successful completion of an appropriate pre-program field experience (45 hours) or EHD 50, Introduction to Teaching.
3. Provide evidence of having taken all three sections of the California Basic Educational Skills Test (CBEST) with passing scores. Verification of a minimum score of 41 is required when passing only the reading and writing sections.
4. Complete an application to the credential program. Required application materials and forms are available online at *http://www.fresnostate.edu/kremen*. All admission requirements (forms, documents, prerequisites) must be completed prior to enrollment in professional program courses.
5. Prove current enrollment in or application to California State University, Fresno with a receipt of application, a current enrollment transcript, or class schedule.
6. Provide verification of a cumulative GPA of 2.67 or 2.75 on the last 60 units.
7. Complete an Admission Interview Form and obtain an interview from a Single Subject Credential faculty member and from the subject area academic adviser.
8. Obtain a medical clearance at the University Health Center or from a private physician.
9. Obtain two recommendation letters written by instructors, supervisors, or other individuals in a position to recommend for admission into a teacher education program.
10. Obtain appropriate clearance to teach in a public school by presenting a valid California Teaching Credential or applying for a Character and Identification Clearance.

Program Completion Requirements
(University and State Credentialing)

Successful completion of a core of professional education courses, dispositional assessments, and all performance assessment tasks associated with the Fresno Assessment of Student Teachers (FAST).

Requirements for a Preliminary Single Subject Credential

1. Complete prerequisites/corequisites and a 34-unit core of professional education courses.

Prerequisite: EHD 50
Prerequisite or corequisite: CI 149

General Core
CI 151 (3 units)
CI 152 (3 units)
CI 161 (3 units)
LEE 156 (3 units)
LEE 157 (3 units)
SPED 158 (3 units)
EHD 154A (1 unit)
EHD 154B (1 unit)
EHD 155A (4 units)
EHD 155B (10 units)
Total (34 units)

(***Note:*** Teacher candidates must earn a GPA of 3.0 with a C or better, or a CR (Credit), on all professional preparation courses to be recommended for the credential.

2. Demonstrate subject matter competence: (a.) Complete an approved subject matter preparation program or pass the subject matter examinations designated by the California Commission on Teacher Credentialing. (b.) Receive clearance from the academic adviser that subject matter competency has been **met**.

3. Complete a bachelor's degree from an accredited institution in a subject matter other than education.

4. Pass the California Basic Educational Skills Test (CBEST).

5. Verify completion of CPR training.

6. Complete a course in the provisions and principles of the United States Constitution or pass an examination in the subject given by a regionally accredited junior college, college, or university, or verify meeting the interstate agreement requirements.

Requirements for the Preliminary and Professional (clear) Credentials can change, and subject matter tests can be revised. For an update or other information, contact the Certification and Graduate Programs Office in ED 151 at 559.278.0299.

Time Restrictions. Education courses required for a Preliminary Credential must be completed no more than 10 years prior to credential application.

Note: With the exception of the Internship Program, individuals may begin a Single or Multiple Subject Credential program if they are in their senior year, have completed at least 90 units toward a bachelor's degree, and have been admitted to a credential program.

Requirements for Admission to Initial Student Teaching (EHD 155A)

1. Submit an EHD 155A application form by the specified deadline.
2. Receive notification of initial admission to the Single Subject Credential program.
3. Maintain a 3.0 GPA on all professional education courses. All courses (except those offered for CR/NC only) must be taken for a letter grade.
4. Complete a program advising form and have it signed by the academic area adviser and the Single Subject coordinator or Single Subject adviser.
5. Have completed or be enrolled concurrently in CI 151 and CI 152. Be concurrently enrolled in SPED 121 and CI 159.

Requirements for Admission to Final Student Teaching (EHD 155B)

1. Submit an EHD 155B application form by deadline.
2. Demonstrate subject matter competence.
3. Maintain a 3.0 GPA on professional education coursework. All courses (except those offered for CR/NC only) must be taken for a letter grade.
4. If granted an "Exception" admission, satisfy all requirements specified when the exception was granted.
5. Show evidence of passing the California Basic Educational Skills Test (CBEST) by presenting a CBEST Permanent Verification card.
6. Have completed CI 151, CI 152, CI 159, SPED 121, and EHD 155A. Have completed or be concurrently enrolled in LEE 154. Have completed or be concurrently enrolled in CI 161 (depending on policy of the appropriate academic department).

Note: Students who receive a "No Credit" grade in any student teaching course are required to petition the Admission and Standards Committee for approval to retake the course. Students who receive a grade of "No Credit" for a second time will be dismissed from the Single Subject Credential Program. Student teachers whose placements are terminated after the date for refund of tuition are responsible for full tuition regardless of circumstances leading to termination.

Single Subject Credential - Mathematics

Requirements

Math Teacher Education Requirements

The baccalaureate degree programs in mathematics serve as subject matter preparation program leading to the Single Subject

Teaching Credential in Mathematics.*

Students can apply to the credential program after completing 90 or more units as undergraduates. Once accepted, they can begin to take credential courses simultaneously as they complete their undergraduate degree. For more information, call Agnes Tuska at 559.278.2512, Rajee Amarasinghe at 559.278.4136, or Lance Burger at 559.278.4906.

MATH 75 (or 75A and B), 76, 77, 101, 111, 116, 143, 145, 149, 151, 152, 161, 171; PHYS 4A; CSCI 40; MATH 81 or 114 or 128 or 165 or 172 or 181**
Total (59-60 units)

See the description of the Single Subject Credential Program under Curriculum, Teaching, and Educational Technology on this Web site.

* As teacher education programs are subject to state and system legislative control, it is recommended that students consult department credential advisers for current program requirements.
** Math majors should take either MATH 81 to fulfill the major requirement.

Single Subject Credential - Music

Requirements

Credential Program Requirements

This is a state-approved subject matter preparation program for the Single Subject Teaching Credential authorizing students to teach music in grades K-12.

Note: Additional credential requirements (9 units) may be completed before or after completion of the B.A. Credential requirements are subject to change by state regulation. The catalog may not reflect the latest requirements. Consult the department's credential adviser to ensure complete compliance with state regulations. Also consult the Kremen School of Education and Human Development regarding the 33 units of professional education necessary for completion of the Single Subject Teaching Credential.

Single Subject Credential - Physical Education

Requirements

Physical Education Teaching Credential Requirements

Single Subject Credential in Physical Education
B.S. with option in physical education (94-97 units)
Professional preparation courses (33 units)
Total (127-130 units)

Single Subject Credential - Physical Science

Requirements

Single Subject Physical Science Credential Requirements

The college offers baccalaureate degree programs in mathematics and natural sciences that serve as subject matter preparation programs leading to the Single Subject Teaching Credential in Mathematics and Science. In science, a student can select the Single Subject Teaching Credential with an emphasis in Biology, Chemistry, Earth Science, or Physics.

Students can apply to the credential program after completing 90 or more units as undergraduates. Once accepted, they can begin to take credential courses simultaneously as they complete their undergraduate degree. For more information, call Agnes Tuska (Math Education) at 559.278.2992, or David Andrews or Jaime Arvizu (Science Education) at 559.278.5173.

Single Subject Credential - Social Science

Requirements

Secondary Teaching Credential in Social Sciences

The 63-unit Subject Matter Program (SMP) in Social Sciences may be completed while earning a bachelor's degree in any area of study. Undergraduate students beginning their SMP should be advised, however, that a bachelor's degree is recommended in economics, geography, history, or political science for those intending to teach secondary social studies. These areas of study are recommended because they most closely parallel the social sciences requirements.

Part I. Required Core

Ten courses (30 units)
All of the following courses are required: HIST 4, 11, 12, 20, 21, 187; GEOG 4; PLSI 1, 2; ECON 165

Part II. Depth

Nine courses (27 units)
Select one course from each of the following groups (A-I):
(A) HIST 151, 171, 172
(B) HIST 173, 174, 175
(C) HIST 159, 166, 176, 178, 183
(D) HIST 111, 112, 122, 125
(E) HIST 132, 133, 143
(F) HIST 114, 157, 160, 162, 192
(G) GEOG 127, 161, 166, 178,
(H) PLSI 103, 140, 151, 153, 154, 171
(I) ECON 101, 110

Part III. Breadth

Two courses (6 units)
Select one course from two different disciplines (J-N):
(J) AFRS 135
(K) ANTH 115
(L) CLAS 100, 152
(M) SOC 122, 157, 165, 169
(N) WS 103, 148

Credential candidates should consult the social science credential adviser as early in their programs as possible. A detailed list of the teaching credential program is available from Social Sciences, Room 129A and from Social Sciences, Room 101.

Single Subject Credential - Spanish

Requirements

Credential Program Requirements

To enter the Single Subject Credential Program, students must have a cumulative GPA of 2.97. In addition, before students are eligible to do final student teaching, they must pass speaking and writing exit tests.

For Bilingual/Cross-Cultural Language and Academic Development Credentials, see Education -- Literacy and Early Education Department.

The Single Subject Preparation Program in French is 33 units: FREN 103 (6 units), 109, 120T (3-6 units), 132, 150, 160T (3-6 units); and 9 units selected from FREN 110, 111, 112, 113.

The Single Subject Preparation Program in Spanish consists of SPAN 117, 119, 121A-B, 125 or 129, 130, 137, 140, 142, 143, 170; and 6 units selected from SPAN 145, 147, 148T, 149, 150.

Special Education Mod/Sev Disab Internship

Requirements

Program requirements are pending.

Speech-Language Pathology Services - Preliminary, Credential

Requirements

Speech-Language Pathology Services Credential Requirements

Generic courses: CDDS 80, 91, 95, 101, 102, 103, 105; 107 and 110 (concurrently), 109, 114, 115, 116; 128 and 131 (concurrently), 171, 172; PSYCH 101 (50 units)

Advanced Specialization in Language, Speech, and Hearing: CDDS 200, 202, 204, 207, 210, 213, 214, 216, 220 (30 units)

Clinical core: CDDS 257 (4-9 units), 209 (1 unit), 130 or 230 (10-15 units), 150 or 250 (5 units) (20-30 units)

Total (100-110 units)

Certificates

Certificates

The university awards three different types of certificates.

The **Certificate of Completion** is awarded for successfully completing a planned educational experience designed for specific academic objectives.

The **Certificate of Special Study** is awarded for successfully completing a structured program of educational experiences of at least twelve semester units, determined in advance by a department or school, and consisting of upper division (100-199) courses, professional (300-399) courses, and related activities.

The **Certificate of Advanced Study** is awarded for successfully completing a structured program at least twelve semester units of graduate (200-299) courses, upper division (100-199) courses, and professional (300-399) courses determined in advance by a department or school. Students must be eligible for unclassified, post-baccalaureate standing.

Additional information on Certificates of Advanced Study can be found under Degrees & Programs. Information on all other certificates can be obtained from the departments indicated.

Certificate:	Department:
Adult-Gero Clinical Nurse Specialist	Nursing
Adventure Based Programming	Recreation Administration
Alcohol/Drug Studies	Social Work Education
Applied Sociological Research Methods	Sociology
Biotechnology	Biology
Business Information Systems	Information and Decision Sciences
Communication Skills for Professionals	Communication
Composition	English
Computer Process Control Network Administration	Industrial Technology
Conversational American Sign Language	Communicative Sciences and Deaf Studies
Creative Writing	English
Criminal Justice Counseling Specialist	Criminology
Criminal Justice Counseling Specialist	Counselor Education and Rehabilitation
Cross cultural competency	Social Work Education
Dietetics	Food and Nutritional Sciences
Educational Technology	Curriculum and Instruction
Enology	Viticulture and Enology
Entrepreneurship	Management
Fashion Merchandising	Child, Family and Consumer Sciences
Finance	Finance
Geographic Information Systems	Geography

Gerontology	Gerontology
Homeland Security	Criminology
Human Resource Management	Management
Jewish Studies	History
Logistics and Supply Chain Strategies	Marketing and Logistics
Marketing	Marketing and Logistics
Mass Communication and Journalism	Mass Communications and Journalism
Network Administration	Information and Decision Sciences
Network Routing and Internetworking	Industrial Technology
Administration & Leadership for CBOs (Humanics)	Sociology
Organizational Management	Management
Peace building and mediation	Philosophy
Pediatric Clinical Nurse Specialist	Nursing
Psychiatric Mental Health Nurse Practitioner	Nursing
Racial Understanding	Social Work Education
Reading and Literacy Added Authorization	Literacy, Early, Bilingual and Special Education
Serving At-Risk Youth	Recreation Administration
Social Sciences Legal Studies	Criminology/Political Science
Southeast Asian Studies	Anthropology
Special Event Planning	Recreation Administration
Sports and Entertainment Facility Management	Recreation Administration
Sports Marketing	Marketing and Logistics
Teaching American History	History
Teaching English as a Second Language	Linguistics
Victim Services	Criminology

American History, Certificate of Adv. Study

Requirements

Certificate of Advanced Study in Teaching American History

The graduate certificate is a 12 unit program comprised of the following courses:

Required Courses: HIST 200C and HIST 296

Electives: 6 units of additional coursework chosen from among HIST 210T, 220T, 230T.

Biotechnology, Certificate of Adv. Study

Requirements

Biotechnology Certificate Program Requirements

The Certificate of Advanced Study in Biotechnology is a postbaccalaureate, one-year, laboratory-intensive program of study consisting of eight specified courses among the M.Bt. program courses. Students may not receive both the M.Bt. and the Certificate of Advanced Study in Biotechnology.

Students interested in entry-level biotechnology careers may pursue the certificate to acquire a breadth of relevant technical skills and knowledge for enhanced career options. Students with advanced degrees (M.S., Ph.D., J.D., M.D.) may expand their skills for specific careers. Students interested in research careers in biotechnology fields are encouraged to supplement a disciplinary master's degree with the certificate. Double-counting of courses for the certificate and the master's degree is possible, but 9 units independent of master's degree coursework must be reserved for the certificate.

Admission Requirements for the Certificate. All admission requirements for the M.Bt. apply except that the prerequisite courses are limited to categories 1-4, and the minimum for admission to the program is two courses, i.e. general genetics and biochemistry lecture. All prerequisite courses must be completed for the certificate award.

Certificate Requirements

Set program of study (20 units)
(See M.Bt. program requirements on this page for specific courses.)
M.Bt. Core requirements IA and IB (8 units)
M.Bt. Courses IIA, B, C, F (12 units)

Community and Regional Planning, Certificate of Adv Study - Continuing & Global Education

Certificate in Advanced Studies in Community and Regional Planning

The Geography Department offers a Certificate of Advanced Study in Community and Regional Planning. This 15 graduate unit program consists of five courses. The Certificate Program is designed for various types of students. The targeted audience may include current graduate-level students who plan to obtain their master's degree in a land use planning-related field, such as Real Estate, Public Administration, Civil Engineering, Public Health, and Architecture. It also includes planning-related practicing professionals, such as architects, engineers, planners, elected and appointed public officials, and non-profit community service providers.

Admission Criteria. Interested candidates shall meet at least one of the following criteria for admission. Applicants must

1. be currently enrolled in a master's degree program at an accredited institution of higher education, or
2. have already earned a master's degree from an accredited institution of higher education, or
3. have earned an undergraduate degree.

A GRE test is not required for admission. Students currently enrolled in a graduate degree program at Fresno State must submit an "Add or Change Graduate Degree or Advanced Certificate Objective" form to the Division of Graduate Studies Office.

Admission Process. Students shall submit a program application to the Program Coordinator and Fresno State University. The application can be found on the Program website. Besides the application, students shall also submit three letters of recommendation to the Program Coordinator. Student must apply for admission to the university through CSU Mentor.

Computer Requirements and Support. Participants must have access to a computer. All students will need to activate a Fresno State email account. Software requirements can be accessed by clicking on the following link: *https://help.fresnostate.edu/content/software*.php. Visit the Digital Campus website at http://www.fresnostate.edu/academics/tilt/ to learn more about how

to be successful with online learning. Students have access to online tutorials and frequently asked questions at the following website: *http://www.fresnostate.edu/academics/blackboard/students/index.html.*

Exit from Program. The Certificate in Community and Regional Planning shall be issued upon completion of all coursework with a GPA of 3.0 or higher. Program is cohort based. Students are expected to progress and graduate within their matriculated cohort. Exceptions are considered on a case-by-case basis in accordance with university policy and accreditation standards. To be awarded the certificate, students must first submit a Proposed Program for the Certificate of Advanced Studies, and then file Application for the Award of the Certificate of Advanced Study in the Division of Graduate Studies Office within the first two weeks of the term in which all courses and requirements are expected to be completed.

A minimum of 9 program units must be used solely for certificate course requirements, and not toward any other degree or certificate program.

Program Length and Schedule. The five required courses are distributed in fall and spring semesters in each academic year. In each fall semester, courses GEOG 201, 202, and 203 are offered sequentially, with each course finished within 4-5 weeks. GEOG 204 and 205 are available in each spring semester sequentially with each finished within 6-7 weeks.

A full online delivery mode will be utilized to accommodate participants' work schedules

Required Graduate Courses
1. GEOG 201 Foundations in Urban Planning (3 units)
2. GEOG 202 Land Use Regulation, Law and Ethics (3 units)
3. GEOG 203 Community Planning (3 units)
4. GEOG 204 Environmental Planning (3 units)
5. GEOG 205 Transportation Planning (3 units)

Total (15 units)

Advising Notes

1. Open to all post-baccalaureate students and professionals
2. A grade of B or better must be earned in each course to receive the certificate.

Composition, Certificate of Adv. Study

Requirements

Certificate of Advanced Study in Composition

The Certificate in Composition is a postbaccalaureate course of study in the theory and pedagogy of teaching writing. It is designed for Valley classroom teachers, those considering doctoral study in English, candidates for the M.A. in English, and community college teachers.

ENGL 270 (4 units)
ENGL 281 (4 units)
Electives (LING 237, 244, 251; COMM 214; ENGL 265 or other electives approved by graduate adviser. Some of the courses may have prerequisites) (6-8 units)
Total (14-16 units)

The student must earn a grade of B or better in all certificate of advanced study coursework. Students who fail to earn at least a Bin a course may repeat it for an improved grade. Please note that grade substitution is not permitted at the graduate level and that a GPA of at least 3.0 must be accumulated for certificate of advanced study coursework.

Criminology, Certificate of Adv. Study

Requirements

Certificate of Advanced Study, Criminal Justice Counseling Specialist

Education Building, Room 340

559.278.0340

Individuals who are fully classified and advanced to candidacy in (or graduates of) the M.S. in Counseling program (Marriage, Family, and Child Counseling option) and M.S. in Rehabilitation Counseling may elect to take courses leading to the Criminal Justice Counseling Specialist Certificate of Advanced Study. The certificate program is designed to enhance professional skills for counseling service within the criminal justice system. In addition to coursework required for the M.S. in Counseling (Marriage, Family, and Child Counseling option) and M.S. in Rehabilitation Counseling, students seeking the Criminal Justice Counseling Specialist Certificate of Advanced Study are required to take a total of 16 units in Criminology (in addition to prerequisite CRIM 100 or equivalent), 6 units of which may be used as electives in the M.S. in Counseling (Marriage, Family, and Child Counseling option) and the M.S. in Rehabilitation Counseling with approval of a faculty adviser.

Program Requirements. The required certificate courses include CRIM 153, 201, 203, and 281. (Note: Counseling students must meet with a Criminology adviser a semester prior to enrolling in CRIM 281.)

Master of Science in Criminology students seeking the Certificate are required to take an equivalent number of Counseling courses: COUN 176, 200, 208, 232, and 239 with COUN 174 as a prerequisite. (***Note***: Criminology students must meet with a Counseling adviser a semester prior to enrolling in COUN 239.)

Dietetics, Certificate of Adv. Study

Requirements

Certificate of Advanced Study in Dietetics

(Dietetic Internship)

The Certificate of Advanced Study in Dietetics is a postbaccalaureate professional program that meets the requirements for supervised practice experience for entry-level generalist dietitians. The Commission on Accreditation for Dietetics Education of the American Dietetic Association has granted developmental accreditation to the program as a dietetic internship. The American Dietetic Association can be reached at 2120 South Riverside Plaza, Suite 2000, Chicago, IL 60606-6995 or at (312) 899-0040 ext. 5400. Students completing the program will be eligible to take the dietetic registration exam administered by the Commission on Dietetic Registration of the American Dietetic Association.

Admission Requirements

Candidates for admission will be evaluated using the following criteria: undergraduate coursework, grade point average of 3.0 or better (last 60 semester units/90 quarter units), completion of an accredited/approved didactic program in dietetics within the last five years, GRE scores (480V/580Q recommended), statement of professional goals, and letters of reference. Preference is given to those applicants with work or volunteer experience in dietetics. Applicants whose native language is other than English must earn a minimum TOEFL score of 550.

Note: Interns accepted to the program must successfully complete background checks, fingerprinting, and any other requirements of sponsoring facilities before beginning program.

Admission Materials

The application process has three parts (all of which must be completed for your application to be considered):

1. application to the dietetic internship (on-line centralized internship application): https://portal.dicas.org
2. application to the university for post baccalaureate standing: http://www.csumentor.edu
3. application to D & D Digital for computer match: http://www.dnddigital.com

Program Requirements

FN 250 (3 units)
FN 229 (1+1 units)
FN 230 (3 units)
NUTR 193 (4 units)
FSM 193 (4 units)
Total (16 units)

Educational Technology - Advanced Certificate

Certificate of Advanced Study, Educational Technology Requirements

This certificate program is not currently accepting applications.

The Certificate of Advanced Study in Educational Technology is a postbaccalaureate program designed to provide professional and specialized preparation for the candidate interested in acquiring knowledge and skills essential for technology-related leadership in educational settings.

Students completing this program will be able to do the following:

- describe the current and potential impact of advanced technologies on education and society
- analyze instructional needs and determine viable uses of technology for meeting those needs
- select and develop appropriate technology-based materials that correlate to curriculum objectives
- model the effective use of technology within educational settings
- demonstrate an understanding of the equitable and ethical use of technology
- plan, implement, and evaluate programs that exemplify the effective use of technology to attain curriculum objectives

Up to six units of coursework taken while working on this certificate may be counted as elective units toward a Master of Arts in Education with an option in curriculum and instruction. Students who hold a valid California teaching credential may also apply to the Commission on Teacher Credentialing (CTC) to have their files reviewed for the supplemental authorization "Computer Concepts and Applications."

Students who wish to pursue either of these options while working on the certificate should state such an intent early in their program so they can receive proper advising regarding master's or CTC requirements.

Admission Requirements. See the admission requirements listed in the Graduate Education Program section of this catalog.

Program Requirements. Under the direction of the program adviser, each student prepares and submits an individually designed program within the following framework:

Course Requirements
CI 225, 227, and 230 (9 units)
Approved Electives (5-6 units)
Total (14-15 units)

Enology, Certificate of Special Study

Certificate of Special Study in Enology Requirements

The Department of Viticulture and Enology offers a Certificate of Special Study in Enology. Normally, students admitted to this certificate program will have completed an undergraduate degree in a related field. This program is specifically designed for those who wish to pursue a career in winemaking. The certificate program emphasizes coursework in enology and viticulture, with requirements in other supporting sciences. Before enrolling in this certificate program, students must meet with an adviser in the Department of Viticulture and Enology to ensure that prerequisites have been met and to plan for their course of study.

The program consists of a minimum of 31 units in enology. If students have completed courses that qualify as part of the 31 units in enology, substitutions shall be made in consultation with an adviser to meet the 31-unit requirement. The Certificate of Special Study in Enology has additional requirements totaling up to 50 units that may be satisfied by previously completed coursework. Each student will meet with the certificate adviser to determine whether these requirements have been met by proper coursework or extensive experience in the field.

Required Qualifications: Normally, a bachelor's degree from an accredited institution in the sciences or a related field.

Preferred Qualifications: One or more years of experience in the wine industry. Strong background in chemistry, microbiology, or food science. Academic training and experience in viticulture and soils.

Students who have completed all of the prerequisites and additional requirements could possibly complete this course of study in a single year. Other students may take longer. The time limit for completing this certificate program is five years.

Certificate Program

Required courses (31 units)
ENOL 105, 114, 116, 125, 135, 151, 163, 164, 166, 175, 199; VIT 106

Additional courses or their equivalents (46 units)
BIOL 11, 120; CHEM 1A, 1AL, 1B, 1BL, 8, 105, 150; ENOL 15, 45; PLANT 105; SW 100, 100L; VIT 101, 102

Geographic Information Systems, Certificate of Adv Study - Continuing & Global Education

Requirements

Certificate of Advanced Study in Geographic Information Systems (GIS)

GIS uses digital technology to assist the evaluation of spatial information. GIS professionals acquire, manage, analyze, visualize, and represent geospatial data, or information related to geographical locations. The certificate requires 12 units. This is an online course of study. See the Continuing and Global Education site for more.

Required Coursework:
EES 211: Fundamentals of Geographical Information Systems (3 units)
EES 212: Introduction to Geospatial Technologies (3 units)
EES 214: Advanced Spatial Analysis (3 units)
EES 216: Practicum (3 units)
Total (12 units)

Homeland Security, Certificate of Adv Study - Continuing & Global Education

Requirements

Certificate of Advanced Study in Homeland Security

The Department of Criminology and Division of Continuing and Global Education offer the Certificate of Advanced Study in Homeland Security. The primary objective of the program is the development of scientific and technical knowledge and research skills in this growing field of academic study. A secondary program objective is the preparation of graduate students for future professional careers and advanced education programs in Homeland Security and related doctoral programs. The Department of Criminology seeks to prepare administrative operational specialists, and policy analysts with a firm background in the role of government in protecting society; the strategy and assumptions driving homeland security policy; and related important principles of preventing, responding, mitigating and recovering from natural or human threats and hazards. In addition, the department also seeks to answer the important questions of balancing civil liberties and the protection of Constitutional rights within our liberal democracy with the needs of national security and homeland defense.

The Certificate of Advanced Study in Homeland Security is a multidisciplinary program designed to give students an understanding of the depth and complexity of this critical field. This 12-unit (four-course) graduate certificate program engages students who are seeking homeland security positions throughout federal, state, and local governments. These courses will help balance the perspective of first responders, middle-level supervisors, and executive managers and policy makers on the inherent challenges of societal protection from natural and human caused disasters. Up to three units of related homeland security courses may count. toward the completion of the certificate program based on individual evaluation by the program director.

Program Prerequisites. Admission is open to students with a bachelor's degree in a related field from an accredited university.

Program Requirements. A student must complete the four course sequence including CRIM 216 (the core course), CRIM 217, CRIM 218, and CRIM 219 for a total of 12 units (four courses) as offered in the Homeland Security Program.

CRIM 216 - Essentials of Homeland Security (3 units)

CRIM 217 - Radical Ideologies (3 units)
CRIM 218 - Intelligence Theory (3 units)
CRIM 219 - Border and Homeland Security (3 units)

Reading and Literacy Added Authorization, Advanced Certificate

Requirements

Reading and Literacy Added Authorization

Steven Hart, Coordinator
Education Building, Room 250
559.278.0319
http://www.fresnostate.edu/kremen/departments/lebse.html

Admission Requirements. In addition to the admission requirements listed in the Graduate Education Program section of this catalog, Reading and Literacy Added Authorization Certificate program applicants must possess a basic teaching credential.

Program Requirements. Under the direction of the Reading Program Coordinator, each student prepares and submits an individually designed program within the following framework:

Program
LEE 213, 215, 224, 230, 278 (15 units)

Certificate courses may also be used to meet part of the requirements for a master's degree.

TESOL, Certificate of Adv. Study

Requirements

Graduate Certificate in TESOL

Certificate of Advanced Study in Teaching English to Speakers of Other Languages. This certificate is designed to train participants in the theory and practice of TESOL, with application to a wide variety of teaching circumstances. In addition to prerequisites (LING 100, 141, and 171), required courses are LING 237, 241, 244, and 236 or an approved graduate course. Students must maintain a GPA of 3.0 or better in the program.

See graduate adviser for prerequisites.

Requirements (12 units)
LING 236, 237, 241, 244

Courses

Course Subjects, Symbols, and Terms

The following chart is a guide to the appropriate subjects used in this catalog for the university's departments and programs of study.

ACCT	Accountancy
AETH	Applied Ethics
AFRS	Africana Studies
AGBS	Agricultural Business
AGED	Agricultural Education
AGRI	Agriculture; Graduate
AH	Arts and Humanities
AIS	American Indian Studies
ANTH	Anthropology
ARAB	Arabic
ARM	Armenian
ARMS	Armenian Studies
ART	Art
ARTDS	Art and Design
ARTH	Art History
ASAM	Asian American Studies
ASCI	Animal Sciences
ASP	Aerospace Studies
ATHL	Athletics
BA	Business Administration
BIOL	Biology
BIOTC	Biotechnology
BUS	Business
CDDS	Communicative Disorders and Deaf Studies
CE	Civil Engineering
CFS	Child and Family Sciences
CGSCI	Cognitive Science
CHEM	Chemistry
CHIN	Chinese
CI	Curriculum and Instruction
CLAS	Chicano and Latin American Studies
CM	Construction Management
COMM	Communication
COMS	Community Service
COUN	Counselor Education
CRIM	Criminology
CRSC	Crop Science — Agronomy and Vegetable Crops
CSB	Craig School of Business
CSCI	Computer Science
CSH	Consumer Science and Housing
CST	CalState TEACH
CULG	Culinology
DANCE	Theatre Arts
DRAMA	Theatre Arts
DS	Decision Sciences
EAD	Educational Administration
ECE	Electrical and Computer Engineering
ECON	Economics
EDL	Educational Leadership
EES	Earth and Environmental Sciences
EHD	Education and Human Development
ENGL	English
ENGR	Engineering
ENTR	Entrepreneurship
ERE	Educational Research and Evaluation
ESE	Early Start English
ESM	Early Start Mathematics
FCS	Family and Consumer Sciences
FIN	Finance
FL	Foreign Language
FM	Fashion Merchandising
FN	Food and Nutrition
FREN	French
FSC	Food Science
FSM	Food Systems Management
GD	Graphic Design
GEOG	Geography
GERM	German
GERON	Gerontology
GME	Geomatics Engineering
GRK	Greek
GS	Graduate Studies
GSCC	Graduate Studies - Community College
HEBR	Hebrew
HEC	Home Economics Education
HHS	Health and Human Services
HIST	History
HMONG	Hmong
HONOR	Honors
HORT	Horticulture
HRM	Human Resource Management
HUM	Humanities
IAS	Interdisciplinary Arts Studies
ID	Interior Design
INTD	Interdisciplinary Capstone
IS	Information Systems
ISA	International Studies Abroad
ISC	International Studies Course
IT	Industrial Technology
ITAL	Italian
JAPN	Japanese
KAC	Kinesiology Activity
KINES	Kinesiology
LATIN	Latin
LEE	Literacy and Early Education
LING	Linguistics
MATH	Mathematics
MBA	Master of Business Administration
MCJ	Mass Communication and Journalism
ME	Mechanical Engineering
MEAG	Mechanized Agriculture
MES	Middle Eastern Studies
MGT	Management
MKTG	Marketing
MPA	Master of Public Administration
MS	Military Science
MSA	Master of Science in Accountancy
MSCI	Marine Science
MUSIC	Music
NSCI	Natural Science
NURS	Nursing
NUTR	Nutrition
OH	Ornamental Horticulture
PAX	Peace and Conflict Studies
PERS	Persian
PH	Public Health
PHIL	Philosophy
PHTH	Physical Therapy
PHYS	Physics
PLANT	Plant Science
PLSI	Political Science
PLTH	Plant Health
PORT	Portuguese
PSCI	Physical Science
PSYCH	Psychology
PT	Doctorate in Physical Therapy (Joint)
RA	Recreation Administration
REC	Recreation Activity
REHAB	Rehabilitation
RES	Revising and Editing Skills
SKT	Sanskrit
SOC	Sociology
SPAN	Spanish
SPED	Special Education
SSCI	Social Science
SW	Soil and Water
SWRK	Social Work
UNIV	University
VEN	Viticulture and Enology
VIT	Viticulture
WS	Women's Studies

General Education

A1	G.E. FOUNDATION
A2	G.E. FOUNDATION
A3	G.E. FOUNDATION
B1	G.E. BREADTH
B2	G.E. BREADTH
B4	G.E. FOUNDATION
C1	G.E. BREADTH
C2	G.E. BREADTH
D1	G.E. BREADTH
D2	G.E. BREADTH
D3	G.E. BREADTH
E1	G.E. BREADTH
IB	G.E. INTEGRATION
IC	G.E. INTEGRATION
ID	G.E. INTEGRATION
MI	G.E. MULTICULTURAL/ INTERNATIONAL

Course Numbering System

1-99
Lower-division courses are designed for first- and second-year students but open to other students.

100-199
Upper-division courses are designed for third-, fourth- and fifth-year students; counted as graduate work for students with graduate status; permitted for use on a master's degree program only with departmental approval.

190
Independent study, undergraduate

200-297
Graduate-level courses are designed for use in master's degree, credential, certificate of advanced study, and doctorate curricula. Access to these courses is limited to those who have been officially admitted to a graduate degree, advanced certificate, or credential program. Last-semester undergraduate seniors wanting to enroll in 200-level courses must meet all criteria listed on the Undergraduate Petition to Enroll in Graduate (200-level) Courses available from the Division of Graduate Studies or online at www.fresnostate.edu/gradstudies through the "Forms" link, then "Enrollment/Registration."

290
Independent study, graduate

298
Graduate Degree Project. Enrollment is restricted to graduate students having received official notification by the Division of Graduate Studies of approval for advancement to candidacy. For complete eligibility requirements, see Criteria for Thesis and Project under Graduate Studies. Project class numbers are obtainable through the student's department. Failure to meet the eligibility requirements may result in cancellation of such enrollment. Project enrollment is not available through Extension or Open University.

299
Graduate Degree Thesis/Dissertation. Registration in this course is restricted to graduate students who have officially been notified of their advancement to candidacy by the Division of Graduate Studies and who have filed an approved thesis committee assignment form with the Division of Graduate Studies. For complete eligibility requirements, see Criteria for Thesis and Project under Graduate Studies. Thesis class numbers are obtainable through the student's department. Failure to meet eligibility requirements may result in cancellation of such enrollment. Thesis enrollment is not available through Extension or Open University.

300-399
Designed to meet professional needs that cannot be served by regular established course offerings. These courses are offered only through Extension and summer sessions. They assume completion of the bachelor's degree and/or appropriate professional service and are focused upon the problems that enrolled students encounter in their professional service. Although these courses are designed primarily for purposes other than the partial fulfillment of degree and credential requirements, they may, with approval by the department, be applied toward the undergraduate major. They may be used as part of the 40-unit upper-division requirement for the B.A. and as electives in the fulfillment of the total requirements for a baccalaureate degree and/or credential. They may not be used to meet the requirements of a master's degree or a doctoral degree.

400-499 are upper-division courses in CSU system programs administered by California State University, Fresno. Enrollment provisions listed for courses numbered 100-199 apply to these courses as well.
500-599 are doctoral level courses. Enrollment provisions listed for courses numbered 200-299 apply to these courses as well.

600-699 are graduate courses in CSU system programs administered by California State University, Fresno. Enrollment provisions listed for courses numbered 200-299 apply to these courses as well.

Course Catalog Number Symbols

A-B Two-semester course normally taken in sequence
A, B Listed as separate courses; may be taken independently
F Field course
G For graduate students only; these courses are designed for use in the first year of two-year master's degree programs; they consist of an intensive combination of material normally offered at the undergraduate level.
H Honors
L Laboratory associated with another course
M Multiple subject designation for education courses/methods designation for communication courses
N Non-majors
R Remedial course
S Service Learning courses
T Topics course, varied area subject matter, repeatable for credit with different title and description
W Writing skills course, meets upper-division requirement (UDWS) for graduation
Z Semester abroad program courses

Course Descriptions. Courses are listed by number, title, units, and maximum total credit. Each unit generally represents one hour per week in class and two hours of preparation. Courses involving laboratory, activity, or other application normally require additional hours of class attendance. Lecture-laboratory hours indicate deviation from the usual one class hour per week for one unit of credit. Prerequisites are listed at the beginning of the course description. Course offerings are listed each semester in the Class Schedule.

Prerequisites. Course prerequisites are designed to protect students by ensuring that they have the necessary background and preparation for success in the course. Transfer courses with equivalent content are accepted in lieu of stated prerequisites. Students should check the prerequisites carefully before registering in a course to be sure that they have been met. Students will not be able to register in courses when proper prerequisites have not been met. The instructor can also deny admission to a course if a student has not met the prerequisites.

Permission of Instructor. The instructor has the authority to waive the stated prerequisites for a course if it is in the interest of the student to do so and if in the instructor's judgment, the student has a background sufficiently adequate to permit satisfactory performance in the course. Students will not receive credit for courses in foreign language or mathematics if credit has been awarded previously for a higher numbered course for which the lower numbered course is a prerequisite.

Course Semester Designations

The course semester designation appears at the end of a course description. This designation indicates what semester(s) the course(s) will be offered.

Note: While courses will be offered in the semesters indicated, they may not be taught if enrollments are insufficient.

Code	*Meaning*
F	Fall
S	Spring
SU	Summer
F odd	Fall of odd numbered years
F even	Fall of even numbered years
S odd	Spring of odd numbered years
S even	Spring of even numbered years
3RD	Every third semester
P	Periodically
PS	Periodically Summer

Course Listings

ACCOUNTANCY (ACCT)

ACCT 3. Essentials of Accounting

Not open to students majoring in accounting or business administration. Basic concepts in preparation of business financial statements; introduction to understanding, analyzing, and interpreting accounting data by investors, managers, and creditors for decision making, planning, and control. Only minor attention given to record keeping procedures.

Units: 3

Course Typically Offered: Fall

ACCT 4A. Financial Accounting Principles and Systems

Not open to freshmen. Financial accounting; accounting statements, transaction analysis, and data accumulation; partnership and corporation accounting. (CAN BUS 2)

Units: 3

Course Typically Offered: Fall, Spring

ACCT 4B. Managerial Accounting Principles and Systems

Not open to freshmen. Prerequisite: grade of C or better in ACCT 4A. Basic coverage of managerial control and decision support tools, job order costing, activity based costing, standard costing, budgeting, relevant costing, and quality control. (CAN BUS 4)

Units: 3

Course Typically Offered: Fall, Spring

ACCT 120A. Intermediate Accounting I

Prerequisite: grade of B or better in ACCT 4A, or a minimum GPA of 2.5 in ACCT 4A and ACCT 4B; DS 71 or equivalent recommended. Preparation and analysis of balance sheet and income statements; basic accounting theory and conceptual framework underlying financial accounting; theory of current assets; theory of current liabilities; investments; revenue recognition; error correction and principle changes; and a review of applicable authoritative pronouncements.

Units: 4

Course Typically Offered: Fall, Spring

ACCT 120B. Intermediate Accounting II

Prerequisite: grade of C or better in ACCT 120A; DS 71 or equivalent recommended. An in-depth study of principles, procedures, and reporting requirements in financial accounting as applied to corporate entities; fixed and other noncurrent assets; income tax allocation; noncurretn liabilities, including pensions and leases; inflation accounting; and cash flow. Special attention is given to authoritative pronouncements.

Units: 4

Course Typically Offered: Fall, Spring

ACCT 132. Cost Accounting

Prerequisites: A minimum GPA of 2.5 in ACCT 4A and ACCT 4B; DS 71 or equivalent and IS 52 recommended. Industrial and service industry cost accounting; intermediate level coverage of job order and process costing and standard costing; master budgeting, activity based costing/management, decision support tools, support department joint cost allocations, and quality control issues. FS

Units: 4

Course Typically Offered: Fall, Spring

ACCT 144. Tax Accounting and Planning

Prerequisite: grades of C or better in ACCT 4A. Federal income taxation, research, and planning affecting individuals.

Units: 4

Course Typically Offered: Fall, Spring

ACCT 145. Federal Income Taxation of Entities and the Federal Uniform Estate and Gift Tax

Prerequisite: grade of C or better in ACCT 144. Federal income tax laws relating to entities. Primary emphasis placed on tax issues regarding C corporations, S corporations, and partnerships (including limited liability companies). Analysis of the Federal Uniform Estate and Gift tax. Entity tax accounting, return preparation, reporting, and tax research.

Units: 4

Course Typically Offered: Fall, Spring

ACCT 146. Accounting Information Systems and Controls

Prerequisites: grades of C or better in ACCT 4A and ACCT 4B. Design of systems for the collection, organization, and reporting of accounting information. Theory and practice of flowcharting, evaluation of internal accounting controls in computer systems environments, and interrelationships of people, procedures, and equipment.

Units: 4

Course Typically Offered: Fall, Spring

ACCT 148. Accounting for Governmental and Nonprofit Organizations

Prerequisites: grades of C or better in ACCT 120A and ACCT 132. Concepts, principles, and problems of accounting for governmental and nonprofit organizations. Budgeting, fund accounting, cost/benefit analysis, cash planning and control, and independent auditing are introduced in the context of making decisions in governmental and nonprofit organizations.

Units: 4

Course Typically Offered: Fall

ACCT 162. Auditing

Prerequisites: grades of C or better in ACCT 120A and ACCT 120B. Objectives and techniques in verification of business financial statements; duties, responsibilities, and professional ethics of the auditor; auditor's reports; analysis of internal controls; audits of computerized systems.

Units: 4

Course Typically Offered: Fall, Spring

ACCT 165. International Accounting

Prerequisites: Grades of C or better in ACCT 4A, ACCT 4B, and ACCT 120A. Accounting concepts, principles, and methods for multinational corporations. Currency for translation of financial statements, financial reporting, international accounting and auditing standards, and the managerial aspects of multinational

transactions.

Units: 4

Course Typically Offered: Spring

ACCT 167. Advanced Accounting Problems

Prerequisite: ACCT 120A with a grade C or better. Accounting for corportate consolidations and partnerships.

Units: 4

ACCT 169. Forensic Accounting

Prerequisites: grades of C or better in ACCT 120A and ACCT 132. Basic forensic and investigative accounting. Case studies from financial accounting, cost accounting, federal income taxes, auditing, business law, and other business disciplines will be used to help students analyze facts and provide usable accounting and financial information. (Formerly ACCT 189T)

Units: 4

Course Typically Offered: Fall, Spring

ACCT 187. Accounting Ethics and Professional Responsibilities

Prerequisites: ACCT 120A, ACCT 120B and ACCT 132 with a grade of "C" or better.This course examines the Accountants' ethics and professional responsibilities that are integrated in the various roles an accountant undertakes in the recording and reporting of a business processes and financial information.

Units: 3

Course Typically Offered: Fall, Spring

ACCT 190. Independent Study

See Academic Placement -- Independent Study. Approved for RP grading.

Units: 1-3, Repeatable up to 6 units

Course Typically Offered: Fall, Spring

ACCT 195. Internship

Prerequisite: permission of internship coordinator. Requires 150 hours of work at a pre-qualified, academically-related work station (business, government or nonprofit agency). As a course substitution, prior department approval required. Only one internship may count towards option requirements. CR/NC grading only.

Units: 3, Repeatable up to 6 units

Course Typically Offered: Fall, Spring

APPLIED ETHICS (AETH)

AETH 106T. Topics in Applied Ethics

Selected topics involving applied ethics covering a range of career and life issues. Usually requires a previous course in applied ethics or special background.

Units: 1-3

AETH 190. Independent Study

See Academic Placement - Independent Study. Approved for RP grading.

Units: 1-3; max total 6

AETH 192. Directed Reading

Prerequisite: permission of instructor. Supervised readings in a selected applied ethics field.

Units: 1-3; max total 6

AETH 194. Seminar in Applied Ethics

Prerequisite: one course in applied ethics or special background. Intensive investigation of issues in applied ethics, normally requiring substantial student participation and discussion.

Units: 3

AETH 200. Ethics and Philosophy of Behaviorism

(See PSYCH 231.)

Units: 3

AETH 201. International Relations and Political Theory

(See PLSI 210.)

Units: 3

AETH 202. Ethics and Public Administration

(See MPA 250.)

Units: 3

AFRICANA STUDIES (AFRS)

AFRS 1. Ethnic Experience

Examines the experiences of various ethnic minorities in the U.S., addresses the issue of race as it affects ethnic formation, analyzes public policy and ethnic experience, discusses the comparable idealogies of race and gender, and evaluates culture and ethnic experience.

Units: 3

AFRS 10. Introduction to Africana Studies

A survey course designed to introduce students to the vast array of scholarship defining the African American experience as they relate to the experiences of Africans on the continent and other peoples of African descent in the Diaspora. (Formerly AFAM 10).

Units: 3

Course Typically Offered: Fall

GE Area: D3

AFRS 15. Slavery and the American Experience

A survey course examining the role of slavery in the economic, political and social development of the United States from the founding of the colonies through the revolutionary period to the civil war and beyond.

Units: 3

Course Typically Offered: Spring

GE Area: D3

AFRS 20. Critical Thinking About Race

This course uses critical thinking skills to discuss, analyze, and critique centuries-old ideas on race/ethnicity and the social policies that were enacted to promote prejudice and discrimination against minorities with a special focus on peoples of African

decent and American Indians.

Units: 3

Course Typically Offered: Fall, Spring

GE Area: A3

AFRS 21. Gospel Choir

(Same as Music 102GC) Performance of a variety of inspirational songs reflecting the African American cultural experience. Participation through rehearsals, activities, programs, and field trips.

Units: 1, Repeatable

Course Typically Offered: Fall, Spring

AFRS 24. African American Music

The origin and evolution of African American music from the perspective of social and cultural history. Emphasis on slave songs, gospel, jazz, rhythm and blues, and soul music.

Units: 3

AFRS 27. Africana Cultures and Images

Introduction to the historical and contemporary experiences of African Americans and other peoples of African descent. Examines historical and social arrangements implicated in the experiences and the images these arrangements construct both in the United States and around the world. G.E. Breadth D3. (Formerly AFAM 27)

Units: 3

Course Typically Offered: Fall, Spring

GE Area: D3

AFRS 35. Art and Music of Africa

Comprehensive study of African artistry and music.

Units: 3

AFRS 36. Contemporary African Societies

Analysis of the cultural and political structure of African socities; understanding the impact of colonialism in Africa; realizing the relationship of African Americans to Africa. (Formerly AFAM 36)

Units: 3

Course Typically Offered: Fall

AFRS 38. Sociology of the Black Experience

Basic principles sociology and their application to the black experience. This introductory course utilizes the sociological approach to seek an understanding of the various experiences of black people in society. Involves participant observation, interviewing, and field trips. (Formerly AFAM 38).

Units: 3

AFRS 55T. Topics in African American Studies

Selected topics at the introductory level in African American Studies.

Units: 1-3, Repeatable up to 9 units

AFRS 56. The African American Family

Deals with the origin, development, and adaptations the African American family has created to sustain itself as a viable institution. Emphasis is on problems encountered and created by the American society and how the African American family handles these adversities.

Units: 3

Course Typically Offered: Fall

AFRS 60. Introduction to African American Theatre

Study and practice in performance of African American drama and oral interpretation projects. Class will include poetry reading; dance performances; dramatic interpretations; comedic sketches. Previous experience not required.

Units: 3

AFRS 102A. African Dance

Focuses on the history of African dance in the United States, uses of dance among Africans/African Americans. Activities include dance techniques; imagery/visualization, dance exercises; simple constructive rest techniques; African dance step techniques preparatory for advance class. (2 lecture, 2 activity hours)

Units: 3

AFRS 104W. Writing About American Inequality

Prerequisite: satisfactory completion (C or better) of the ENGL 5B or ENGL 10 graduation requirement. Analysis of poverty, social class, and inequality in America. Students receive feedback in preparing papers on poverty and inequality. Emphasis on research techniques, evaluation and documentation of evidence, and style and mechanics of writing. Meets the upper-division writing skills requirement for graduation. (Formerly ETHS 104W)

Units: 3

Course Typically Offered: Fall, Spring

AFRS 121. Gospel Choir

(Same as Music 102GC) Performance of a variety of inspirational songs reflecting the African American cultural experience. Participation through rehearsals, activities, programs, and field trips.

Units: 1, Repeatable

AFRS 129. African American Literary Classics

Prerequisite: G.E. Foundation and Breadth Area C. Discussion and written analyses of significant poetry, drama, fiction, and nonfiction by African American writers representing a variety of views and perspectives. Historical and social contexts of literary works. G.E. Integration IC.

Units: 3

Course Typically Offered: Fall, Spring

GE Area: IC

AFRS 130T. Topics in Ethnic Studies

In-depth research and writing on the past and contemporary situation of America's major ethnic minorities.

Units: 1-3, Repeatable up to 6 units

AFRS 135. The African American Community

Analysis of the various lifestyles and cultural patterns of African American communities. Emphasis on unique cultural features of the family, religion, foods, music, art, and folkways. (Formerly AFAM 135)

Units: 3

Course Typically Offered: Fall

AFRS 137. African American Women

(AFRS 137 same as WS 137.) An overview of the accomplishments of African American women in the United States; their contributions to American culture; African influence; African American women as defined by a dominant soceity vs. legitimate definition designed to encourage a positive self-concept.

Units: 3

AFRS 139. The Black Male Experience

Studies the history of Black men, Black masculinity, and representations of Black men in media over the last century. Explores Black men's relationships with Black women, the State, and to other Black men. (Formerly AFRS 130T)

Units: 3

AFRS 140. The African American Church

History of the formation and development of African American religious institutions (Christianity, Islam, Judaism) in the African American community; their effect on the African American personality.

Units: 3

AFRS 142. Hip-Hop Culture: Globalization, Gender, and Representation

Analysis of the pre-history, formal advent, and subsequent cultural development and expansion of Hip-Hop primarily in Africana communities. Examines how Hip-Hop's history, politics, and economics in America shape Africana gender identities, political sensibilities, and cultural worldviews. (Formerly AFRS 55T)

Units: 3

AFRS 144. Race Relations

Prerequsites: G.E. Foundation and Breadth Area D. Analysis of the moral and intellectual issues surrounding the attitudes of whites toward blacks and other racial groups in the United States and elsewhere. Explores the functions of race relations and the social life that developed among non-white groups themselves. (Formerly AFAM 144)

Units: 3

Course Typically Offered: Spring

GE Area: ID

AFRS 145. Life and Times of Martin Luther King Jr.

Explores Dr. King's leadership in the nonviolent movement for racial equality and human dignity, from the Montgomery Bus Boycott to King's assassination (1955-68). Emphasis on philosophy, ideology. Format: lectures, films, slides, recorded speeches, and discussion.

Units: 3

AFRS 146. Law and the Minority Community

Critical analysis of the foundation and changing structure of law and legal institutions as perceived by minority communities, with emphasis on equal employment and education, criminal justice, and political power.

Units: 3

Course Typically Offered: Spring

AFRS 148. Issues in the African American Community

Prerequisite: AFRS 10 or permission of instructor. In-depth, comprehensive, critical analysis of the current social and economic structure of the African American community. Examination of the effects of institutional racism on current social policy.

Units: 3

AFRS 150. South Africa

Prerequisites: G.E. Foundationand Breadth Aread D. An introductory analysis of the social, racial, political, and economic problems of people of South Africa, both past and present. G.E. Multicultural/International MI.

Units: 3

Course Typically Offered: Spring

GE Area: M/I

AFRS 164. African Cultural Perspectives

This course explores the realities of the African cultural experiences through readings and films by Africans. The goal is to study the historical, political, economic, religious, and socio-cultural conditions of the continent in the pre-colonial, colonial, and postcolonial periods.

Units: 3

Course Typically Offered: Fall

GE Area: M/I

AFRS 165. African-American Theatre

(DRAMA 187 same as AAIS 165.) Performance, scene development, and dramatic styles consistent with the African American experience. Exploration of cross-cultural aesthetics as they inform creative development. Development of self-written or published scenes and plays. (Formerly AFAM 165)

Units: 3, Repeatable up to 6 units

AFRS 178. History of African Americans

(HIST 178 same as AFRS 178.)

Units: 3

AFRS 189. Fieldwork in Community Relations

Supervised field observation, participation, and documentation in the operation of minority communities.

Units: 3, Repeatable up to 6 units

Course Typically Offered: Spring

AFRS 190. Independent Study

See Academic Placement -- Independent Study. Approved for RP grading.

Units: 1-3, Repeatable up to 6 units

Course Typically Offered: Fall, Spring

AFRS 191. History of Allensworth

An examination of the historical development of the African American town of Allensworth from its status as a town to its existence as a state historic park. Students will be exposed to various academic disciplines through lectures and a field trip to the park.

Units: 1

Course Typically Offered: Spring

AMERICAN INDIAN STUDIES (AIS)

AIS 5. American Indian History
An interpretive survey of American Indian history from the native point of view including accounts of American Indian origin and the arrival of immigrants from Asia, Africa, and Europe.

Units: 3

AIS 9T. Topics in American Indian Studies
Selected topics at an introductory level in American Indian Studies.

Units: 1-3, Repeatable up to 9 units

AIS 50. Contemporary Life of the American Indian
Current problems of American Indians and Arctic Natives resulting from culture conflict, acculturation, minority status, and governmental policy. G.E. Breadth D3

Units: 3

GE Area: D3

AIS 65T. Topics in Indian Education
Foundations and history of Indian education, methods of teaching Indian children, curriculum and practices for Indian education, guidance for the Indian student, problems of teachers of Indian children, education of Indian adults.

Units: 3, Repeatable up to 9 units

AIS 90. Intro to American Indian Religion
Introduction to the concepts of religion and belief systems in American Indian societies. Examines American Indian religion as an integration of culture, geography, economic activity, social obligations and environmental responsibilities. Explores conflicts and adaptations with non-Native religious systems.

Units: 3

AIS 100. American Indian Religion
American Indian religious systems, including basic concepts of religion and the sacred, ceremonial life, medicine, functions of religious institutions and practices, and contrast/conflict with non-Native religious systems.

Units: 3

AIS 101. American Indian Law
Concepts of laws on Indian reservations, termination, litigation and complaints, strengthening tribal governments. Law related to Indian land and resources.

Units: 3

AIS 103. Indians of California
Prerequisite: G.E. Foundation and Breadth Area D. Survey course on the ancient cultures of California, historical development of California Indian cultures according to regional resources, conflict between the California Indian people and various colonial forces, arts and culture of California Indian people, and contemporary issues of California Indians.

Units: 3

GE Area: ID

AIS 160. The Politics of Indian Education
This seminar examines the interaction of politics, culture, and education, using case studies of federal financing of Indian education in the mission, Bureau of Indian Affairs, tribal, and public school systems.

Units: 3

AIS 170. Experience in American Indian Community
Offers students supervised field experience working for a tribe, tribal/Indian organization, tribal school or Indian education program, public agency, or the university's Indian organizations.

Units: 3, Repeatable up to 6 units

AIS 189. Fieldwork in Community Relations
Supervised field observation, participation, and documentation in the operation of minority communities.

Units: 3, Repeatable up to 6 units

AIS 190. Independent Study
See Academic Placement - Independent Study. Approved for RP grading.

Units: 1-3, Repeatable up to 6 units

AGRICULTURAL BUSINESS (AGBS)

AGBS 1. Introductory Agricultural Economics
Microeconomic principles of resource allocation, production, cost, and market price equilibrium with primary application to farms and agribusinesses. Supply and demand in commodity pricing under perfect and imperfect competition. Optimizing single variable input production function; total/marginal approaches to profit maximizing output. G.E.Breadth D3.

Units: 3

Course Typically Offered: Fall, SpringGE Area: D3

AGBS 2. Agricultural Sector Analysis
Domestic and international forces affecting industry profitability of farm input suppliers, agricultural producers, commodity processors, food marketers; government fiscal, monetary, trade policies interaction with agricultural credit, price support, food subsidy programs; inpact on agribusiness asset values, debt accumulation, income levels.

Units: 3

Course Typically Offered: Fall, Spring

AGBS 5. Survey of Agricultural Economics and Agribusiness
Orientation to agricultural sector, institutions, and historic farm problems. Basic economic concepts and business principles applied to management, marketing, finance, and trade. Consumer demand and producer supply functions. Competitive market price determination. Overview of resource, environmental, consumer, and farming issues and government policies.

Units: 3

Course Typically Offered: Fall

AGBS 28. Introductory Agricultural Law
Fundamentals of agricultural law including historical sources; leg-

islative laws and business ethics; administrative regulations, judicial decisions affecting agriculture; express and implied contracts with remedies for their breach in agricultural situations; real and personal property law plus secured transactions in agriculture.

Units: 3

Course Typically Offered: Fall, Spring

AGBS 31. Farm Accounting

Basic concepts and principles of financial accounting systems applied to farm operations; mechanics of recording single and double entry transactions under cash and accrual accounting methods; preparation and analysis of enterprise records and financial statements to generate management information.

Units: 3

Course Typically Offered: Fall, Spring

AGBS 32. Agribusiness Managerial Accounting

Prerequisite: AGBS 31 or ACCT 4A. Application and analysis of accounting information for farm and agribusiness management; integration of economic, and financial principles in preparing business plans; equipment cost control and crop enterprise accounting methods; capital investment and profit performance; introduction to computerized farm accounting systems. (2 lecture, 1 arranged)

Units: 3

Course Typically Offered: Fall, Spring

AGBS 71. Agricultural Business Statistics

Prerequisite: ELM requirement met. Study of statistical techniques and formal reasoning applications to management and social and agricultural sciences. Calculation, interpretation, critical evaluation, and historical relevance of quantitative tools, data analysis, and results including graphical presentations, descriptive and inferential statistics, hyphotheses formulation and testing, and regression.

Units: 3

Course Typically Offered: Fall, Spring

AGBS 76. Agribusiness Microcomputer Applications

Applied microcomputing for agribusiness management; use of spreadsheet, database management , and presentation software; applications to basic farm accounting and financial budgeting, farm production recordkeeping, and commodity price trend tracking.

Units: 3

Course Typically Offered: Fall, Spring

AGBS 78. Agribusiness Quantitative Analysis

Prerequisite: ELM requirement met. Functional relationships, marginal analysis and decision-making models in agribusiness; logic and probability in diagnosing problems, designing operations and achieving objectives; identification of procedures for efficient resource utilization.

Units: 3

AGBS 80. Undergraduate Research

Prerequisites: AGBS 1 and permission of instructor. Directed study or research on particular problems in the field of agricultural economics and business. Consult department policies and procedures governing undergraduate research. Approved for SP grading.

Units: 1-4

Course Typically Offered: Fall, Spring

AGBS 85T. Topics in Agricultural Business

Agricultural economics, farm management, agribusiness management, financial planning, agricultural development, public policy, product marketing, and decision analysis. Topics may require lab hours.

Units: 1-3, Repeatable up to 6 units

AGBS 100. Intermediate Agricultural Economics

Prerequisites: AGBS 1 and DS 71 or other MATH courses including MATH 70, 75, or 75A; student must have earned a C or better prior to enrolling in AGBS 100. Microeconomic theory of agricultural production in factor-product, factor-factor, product-product decisions; production costs and economies of size; consumer choice theory; price and output determination under imperfectly competitive markets; marginal productivity theory and the derived demand for agribusiness inputs.

Units: 3

Course Typically Offered: Fall, Spring

AGBS 109. Management of Agri-food Supply Chains

Prerequisites: AGBS 71 and AGBS 100; Functional and Institutional approach to agri-food supply chain management, understanding animal protein, commodity crop and produce supply chains, sustainable institutional relationships, logistics and transportation, technology management, supply chain coordination through contracts and negotiations, food safety risk and communication.

Units: 3

AGBS 110. Farm Management

Prerequisites: AGBS 31, AGBS 76, and AGBS 100. Production economics and management techniques for analysis of efficient farm resource use, planning and organization; analysis of budgeting and optimization techniques, and computer applications for developing farm management plans.

Units: 3

Course Typically Offered: Fall, Spring

AGBS 117. Agricultural Labor-Management Relations

Prerequisite: AGBS 1. Economic analysis of the farm labor market; labor productivity, agricultural mechanization and farm employment; farm labor laws and government regulations; agricultural labor relations, unionization, and collective bargaining; farm personnel administration practices and supervisory management principles.

Units: 3

AGBS 120. Agribusiness Management

Prerequisite: AGBS 1. Organizational forms and management functions of agribusiness firms; human resource management systems; management science principles for optimizing plant location, equipment replacement, inventory control, and sales volume; operations research techniques, including probability-based network and decision models, for solving agribusiness problems.

Units: 3

Course Typically Offered: Fall, Spring

AGBS 122. Agricultural Cooperative Management

Prerequisite: AGBS 120. Philosophical, historical, and legislative evolution of U.S. agricultural cooperatives; uniqueness of cooperative organization, planning, direction and control functions vis-a-vis standard corporations; legal, financial, and tax considerations in managing input-supply and marketing cooperatives; case studies and field trips to cooperatives.

Units: 3

AGBS 124. Food and Fiber Industry Management

Prerequisite: AGBS 1. Production management of farm input manufactures, agricultural commodity processing, food/fiber product distribution; functional approach to transformation/value-added operations including planning, organizing, directing, coordinating, controlling; case applications to materials handling, product development, food packaging, quality control, transportation logistics, inventory management.

Units: 3

AGBS 128. Agricultural Issues and Leadership

Explores the role of government, industry, and consumers in developing comprehensive and inclusive solutions to current agricultural and food issues. Develops leadership and communication skills for accomplishing group objectives. A field trip is required. (Formerly AGBS 185T)

Units: 3

AGBS 130. Agricultural Finance

Prerequisites: AGBS 2, AGBS 31, AGBS 76; AGBS 100 or instructor's permission. AGEC 32 recommended. Analysis of farm financial statements; legal instruments of financial transactions; institutional sources of farm credit; time value of money and capital budgeting for agricultural investment; cost of debt and equity capital; risk management strategies; insurance, tax, and farm estate planning.

Units: 3

Course Typically Offered: Fall, Spring

AGBS 131. Agricultural Capital Markets

Prerequisites: AGBS 2, AGBS 130. Public and private financial intermediaries as sources of agricultural capital; the Cooperative Farm Credit System; credit management policies and practices; government policy, the regulatory environment, and competitive financial markets; legal requirements and financial instruments; external equity capital; and lease financing. (Formerly AGEC 185T)

Units: 3

Course Typically Offered: Spring

AGBS 136. Farm and Ranch Appraisal

Prerequisites: AGBS 1. AGBS 110 or AGBS 110N recommended. Principles of agricultural appraisal; physical and economic factors affecting land values; estimation of real estate value using income, cost, and market data approaches; case studies and field problems involving the valuation of local farm and ranch properties.

Units: 3

Course Typically Offered: Fall

AGBS 140. International Agricultural Economics

Prerequisites: AGBS 1, AGBS 2, or ECON 50. U.S. agricultural sector in the global economoy; trade theory versus government protectionism; domestic farm programs impacts on commodity exports/imports; international agreements, multi-lateral institutions, foreign currency exchange rates, overseas investment; regulatory, fiscal, monetary policies affecting agribusiness competitiveness in world markets.

Units: 3

Course Typically Offered: Fall, Spring

AGBS 150. Agricultural and Food Policy

Prerequisite: AGBS 1; AGBS 2 or ECON 50. Analysis of public policies affecting the economics of U.S. and California agriculture; government programs influencing agricultural production, commodity distribution, market prices, farm income; environmental and natural resource issues; nutrition, food safety and biotechnology concerns; food industry regulation; international agricultural trade.

Units: 3

Course Typically Offered: Fall, Spring

AGBS 155. Environmental and Natural Resource Policy

Economic Analysis of public policies governing land use, water management, energy generation, mineral exploitation and forest administration; review of population pressures and resource conservation; examination of externalities, property rights issues, resource use planning, agricultural zoning, environmental regulations, and reclamation law. GE Integration I.D.

Units: 3

Course Typically Offered: Fall, Spring

GE Area: ID

AGBS 160. Agricultural Marketing Analysis

Prerequisite: AGBS 100 or permission of instructor. Commodity transformation and product flow through processing and distribution channels; market structure, conduct and performance; marketing system efficiency and marketing bill components; over supply, marketing orders, grading and standards, and price stabilization; price forecasting, futures market trading, and risk management.

Units: 3

Course Typically Offered: Fall, Spring

AGBS 162. Commodity Futures Trading

Prerequisite: AGBS 160 or permission of instructor. Study of commodity futures and options markets; speculative trading and techniques of fundamental and technical analyses; crop and livestock hedging strategies for commodity procurement and marketing; integrating options and futures trading for risk management; and development of futures trading plans.

Units: 3

AGBS 163. Agricultural Export Marketing

Prerequisite: AGBS 160 or permission of instructor. Determination of potential overseas markets for U.S. agricultural products

through export marketing studies; foreign business environment and distribution channels; product preparation and transportation abroad; cultural-specific promotional and advertising programs; international sales agreements, financial transactions, plus banking and shipping documentation.

Units: 3

Course Typically Offered: Spring

AGBS 164. Agribusiness Sales Management

Prerequisite: AGBS 1. Marketing management strategies for stimulating business and consumer demand for agricultural goods and services; food and fiber merchandising using institutional, functional, value approaches; sales program organization and staff development for effective communication of product information and timely completion transactions.

Units: 3

Course Typically Offered: Spring

AGBS 170S. Advanced Agribusiness Applications

Prerequisites: AGBS 110, AGBS 120, AGBS 130, AGBS 150, AGBS 160; upper-division writing skills requirement. Research methods applied to agricultural business in the areas of strategic management. Data collection and analysis using statistics and other techniques will be expected. Culminating activities may include commodity research analysis with price forecasting, development of a business plan, or case studies. A service learning project is expected of all students. (Formerly AGBS 170)

Units: 3

Course Typically Offered: Fall, Spring

AGBS 173. Wine Marketing

Introduction to basic marketing concepts such as pricing, promotion, packaging and place applied to the wine business. Sources of information and methods to conduct market research in the wine industry. Consumer trends, buyer behavior and the structure and legal environment will be discussed.

Units: 3

AGBS 180. Undergraduate Research

Prerequisites: senior standing and permission of instructor. Directed study or research on particular problems in the field of agricultural economics and business. Consult department policies and procedures governing undergraduate research. Approved for RP grading.

Units: 1-4

Course Typically Offered: Fall, Spring

AGBS 185T. Topics in Agricultural Business

Prerequisite: AGBS 1. Agricultural economics, farm management, agribusiness management, financial planning, agricultural development, public policy, product marketing, and decision analysis. Topics may require lab hours.

Units: 1-3, Repeatable up to 9 units

AGBS 185T. Agribusiness Communications

Students will be introduced to various types of professional agribusiness communications. Students will develop written and oral communications skills through the practice of letters, memos, emails, social media, reports, proposals, presentations, and interviews.

Units: 3, Repeatable up to 6 units

AGBS 185T. Agricultural Business Competitive Team Studies

This course covers subject matter that is directly related to materials learned in the agricultural business major. Areas of coverage include agricultural economic theory, agricultural marketing, agricultural finance and accounting, agricultural policy, quantitative methods and communication techniques. Case studies involving agricultural business will be explored. May be repeated up to four times for grade.

Units: 2, Repeatable up to 8 units

AGBS 192. Agricultural Business Field Studies

Prerequisite: AGBS 1. Business and economic functions performed by specialized agricultural agencies with emphasis on physical operating patterns. Field trips to production, marketing, and finance firms. Workshops with agribusiness managers. (1 lecture, 2 lab hours) (Field trip fees, $75)

Units: 2

AGBS 194. Agribusiness Internship

Prerequisites: junior standing. Emphasis on development of decision-making ability through industrial experience integrated with basic principles acquired in the classroom. Only 3 units of internship allowable in the major. CR/NC grading only.

Units: 1-3, Repeatable up to 6 units

Course Typically Offered: Fall, Spring

AGBS 280T. Topics in Agricultural Business

Prerequisite: AGBS 210. Classified standing or permission of instructor. Fields of study include: farm management, agribusiness management, financial planning, international agriculture, public policy, and product marketing.

Units: 3, Repeatable up to 6 units

AGBS 290. Independent Study

See Academic Placement -- Approved for SP grading.

Units: 1-3, Repeatable up to 6 units

AGRICULTURAL EDUCATION (AGED)

AGED 50. Orientation to Agricultural Education

An overview of Agricultural Education in California, including the principle components of Agricultural Education, developing academic and career plans, and observation in a secondary agricultural classroom. Two-hour lecture and three-hour school site observation laboratory. CR/NC grading only.

Units: 3

Course Typically Offered: Fall, Spring

AGED 66. Agricultural Communications

Agricultural news and information gathering and dissemination to food producers and consumers through print/broadcast media and computer networks; mass communications writing, editing, simulated videotape presentations (Formerly AGEC 66, 166)

Units: 3

Course Typically Offered: Spring

AGED 80. Undergraduate Research
Open to freshmen and sophomores with permission of instructor. Exploratory work on a suitable agricultural problem in agricultural education. Approved for RP grading.

Units: 1-4

Course Typically Offered: Fall, Spring

AGED 115. FFA Activities
Organization and administration of various FFA activities. Parliamentary procedure and meeting organization; committee work and structure.

Units: 2, Repeatable up to 4 units

Course Typically Offered: Spring

AGED 120S. Leadrship & Communications
Students will develop leadership skills, self-confidence, and oral and writtne communication skills. Also experience the benefits of volunteerism through participation in various service learning activities within their community industries, and the university. Approved for RP grading.

Units: 2, Repeatable up to 4 units

Course Typically Offered: Fall

AGED 135. Introduction to Agricultural Education
Survey of agricultural education in California, including qualifications for teaching agriculture, structure and content of vocational agriculture programs. Supervision of vocational youth organizations.

Units: 3

Course Typically Offered: Fall

AGED 150. Agricultural Resources and Computer Applications
Prerequisite: junior standing or permission of instructor; 12 upper-division units in the major. Development and application of techniques for obtaining and using resource materials including government documents, university and experiment station reports. Development of computer skills utilized in agricultural education. (2 lecture, 2 lab hours)

Units: 3

Course Typically Offered: Spring

AGED 160T. Topics in Agriculture
Prerequisites: junior standing and permission of instructor. Agricultural education. Topics may require lab hours.

Units: 1-4, Repeatable up to 6 units

AGED 160T. Professional Development in Agriculture
Development of communication skills, business etiquette, and improved lecels of professionalism. Students learn to organize and lead a professional meeting, create a resume and portfolio, and become better prepared to interview for internships and/or jobs.

Units: 3, Repeatable up to 9 units

AGED 160T. Introduction to Agricultural Leadership
Introduction to leadership theory and leadership models, application and reflection of personal leadership capabilities through self-assessments and experimental learning activities.

Units: 3, Repeatable up to 6 units

AGED 160T. Rodeo
Current knowledge, issues and concepts in the production of a rodeo. Planning and preparing to conduct a rodeo, participating in intercollegiate rodeo events and all aspects of rodeo are covered.

Units: 1

AGED 160Y. Professional Development in Agriculture
Development of communication skills, business etiquette, and improved levels of professionalism. Students learn how to organize and lead a professional meeting, create a resume and portfolio, and become better prepared to interview for internships and/or jobs.

Units: 3, Repeatable up to 6 units

AGED 166. Agricultural Publication Production
Application of various skills, including writing, editing and layout, in producing agricultural pulications with an emphasis on computer software applications for publishing.

Units: 3

Course Typically Offered: Spring

AGED 180. Undergraduate Research
Open to juniors or seniors with permission of instructor. Exploratory work on a suitable agricultural problem in agricultural education. Approved for RP grading.

Units: 1-4

Course Typically Offered: Fall, Spring

AGED 187. Organization, Administration, and Supervision of Agricultural Education
Prerequisite: senior standing. A study of the California and federal plans for vocational education as they pertain to agricultural education.

Units: 3

Course Typically Offered: Fall

AGED 189. Education in Agricultural Mechanics
Prerequisites: MEAG 1S; junior standing. Strategies for organizing, teaching, and administering educational programs in agricultural mechanics for youth and adults.

Units: 3

Course Typically Offered: Fall

AGED 190. Independent Study
See Academic Placement Independent Study. Approved for RP grading.

Units: 1-3, Repeatable up to 6 units

Course Typically Offered: Fall, Spring

AGRICULTURE - GRADUATE OR INTERDISCIPLINARY (AGRI)

AGRI 100H. JCAST Honors Seminar
Prerequisite: Acceptance into the JCAST Honors Program. Survey of critical issues and research in the interrelated fields of agriculture,food, and family. Emphasis on critical thinking and strategic problem solving. Lectures by faculty and agriculture leaders. Spring of junior year. S

Units: 3

Course Typically Offered: Spring

AGRI 101H. JCAST Honors Colloquium
Prerequisite: AGRI 100H. Refinement, completion, and presentation of Honors Thesis/Project.

Units: 3

Course Typically Offered: Spring

AGRI 200. Biometrics in Agriculture
Prerequisites: PLANT 99, AGBS 71, or MATH 101, or permission of instructor. Advanced concepts in the design of agricultural experiments. Emphasis is placed on the selection of appropriate designs to meet the objectives of well-planned experiments. Relative merits of various designs and topics in analysis, interpretation, and regression are covered.

Units: 3

AGRI 201. Agricultural Laboratory Techniques
Prerequisite: One of the following courses: BIOL 161; CHEM 105, CHEM 129A, CHEM 151; FSC 115. Agricultural problem solving through the application of advances in laboratory technology, crop management, foods, nutrition, soil and water quality. Theory and practice operation of scientific instruments and techniques are taught. Student defined project and report required. (2 lecture, 3 lab hours)

Units: 3

AGRI 220. Research Methodology and Communications
Critical literature review, quantitative and qualitative research design, scientific writing, questionnaire design and use, and presentation of research results. Ethical research issues examined. Approved for RP grading.

Units: 3

AGRI 280. Seminar in Agricultural Education
Maximum total credit 9 units in any given area or any combination of the three areas. Prerequisite: permission of instructor; admission to teacher preparation program; bachelor's degree in agriculture. Advanced problems in agriculture; research and experimentation in a selected area: animal science, plant science, or agricultural mechanics. Approved for RP grading.

Units: 1-3, Repeatable up to 9 units

AGRI 281. Problems in Agricultural Education
Prerequisite: graduate standing. Individual supervised research in agricultural education; appropriate reports and evaluation required. Individual conferences.

Units: 1-3

AGRI 298. Project
Prerequisite: See Criteria for Thesis and Project. Completion of an approved project appropriate to the candidate's area of specialization. A written report and a presentation to candidate's committee is required. Approved for RP grading.

Units: 2-4

AGRI 300. Integrating Agriculture Across the Curriculum
This course is designed to help public school teachers integrate agriculture into the academic classroom. Emphasis will be on makine science, math, language arts, social science, history and technology more exciting and meaningful for pre-kindergarten through 12th grade students. Teachers will experience first hand a variety of agricultural resources available to them and learn how to locate, select and utilize agricultural topics to enhance the curriculum. Six additional hours of individual work is required beyond the instructional time, for preparing agricultural instructional materials.

Units: 2, Repeatable up to 6 units

ARTS & HUMANITY - INTERDISCIPLINARY (AH)

AH 100H. Arts & Humanities Honors Seminar
Investigation of Arts and Humanities issues such as: communication of ideas, language, theatrical and musical expression, myth, memory, identity (gender, race, nationality), reason, and emotion, love and sex, violence and war, nature and the environment, and happiness. (Formerly HUM 101T).

Units: 3

Course Typically Offered: Spring

AH 101H. Arts & Humanities Honors Colloquium
Refinement, completion, and presentation of Honors Thesis/Project. (Formerly HUM 101T).

Units: 3

Course Typically Offered: Fall, Spring

AH 116. Humanities of the Modern Era
An examination of art, literature, philosophy, and music and their interrelationships in the Western world during the 19th and 20th centuries up to the present day. (Formerly INTD 116).

Units: 3

ANTHROPOLOGY (ANTH)

ANTH 2. Introduction to Cultural Anthropology
Examines the nature of culture, humanity's unique mechanism for adapting to the changing environment. Explores the varieties of human life and explains how culture has made possible the range of different and successful societies, from hunters and gatherers to industrial civilization. G.E. Breadth D3. (CAN ANTH 4)

Units: 3

Course Typically Offered: Fall, Spring

GE Area: D3

ANTH 3. Introduction to Prehistory and Physical Anthropology

Examines the biological and cultural basis of being human. Compares us with our primate relatives, traces the biological and cultural evolution of our species from earliest ancestors, through the development of agriculture to the emergence of civilization. G.E. Breadth D3.

Units: 3

Course Typically Offered: Fall, Spring

GE Area: D3

ANTH 30. Critical Thinking in Anthropology

Distinguish belief vs. knowledge and fact vs. opinion; examine relationship between language/logic; use inductive/deductive reasoning; recognize informal/formal fallacies; appreciate socio-cultural context of critical thinking. These skills are applied to topics of race/intelligence, religion/values, and social policy. Skills demonstrated/assessed through oral and written performance. G.E. Foundation A3.

Units: 3

Course Typically Offered: Fall, Spring, Summer

GE Area: A3

ANTH 100. Concepts and Applications

This foundation course demonstrates the use of selected core concepts in research and analysis. Acquaints students with the conceptual framework of the discipline and the basic processes of anthropological inquiry and application of knowledge. (Formerly ANTH 103)

Units: 3

Course Typically Offered: Fall

ANTH 101. Introductory Fieldwork in Archaeology

An introduction to basic methods for archeological excavation and site survey. The Involves a block of time in the field away from campus. Can be repeated up to two times for credit. (Class fee $75).

Units: 3-6, Repeatable up to 12 units

Course Typically Offered: Spring

ANTH 101B. Advanced Fieldwork in Archaeology

Advanced methods and strategies for archeological excavation and site survey. The course will involve a commitment by students of a block of time in the field away from campus. Not open to studnets who have taken 101B-S.

Units: 6

Course Typically Offered: Spring

ANTH 102. Introduction to Linguistic Anthropology

A compendium of current thinking on language and culture from a variety of interdisciplinary perspectives. Examines the nature of language, language description, language and worldview, gendered speech, ethnicity and language, power and performance, verbal and nonverbal art, and associated theories and research methods.

Units: 3

Course Typically Offered: Spring

ANTH 104. History and Theory of Anthropology

Prerequisite: ANTH 100. A history of the growth of anthropological thought through an analysis of the informational and explanatory powers of five major theoretical schools: Nineteenth-century Evolutionists, British Functionalists, Boasian Historical Particularists, Neo-Evolutionists/Marxists, and Cognitivists.

Units: 3

Course Typically Offered: Spring

ANTH 105W. Applied Anthropology

Prerequisite: G.E Foundation and Breadth Area D, satisfactory completion (C or better) of ENGL 5B or ENGL 10 graduation requirement, to be taken no sooner than the term in which 60 units are completed. Examination and assessment of the use of anthropological data and concepts to address contemporary issues in education, health care, law, environmental planning, and social services. Students work on applied problems and write observations, plans, reports, and research documents geared to the needs of professionals, service providers, and particularly planners in modern institutional contexts. (Formerly ANTH 144W)

Units: 3

Course Typically Offered: Fall, Spring, Summer

GE Area: M/I

ANTH 111. Ethnographic Fieldwork

An introduction to ethnographic field methods. Topics include the ethics of fieldwork, organizing data, and ethnographic writing. Students will conduct fieldwork on cultural locally. Can be repeated up to four times for credit.

Units: 3, Repeatable up to 12 units

ANTH 111B. Intermediate Ethnographic Fieldwork

Prerequisite ANTH 111A. Students conduct an enthnographic field project under the direction of the instructor, employing participant observation. Involves field trips and weekend sessions. Involves a commitment of a block of time away from campus. Not open to students who have taken 111B-S.

Units: 3

Course Typically Offered: Spring

ANTH 115. World Cultures

An examination of contemporary issues in anthropology based on evidence from both classical and modern ethnographies. Considers strategies of qualitative research and reporting, including ethics and the application of ethnographic research in modern societies. (Formerly ANTH 129T)

Units: 3

Course Typically Offered: Spring

ANTH 116W. Anthropology of Religion

Prerequisites: G.E. Foundation and Breadth Area D, satisfactory completion (C or better) of the ENGL 5B or ENGL 10 graduation requirement, to be taken no sooner than the term in which 60 units are completed. Examines the patterned belief systems of the world's tribal, peasant, and sectarian societies. Stresses the role of religion in individual and group perception, cognition, ritual, and social organization. Topics include myth, magic, shamanism, mysticism, witchcraft, trance, hallucinogens, and cultism. Meets the upper-division writing skills requirement for graduation. G.E. Integration ID. (Formerly ANTH 150W)

Units: 3

Course Typically Offered: Fall, Spring, Summer

GE Area: ID

ANTH 117. Anthropology of Health, Illness, and Healing

A cross-cultural examination of health practices and cultural assumptions on which they are based. Reviews ethnomedicine, ethnopsychiatry, and epidemiology in the health care systems of diverse cultures and of ethnic communities in pluralistic societeis such as the United States. (Formerly ANTH 155)

Units: 3

Course Typically Offered: Spring

ANTH 118. Women: Culture and Biology

(ANTH 118 same as WS 170.) A cross-cultural and interdisplinary analysis of the determinants of female statuses and circumstances. Examines theories, including biological and cultural determinism, which explain variations in the expression of sexuality, maturation, reproduction, and the life cycle. (Formerly ANTH 170)

Units: 3

Course Typically Offered: Fall

ANTH 119. Law and Culture

A comparative, holistic perspective on the evolution of law. Examines its natures and origins, the basic assumptions behind legal systems, their cross-cultural expression and effects, and the directionality of legal evolution. (Formerly ANTH 146)

Units: 3

Course Typically Offered: Spring

ANTH 120. Ethnic Relations and Cultures

Prerequisite: G.E. Foundation and Breadth Area D. The cultural and social origins of ethnicity, and its opportunities and problems for contemporary mass societies. Offers a critical review of major theories on ethnic politics, economics, and ideology in the light of cross-cultural evidence. G.E. Multicultural/International MI. (Formerly ANTH 172)

Units: 3

Course Typically Offered: Spring

GE Area: M/I

ANTH 123. Peoples and Cultures of Southeast Asia

Prerequisite: G.E. Foundation and Breadth Area D. An introductory survey of the cultural and historical adaptations of societies in Burma, Thailand, Laos, Cambodia, and Vietnam; and of Insular societies in Indonesia, Malaysia, and the Philippines. Examines the major effects of culture contact between East and West. G.E. Multicultural/ International MI.

Units: 3

Course Typically Offered: Fall

GE Area: M/I

ANTH 124. Peoples and Cultures of East Asia

Examines cultural pluralism. Considers cultural adaptations and change among minorities such as Moslems, Tibetans, and Mongolians in China, and ethnic groups of Japan and Korea. Outlines kinship, religion, organization, and technological factors in the Asiatic culture complex.

Units: 3

Course Typically Offered: Spring

ANTH 125. Tradition and Change in China and Japan

(ANTH 125 same as HUM 140.) Examines the current aspirations and problems of the Chinese and Japanese in terms of their traditional cultures, and explains how their histories, values, world views, and intellectual traditions affect their lifestyles and their international relations today.

Units: 3

Course Typically Offered: Spring

GE Area: M/I

ANTH 128. Environmental Anthropology

Examines the interactions between environment and human culture. Specific topics include theoretical and empirical trends in environmental anthropology, materialist and cognitive approaches to human-environment interactions, human culture in ecosystem perspective, religion and ecology, and contemporary environmental movements.

Units: 3

Course Typically Offered: Fall

ANTH 130. Peoples and Cultures of the Southwest

A survey of Native American cultures of the Southwestern United States and Northwestern Mexico from their prehistoric origins to the present. Emphasis is placed on cultural continuity and change during the past 400 years of contact with western culture. (Formerly ANTH 127)

Units: 3

Course Typically Offered: Fall

ANTH 135. Muslim Communities in the Middle East

A survey of both rural and urban Muslim cultures and societies in the Middle East. Emphasizes the variety of lived experiences of Islam, gender and ethnic relations, and the impact of the West.

Units: 3, Repeatable up to 12 units

Course Typically Offered: Fall

ANTH 138T. Topics in Cultural Anthropology

Prerequisite: varies with title. Special studies in the theory and practice of organized cooperation and conflict in nature and culture. (Formerly ANTH 149T)

Units: 1-6, Repeatable up to 12 units

Course Typically Offered: Fall, Spring

ANTH 140. Contemporary Archaeology

Examines archaeological theory (both historical and contemporary) as well as methods and techniques used by archaeologists to gather, analyze, and interpret data. (Formerly ANTH 106)

Units: 3

Course Typically Offered: Fall

ANTH 141. Prehistory of North America

Traces the development of Native American cultures from the Arctic to Mesoamerica, from the peopling of the continent to early historic times. Examines the archaeological evidence for the antiquity, spread, and variation of cultural adaptations to changing ecological conditions. (Formerly ANTH 131)

Units: 3

ANTH 142. Old World Prehistory

Examination of current knowledge of the prehistory of one area of the Old World. Chronologies, current findings, and important issues in theory method are reviewed. Consideration of these matters in relation to work in archaeology throughout the world and to work in closely related disciplines such as biology and geology. Some historic archaeology may also be included. Areas include Europe, Asia, the Middle East, Africa, and Australia. (Formerly ANTH 132)

Units: 3

ANTH 143. Archaeology and Prehistory of California

Origins and prehistory of the California Native Americans. Examination of the archaeological record, both statewide and regionally, with emphasis on adaptations to natural and social environments from 12,000 B.P. until early historic times. (Formerly ANTH 139T)

Units: 3

ANTH 145. Cultural Resources Management

Prerequisites: G.E. Foundation and Breadth Area D. Provides an in-depth overview of historic and prehistoric cultural resources (districts, sites, buildings, and objects), their significance, and their management in the U.S. Topics include the legal context for CRM, identifying and evaluating cultural resources, assessing effects, treatment planning, and careers in CRM. G.E. Integration ID. (Formerly ANTH 139T)

Units: 3

Course Typically Offered: Fall

GE Area: ID

ANTH 159T. Topics in Archaeology

Prerequisite: varies with title. Special studies in archaeological methods, techniques, history and theory, or of prehistoric culture areas not covered in the regular curriculum. (Formerly ANTH 139T)

Units: 1-6, Repeatable up to 12 units

Course Typically Offered: Fall, Spring

ANTH 161. Bio/Behavioral Evolution of the Human Species

Prerequisite: G.E. Foundation and Breadth Area B. Examines the evolution of the human species and its relationship to living and extinct primates. Explores the biological basis of human culture. Integrates evolutionary biology, geochronology, and anthropology in order to understand the bio/behavioral nature of modern man. G.E. Integration IB.

Units: 3

Course Typically Offered: Fall, Spring

GE Area: IB

ANTH 162. Primates

An introduction to the study of primate biological and behavioral evolution. Explores sociobiological theory in order to explain the unity and diversity of social behavior in prosimians, monkeys, and apes.

Units: 3

Course Typically Offered: Fall

ANTH 163. Human Variation

A cross-cultural examination of variations in human morphology, physiology, and biochemistry. Establishes the correlation between variations in human biology and variations in climate, culture, nutrition, and disease.

Units: 3

Course Typically Offered: Fall

ANTH 164. Human Osteology

Introduces a range of analytic techniques for extracting information from human skeletal remains: sexing and aging, osteometry, odontometry, the examination and diagnosis of epigenetic traits and pathological lesion, and the statistical interpretation of skeletal data.

Units: 3

Course Typically Offered: Spring

ANTH 169T. Topics in Physical Anthropology

Special studies of the discovery and interpretation of information in physical anthropology, and of the application of this subdiscipline in legal, medical, and scientific research.

Units: 1-6, Repeatable up to 12 units

Course Typically Offered: Fall, Spring

ANTH 190. Independent Study

See Academic Placement --+ Independent Study. Approved for RP grading.

Units: 1-3, Repeatable up to 6 units

Course Typically Offered: Fall, Spring

ANTH 192. Directed Readings

Supervised reading on a student-selected topic outside the regular curriculum, conducted through regular consultation with a faculty sponsor.

Units: 1-3

Course Typically Offered: Fall, Spring

ANTH 193. Internships in Anthropology

Interns will work on a variety of tasks involving the analysis and curation of archaeological collections; design and curation of museum displays; the collection and analysis of physical anthropological data, including working with primates at local zoos; and ethnographic data collection. (Formerly ANTH 109)

Units: 1-6

Course Typically Offered: Fall, Spring

ANTH 194. Honors Thesis

Development of a student report or paper into a manuscript of professional and publishable quality. Requires approval by an Honors Committee of three faculty members. (Formerly ANTH 199)

Units: 1-3

Course Typically Offered: Fall, Spring

ANTH 195. Colloquium

Each spring semester students and department faculty will meet

three times to discuss current problems in the field of anthropology. These three hour seminars will be led by a faculty member. Students will be expected to do all assigned readings and complete a paper on one of the topics discussed.

Units: 1

Course Typically Offered: Fall

ANTH 197T. Current Topics in Anthropology

Subject matter of these courses combines topics from the various subfields of anthropology, providing the student with a more integrated view of the discipline.

Units: 1-6, Repeatable up to 12 units

Course Typically Offered: Fall, Spring

ARABIC (ARAB)

ARAB 1A. Elementary Arabic A

Beginning course in modern Arabic focusing on elementary conversational and written Arabic and cultural traditions of Arabic speaking people. (Formerly LING 40T). G.E. Breadth C2.

Units: 4

Course Typically Offered: Fall

GE Area: C2

ARAB 1B. Elementary Arabic B

Prerequisite: ARAB 1A or consent of professor. Second semester course in modern Arabic focusing on further developing conversational and written skills, vocabulary, and grammar. Cultural heritage of Arabic speaking people is also studied with emphasis on poetry as an important cultural expression. G.E. Breadth C2.

Units: 4

Course Typically Offered: Spring

GE Area: C2

ARAB 2A. Intermediate Modern Arabic 2A

Prerequisite: Arabic 1B or consent of instructor. First semester intermediate course on modern standard Arabic focusing on grammar and developing writing, reading, and speaking skills. Cultural heritage of Arabic speaking people is also studied with emphasis on Arabic contempoarary poetry and prose.

Units: 3

Course Typically Offered: Fall

ARAB 2B. Intermediate Modern Arabic 2B

Prequisite: Good working knowledge of Arabic or consent of instructor. Second course in Intermediate Arabic focusing on developing proficiency in conversational, written, and reading skills. The cultural heritage of the Arabic speaking world is also studied with emphasis on Arabic classical and contemporary peotry and prose. S

Units: 3

Course Typically Offered: Spring

ARMENIAN (ARM)

ARM 1A. Elementary Armenian

Beginning course in conversational and written Armenian. Not open to students with two or more years of high school Armenian credit.

Units: 4

GE Area: C2

ARM 1B. Elementary Armenian

Prerequisite: G.E. Foundation A2, ARM 1A or permission of instructor. Second semester course in conversational and written Armenian. Not open to those with three or more years of high school Armenian credit. G.E. Breadth C2.

Units: 4

GE Area: C2

ARM 2A. Intermediate Armenian

Prerequisites: G.E. Foundation A2, ARM 1B or permission of instructor. Review of grammar and emphasis on conversation and reading. G.E. Breadth C2.

Units: 3

GE Area: C2

ARM 2B. Intermediate Armenian

Prerequisites: ARM 2A or permission of instructor. Advanced conversation, composition, and reading.

Units: 3

ARM 148. Masterpieces of Armenian Culture

Prerequisites: G.E. Foundation and Breadth Area C. Survey of outstanding examples of Armenian culture including literary works by Naregatsi, Toumanian, Siamanto, Varoujean, and others. Survey of Christian Armenian architecture and music. G.E. Integration IC.

Units: 3

GE Area: IC

ARM 190. Independent Study

See Academic Placement - Independent Study. Approved for RP grading.

Units: 1-3, Repeatable up to 6 units

ARMENIAN STUDIES (ARMS)

ARMS 10. Introduction to Armenian Studies

Introduction to the historical and contemporary experience of Armenians in American society. Examines issues of identity, ethnicity, immigration, genocide, and cultural heritage in the United States. G.E. Breadth D3.

Units: 3

GE Area: D3

ARMS 20. The Arts of Armenia

An introduction to Armenian architecture, painting, sculpture, ceramics, metal work, and textiles. All lectures are illustrated with slides. G.E. Breadth C1.

Units: 3

GE Area: C1

ARMS 20H. Arts of Armenia
Introduces Armenian architecture,painting, sculpture, ceramics, metal work and textiles. G. E. Breadth C1.

Units: 3

GE Area: C1

ARMS 45. William Saroyan
The ethnic experience in America, especially the San Joaquin Valley, through the writings of William Saroyan. The author's major literary successes will be read and compared with films made of these same works. Writing assignments of at least 2,500 words.

Units: 3

ARMS 50T. Studies in Armenian Literature
Various masterpieces of Armenian literature: David of Sassoun, Saroyan, historical literature, modern literature, Armenian American authors.

Units: 3

ARMS 105. Armenian Genocide in Comparative Context
(ARMS 105 same as HIST 105.) Review of theory and characteristics of genocide. Study of the Armenian Genocide as an example and show comparison with other genocides in the 20th century. Discusses role of international constituencies and prevention and lessons of genocide. (Formerly HIST 109T section)

Units: 3

ARMS 106. Armenians in North America
(ARMS 106 same as HIST 106). Study of six waves of Armenian migrations to North America from 1870-1995. Topics discussed include entry, settlement, work, family, community organizations, church, politics, culture, and integration in U.S. society. (Formerly ARMS 120T section)

Units: 3

ARMS 108A. Armenian History I: Ancient and Medieval
(HIST 108A same as ARMS 108A.) History of Armenia and Armenians from prehistoric times to the beginning of the modern era. The historical process will be considered from Armenia's point of view as well as from that of its neighbors: Assyria, Iran, Rome, Byzantium, the Arabs, the Seljuk Turks, the Crusades, the Mongols, and various Turkish dynasties.

Units: 3

ARMS 108B. Armenian History II: Modern and Contemporary
(HIST 108B same as ARMS 108B.) Overview of modern and contemporary Armenian history, including Armenia's relations with Persian, Turkish, and Russian empires, the Armenian Renaissance, the "Armenian Question," the Genocide, the Armenian Republic, Soviet Armenia, the Second Armenian Republic, and diasporan communities in America, Europe, and the Middle East.

Units: 3

ARMS 120T. Topics in Armenian Studies
Specialized topics in Armenian history, art, and culture, not normally covered in other Armenian Studies courses. Topics include the Armenian church, minor arts, film, the Diaspora, and the Genocide.

Units: 1-3, Repeatable up to 6 units

ARMS 120T. Armenian Cultural History
This course focuses on the cultural history of Eastern Anatolia, Armenia, and the Caucasus in the 12th - 14th century. During this period, the region passed under the control of the various Empires, and witnessed the rise of the Georgian kingdom. This course highlights continuities of socioeconomic institutions and practices as well as the emergence of regional norms that created a degree of stability in a highly dynamic period. Topics to be examined will include: demographic changes, processes of urbanization and social mobility, evolutions in gender and class roles, inter-communal relations between faiths, and the visual representation of power and legitimacy.

Units: 3, Repeatable up to 6 units

ARMS 120T. The Armenian Genocide and its aftermath
Genocide has an impact that reberberates across generations and geographies long after the systematic killing stops. This course focuses on the organization and implementation of the Armenian Genocide, humanitarian and armed resistance to it, and the long shadow of the crime. The course explores the Ottoman setting where the genocide was executed, Armenian cultural, social, and political life; and various aspects of the Genocide, including official Turkish denial of the Genocide.

Units: 3, Repeatable up to 6 units

ARMS 121. Armenian Painting
History and development of Armenian painting with special concentration on the art of manuscript illumination and the origins of Christian art. All lectures are illustrated with slides.

Units: 3

ARMS 123. Armenian Architecture
History and development of Armenian architecture is presented in the context of early Christian architecture. There will be a survey of monuments from the fourth to the 17th centuries. All lectures are illustrated with slides.

Units: 3

ARMS 190. Independent Study
See Academic Placement - Independent Study. Approved for RP grading.

Units: 1-3, Repeatable up to 6 units

ARMS 190H. Honors Independent Study
Designed for advanced undergraduate students who have successfully been admitted into the Armenian Studies Honors Program. Students will work closely with assigned faculty to develop a research proposal and to complete an honors thesis ready for publication.

Units: 3

ART (ART)

ART 1. Art Forms

Slide lecture-discussion. An introduction to art/seeing and appreciating the visual world around us. G.E. Breadth C1. (Course fee, $5)

Units: 3

Course Typically Offered: Fall, Spring

GE Area: C1

ART 13. Design

Exploration of basic art concepts through two- and three-dimensional design problems. Field trips may be required. G.E. Breadth E1. (6 lecture-lab hours)

Units: 3

Course Typically Offered: Fall, Spring

GE Area: E1

ART 14. 3 Dimensional Design

The course introduces students to the basic elements and principles of 3D design (6 lecture-lab hours). Students will develop the ability tp apply these elements and principles to their own design or artwork within the context of a given project. Prerequisite: ART 13.

Units: 3

Course Typically Offered: Fall, Spring

ART 20. Drawing

Introductory experiences in drawing using observation, imagination, and expressive means. Fundamentals of form, space, techniques, and composition will be studied. G.E. Breadth C1. (6 lecture-lab hours) (CAN ART 8)

Units: 3

Course Typically Offered: Fall, Spring

GE Area: C1

ART 21. Figure Drawing

Introductory course in the basic concepts of figure drawing problems and techniques. Drawing from the nude model, both male and female, is basic to this course. (6 lecture-lab hours) (Course fee, $35)

Units: 3

Course Typically Offered: Fall, Spring

ART 24. Printmaking

Introduction to the printmaking processes of intaglio, lithography, and woodblock printing. (6 lab hours) (Course fee, $50)

Units: 3

Course Typically Offered: Fall, Spring

ART 26. Intaglio Processes

Studio class offering in printing in the intaglio process using such techniques as etching, drypoint, aquatint, and soft-ground on metal plates. Printing in black ink as well as color will be covered. (6 lab hours) (Course fee, $30)

Units: 3

ART 27. Screenprinting

Investigation into techniques of printing with a screen. Paper, film, tusche, and glue techniques for creating printing stencils will be covered. (6 lab hours) (Course fee, $50)

Units: 3

Course Typically Offered: Fall

ART 30. Introduction to Photography

Introductory course in photography. Basic theoretical and practical aspects of the photographic process as an art form. Introduction to historical and contemporary photographic practices in art. Digital camera with adjustable aperture and shutter speed controls required. (6 lecture-lab hours) (Course fee $25) FS (CAN ART 18)

Units: 3

Course Typically Offered: Fall, Spring

ART 35. Historic and Contemporary Issues in Photography

Introduction to the history of photography from the early 19th century to the present. Examines contemporary issues in photography and the role of photography as a social commentary on culture as an approach to cultivate lifelong learning.

Units: 3

ART 37. Introduction to Computer Art

Prerequisites: ART 13. Introduction to the practice of creating art through the use of the computer. Integrates concepts from painting, drawing, design, and computer-specific processes. (6 lecture-lab hours)(Course fee: $35)

Units: 3

Course Typically Offered: Fall, Spring

ART 40. Painting

Introduction to painting processes through creative experiences and critiques. Emphasis on concepts and processes of contemporary painting. G.E. Breadth C1. (6 lecture-lab hours) (CAN ART 10)

Units: 3

Course Typically Offered: Fall, Spring

GE Area: C1

ART 45. Watercolor

Introduction to techniques in watercolor painting with emphasis on transparencies. (6 lecture-lab hours)

Units: 3

ART 50. Beginning Sculpture

Introductory course in the experiential application of the methods and materials of sculpture. Creative expression and exploration of sculptural form through ideas and aesthetic concepts. Studio safety. G.E. Breadth C1. (6 lab hours) (Class fee, $25)

Units: 3

Course Typically Offered: Fall, Spring

GE Area: C1

ART 60. Beginning Ceramics

A survey of ceramic materials and their functions in the arts. Basic studio practices in the handbuilding processes, glazing, and throwing on the potter's wheel. (6 lab hours) (Course fee, $30)

Units: 3

Course Typically Offered: Fall, Spring

ART 60UNTRK. Beginning Ceramics
A survey of ceramic materials and their functions in the arts. Basic studio practices in the handbuilding processes, glazing, and throwing on the potter's wheel. (6 lecture-lab hours) (UNITRACK)

Units: 3

ART 70. Crafts
Fundamental exploration of several media (may include any of fiber, wood, leather, clays, paper) with emphasis on understanding the potential of the various materials for crafts. Field trips may be required. (6 lecture-lab hours)

Units: 3

Course Typically Offered: Spring

ART 80. Beginning 3D Digital Art - Modeling
Prerequisite: ART 37 or GD 37 or permission of the instructor. Recommended ART 14 or ID 112. Introduction to three-dimensional digital modeling, texturing, lighting, and rendering in a fine arts context using Autodesk Maya. Intermediate rendering topics are included. (6 lecture-lab hours)

Units: 3

Course Typically Offered: Fall

ART 100T. Topics in Art
Specific lecture area not normally covered in regular course offerings or in art history. Topics may include but are not limited to: African American art, Chicano art, cinema art, urban aesthetics, formalism in art, economics of art, careers in art, portfolio preparation.

Units: 1-3

ART 100TZ. London Art Tours
Units: 1, Repeatable up to 3 units

ART 101. Content and Form
Introduces students to the problems of the modern/postmodern debate through first, a historical analysis of structuralism and poststructuralism, and second, the application of these ideas to art production.

Units: 3

Course Typically Offered: Fall, Spring

ART 102. Ideas of Visual Culture: Art, Media, and the Computer
Prerequisites: G.E. Foundation and Breadth Area C. Overview of ideas in visual culture and critical theory. Examines visual culture in the form of video, film, new works in visual art, the computer, and visual spectacles in contemporary culture. G.E. Integration IC. (3 lecture/lab hours)

Units: 3

GE Area: IC

ART 106. Art Tours
Explore the extraordinary art and artistic experience in California by touring museums and galleries in Los Angeles and San Francisco. Two weekend trips include exposure to diverse collections of art in the state. (Course fee, $220)

Units: 3, Repeatable up to 6 units

Course Typically Offered: Spring

ART 107. 2-D Computer Art & Animation
Prerequisites: ART 20 or ID 43, ART 37 or GD 37, or permission of instructor. Building upon digital imaging with an emphasis in animation and time-based digital processes. (6 lecture-lab hours) (Course fee, $35)

Units: 3, Repeatable up to 9 units

Course Typically Offered: Fall, Spring

ART 109T. Topics in Studio Art
Prerequisite: permission of instructor. Specific advanced studio processes not normally covered in regular course offerings. Areas offered may be drawing, painting, ceramics, sculpture, photography, printmaking, design, crafts, motion-picture, art education, computer graphics. (6 lecture-lab hours)

Units: 1-3

ART 109T. Pre-Columbian Art of West and Northern Mexico
Survey of the pre-Columbian art of west and north Mexico, including the shaft tomb cultures of Colima, Jalisco, and Nayarit, the Teuchilar tradition of Jalisco, the Tarascan empire of Michoacan, the Chalchihuites culture of Zacatecas and Durango, the Huastec of San Luis Potosi, the Azatlan art of Sinaloa, and Casas Grandes in Chihuahua.

Units: 3, Repeatable up to 6 units

ART 112. Gallery Techniques
Introduction to museum practices related to exhibition selection, design, and installation techniques. Field trips, lectures, projects, and critiques. (6 lecture-lab hours)

Units: 3, Repeatable up to 9 units

Course Typically Offered: Fall, Spring

ART 113. Design
Prerequisite: ART 13. Continuation of the exploration of two- and three-dimensional design problems. (6 lecture-lab hours)

Units: 3, Repeatable up to 9 units

Course Typically Offered: Fall, Spring

ART 116. Interaction of Color
Prerequisite: ART 13. Interaction of color as developed by Joseph Albers; basic design principles in connection with color work. (6 lecture-lab hours)

Units: 3, Repeatable up to 9 units

Course Typically Offered: Fall, Spring

ART 117. 3-D Computer Art & Animation
Prerequisites: ART 14 or ID 112; ART 107. ART 50 recommended. Introduction to 3-dimensional computer art integrating modeling, lighting, rendering, and animation. (6 lecture-lab hours) (Course fee, $35)

Units: 3, Repeatable up to 9 units

ART 120. Drawing
Prerequisite: ART 20. Investigation of advanced concepts through the techniques of the drawing medium. (6 lecture-lab hours)

Units: 3, Repeatable up to 9 units

Course Typically Offered: Fall, Spring

ART 120T. Portfolio Preparation
Units: 1

ART 121. Figure Drawing
Prerequisite: ART 21. The human figure and its relevancy to advanced drawing concepts and techniques, emphasis on individual exploration in studio problems. Drawing from the nude model, both male and female, is basic to this course. (6 lecture-lab hours) (Course fee, $35)

Units: 3, Repeatable up to 9 units

Course Typically Offered: Spring

ART 125. Lithography
Prerequisite: ART 24. Studio class designed for advanced work in stone and metal plate printing in both black as well as color inks. Emphasis placed on imagery development. (6 lab hours) (Course fee, $50)

Units: 3, Repeatable up to 9 units

Course Typically Offered: Fall

ART 126. Intaglio Processes
Prerequisite: ART 24 or ART 26. Studio class designed to offer advanced work in intaglio printing processes such as etching, drypoint, and aquatint in black ink as well as color. Multiple plate printing will also be covered. Emphasis placed on imagery development. (6 lab hours) (Course fee, $50)

Units: 3, Repeatable up to 9 units

Course Typically Offered: Spring

ART 127. Screenprinting
Prerequisite: ART 27. Investigation into techniques of screenprinting. Paper, film, tusche, glue, and photo techniques for creating printing stencils will be covered. Emphasis placed on imagery development. (6 lab hours) (Course fee, $50)

Units: 3, Repeatable up to 9 units

Course Typically Offered: Fall

ART 130. Intermediate Black and White Photography
Prerequisite ART 30 or equivalent and permission of the instructor. Emphasis on black and white photography in the darkroom. Increased exploration into the medium for individual expression and discovery. Further studies in photographic history, theory and contemporary issues (6 lecture-lab hours) (Class fee, $55) FS

Units: 3, Repeatable up to 9 units

Course Typically Offered: Fall, Spring

ART 133. Alternative Approaches to Digital Imagery
Prerequisite: ART 30 & ART 37 or equivalent. Approaches to non-traditional photography and the manipulated image in digital photography with an emphasis on producing personal imagery. (6 lecture-lab hours) (Class fee, $50).

Units: 3, Repeatable up to 6 units

ART 140. Intermediate Painting
Prerequisite: ART 40. Individual investigation of advanced aesthetic concepts; continued search into personal direction. (6 lecture-lab hours)

Units: 3

Course Typically Offered: Fall, Spring

ART 141. Advanced Painting
Prerequisite: ART 140. Designed primarily for students with two or more semesters of experience in painting. Emphasis on individual involvement in the painting process aiming toward advanced formal and technical expression. (6 lecture-lab hours)

Units: 3, Repeatable up to 9 units

Course Typically Offered: Fall, Spring

ART 152. Intermediate Sculpture
Prerequisite: ART 50. Continued investigation in the experiential application of selected methods and materials of sculpture. Emphasis on promoting a greater awareness of sculptural form and development of ideas and aesthetic concepts. (6 lab hours) (Class fee, $25)

Units: 3

Course Typically Offered: Fall, Spring

ART 153. Advanced Sculpture
Prerequisite: ART 152. Individual involvement in the studio practice of sculpture. Emphasis focused on conceptual development, refinement of technique, choice of materials, professional presentation, and portfolio. (6 lab hours) (Class fee, $25)

Units: 3, Repeatable up to 9 units

Course Typically Offered: Fall, Spring

ART 155. Sculpture: Foundry
Prerequisite: ART 50 or permission of instructor. Foundry techniques: mold-making, wax sculpting, metallurgical technology, and patination. Research of historical and contemporary approaches to the art of metalcasting. (6 lab hours) (Course fee, $50)

Units: 3, Repeatable up to 9 units

Course Typically Offered: Fall, Spring

ART 160. Intermediate Ceramics
Prerequisite: ART 60. Emphasis will be on promoting a greater awareness of form as developed on the potter's wheel. A concentrated study of surface treatments and their integration with clay forms. (6 lab hours) (Course fee, $15)

Units: 3, Repeatable up to 9 units

Course Typically Offered: Fall, Spring

ART 161. Advanced Ceramics
Prerequisite: ART 160. Advanced study in ceramic art. Individual projects in selected ceramic areas with emphasis on showing and portfolio presentation of work. (6 lab hours) (Course fee, $30)

Units: 3, Repeatable up to 9 units

Course Typically Offered: Fall, Spring

ART 165. Ceramic Glazes
Prerequisites: ART 160, permission of instructor. Concentrated study in glazes through the empirical methods with some discussion on historical and technical integration of glazes with clay

forms. (6 lecture-lab hours) (Course fee, $40)

Units: 3, Repeatable up to 9 units

Course Typically Offered: Fall

ART 166. Glass Blowing Studio

Prerequisites: ART 13, ART 20, and ART 60, or permission of instructor. A course in studio glass blowing techniques with technical information on glass compositions, furnace design, and construction. (6 lab hours) (Course fee, $50)

Units: 3, Repeatable up to 9 units

Course Typically Offered: Fall, Spring

ART 170. Crafts

Prerequisite: ART 70. Advanced design in a variety of materials. Study of contemporary designer craftsmen. (6 lecture-lab hours)

Units: 3, Repeatable up to 9 units

Course Typically Offered: Spring

ART 171. Textile Design: Dyeing and Printing

Design relating to fabrics, tie dye, batik, and silk screen. Field trips may be required. (6 lecture-lab hours) (Course fee, $15)

Units: 3, Repeatable up to 9 units

Course Typically Offered: Spring

ART 177S. Community Crafts Workshop

Introductory studio experiences in traditional crafts media in community service-learning settings. Fundamental exploration of several media (e.g. clays, plaster, fibers, leather, wood); understanding materials; historical and cultural context of art products. Field trips required.

Units: 1-3, Repeatable up to 9 units

Course Typically Offered: Spring

ART 179. Development of Artistic Expression

Art materials and techniques, as they apply to the elementary school curriculum; introduction to current philosophies in art education, theories of the development phases of artistic expression in children. Field trips may be required. (6 lecture-lab hours) (Course fee, $15)

Units: 3, Repeatable up to 9 units

Course Typically Offered: Fall, Spring

ART 180. Intermediate 3D Digital Art - Animation

Prerequisites: ART 80 and ART 107, or permission of the instructor. Building upon ART 80 and ART 107, this course explores 3D digital animation in a fine arts context. Processes include particles, dynamics, and keyframe/hierarchical animation (6 lecture-lab hours)

Units: 3-6

Course Typically Offered: Fall

ART 182. Large Format Photography

Prerequisite: ART 30 or equivalent and permission of instructor. Study of the large format camera and its creative application. Emphasis on individual assistance in both field and laboratory work. Introduction to selective exposure and development control, optical effects, and applied compositional design. (2 lecture,3 lab hours) (Course fee, $25)

Units: 3, Repeatable up to 9 units

Course Typically Offered: Spring

ART 183. Extended Projects in Photography

Prerequisite: ART 30 or equivalent and permission of instructor. Individual formulation of exploratory multi-image essays on a specific theme. Emphasizes individual conceptual goals and acquiring communicative skills appropriate to medium. Further photographic theory and its practical application to individual creative objectives. (6 lecture/ lab hours) (Course fee, $25)

Units: 3, Repeatable up to 12 units

ART 185. Color Photography

Prerequisite: ART 30 or equivalent. Emphasis is on both technical and aesthetic expression of digital color photography, from initial image capture to finished print along with color symbolism and composition. Introduction to comtemporary color photographers. (6 lecture-lab hours) (course fee, $55)

Units: 3, Repeatable up to 9 units

ART 188. Digital Video Art

Introduction to the medium of video art. Students will examine video concepts and forms through production, readings, and discussions, as well as by viewing students' and artists' works. (6 lecture/lab hours) (Formerly ART 109T)

Units: 3, Repeatable up to 9 units

ART 190. Independent Study

See Academic Placement - Independent Study. Approved for RP grading. (Course fee, $30)

Units: 1-3, Repeatable up to 6 units

ART 198. Internship in Art

Prerequisites: permission of instructor and sponsoring agency. Experience in art related professions with agency under the Department of Art and Design supervision. Maximum credit toward an art major, 6 units. CR/NC grading only. (Minimum of 3 field hours per week per unit.)

Units: 1-6

ART 220T. Topics in Studio Processes

Prerequisite: permission of instructor. Investigation of advanced studio topics selected by the department. Coursework includes studio productions, their critiques and evaluations.

Units: 3, Repeatable up to 9 units

ART 230. Seminar in Art Theory

Prerequisite: permission of instructor. Theories of the visual arts as developed by artists, critics, and philosophers, and their application to art criticism in our time. Oral presentation and defense of critical papers required. Meets the graduate writing skills requirement.

Units: 3, Repeatable up to 9 units

ART 240. Seminar in Art Studio

Prerequisite: permission of instructor. Work individually with selected staff in chosen area of concentration. Concurrent obligation to meet regularly scheduled seminars for group progress reports

and critiques.

Units: 3, Repeatable up to 15 units

ART 241. Graduate Painting

Prerequisite: ART 141 or portfolio for review. Studio course in painting for graduate students. Selected concepts and problems in contemporary painting. Emphasis on individual exploration and development of personal direction. (6 lecture-lab hours)

Units: 3, Repeatable up to 9 units

ART 253. Graduate Sculpture

Prerequisite: ART 153 or submission of portfolio for review. Faculty guided independent research and studio practice. Includes consultation, critiques, and portfolio development. Relates sculptural form to ideas, aesthetic concepts, and contemporary issues. Emphasis on professionalism and personal direction. (6 lecture-lab hours)

Units: 3, Repeatable up to 9 units

ART 260. Seminar in Art History

Prerequisites: 6 units of upper-division art history and permission of instructor. Research problems applicable to art history students or studio artists. Meets the graduate writing skills requirement.

Units: 3, Repeatable up to 9 units

ART 290. Independent Study

See Academic Placement - Independent Study. Approved for RP grading. (Course fee, $30)

Units: 1-3, Repeatable up to 6 units

ART 298. Project

Prerequisite: permission of the Art and Design Department graduate coordinator; see Criteria for Thesis and Project. Preparation, production, design, and installation of original works produced while engaged in the graduate program. Exhibit committee must approve of the work, location, and quality of installation. Abstract required. Approved for RP grading. (Course fee, $30)

Units: 2-6

ART 298C. Project Continuation

Prerequisite: Project 298. For continuous enrollment while completing the project. May enroll twice with department approval. Additional enrollments must be approved by the Dean of Graduate Studies.

Units: 0

ART 299. Thesis

Prerequisite: permission of the Art and Design Department graduate coordinator; see Criteria for Theis and Project. Preparation, completion, and submission of an acceptable thesis for the master's degree. Approved for RP grading.

Units: 2-6

ART 299C. Thesis Continuation

Prerequisite: Thesis 299. For continuous enrollment while completing the thesis. May enroll twice with department approval. Additional enrollments must be approved by the Dean of Graduate Studies.

Units: 0

ART 421T. Dgtl/Film Photo

Units: 3

ART 431T. Music/Movement

Units: 3

ART 432T. Strytell - Int Art

Units: 3

ART 621T. Glass/Sculpture

Units: 3

ART 621T. Dgtl/Film Photo

Units: 3

ART 631T. Music/Movement

Units: 3

ART 632T. Strytell-Int Art

Units: 3

ART AND DESIGN (ARTDS)

ARTDS 7A. Art and Design Fundamentals I

Introductory success strategies for Art and Design students through orientation to university resources, academic skills, and the arts community. Topics include academic skills, time management, wellness, communication, and interacting with arts communities. Internet-assisted. Service-learning and field trips required.

Units: 1

ARTDS 7B. Art and Design Fundamentals II

Prerequisite: ARTDS 7A. Intermediate success strategies for Art and Design students through orientation to university resources, academic skills, and the arts community. Topics include academic skills, time management, wellness, communication, and interacting with arts communities. Internet-assisted. Service-learrning and field trips required.

Units: 2

ARTDS 9T. Studio Topics in Art and Design

Specific introductory studio processes not covered in regular course offerings. Areas offered may be drawing, painting, ceramics, sculpture, photography, printmaking, design, crafts, motion picture, art education, computer graphics, graphic design, and interior design.

Units: 1-3, Repeatable up to 9 units

ARTDS 10T. Lecture Topics in Art and Design

Specific lecture area not normally covered in regular course offerings in art, graphic design, or interior design. Topics may include African American art, aesthetics of electronic imagery, careers in art and design, portfolio preparation, interior design, and graphic design.

Units: 1-3, Repeatable up to 9 units

ART HISTORY (ARTH)

ARTH 10. The Ancient Medieval Worlds
An introductory survey of the arts of the ancient and medieval worlds, beginning with the Palelitihic and including Near Eastern, Egyptian, and European (Aegean, Greek, Roman, medieval) traditions through the mid-14th century. G.E. Breadth C1. (CAN ART 2)

Units: 3

Course Typically Offered: Fall, Spring

GE Area: C1

ARTH 11. The Early Modern World
An introductory survey of Western art from the Renaissance through the 18th century, including Mannerism, Baroque, Rococo, and Neoclassicism from the mid-14th century to the end of the 18th century. G.E. Breadth C1. (CAN ART 4)

Units: 3

Course Typically Offered: Fall, Spring

GE Area: C1

ARTH 109T. Topics in Art History
Specific areas in art history not normally covered in the regular course offering. Possible topical areas include Arts of the South Pacific, Buddhism, Chinese Painting, Happenings, History of Modern Art through Film, Museums and Monuments of Europe, Fountains of Baroque Rome, Popes and Patrons of Renaissance Europe, 17th Century Holland, and the Rise of the Secular in Art.

Units: 1-3

ARTH 109T. The "Other" Ancient Mexico: Pre-Columbian Art of Northern and Western MesoAmerica
This course surveys the pre-Columbian art and architecture of areas of West and Northern Mexico historically marginalized and neglected by at history and archaeology and poorly represented in most general survey texts and courses covering Mesoamerican art. Topics covered include the shaft tomb art of Colima, Jalisco, and Nayarit; arts of the Tarascan empire, the rivals of the Aztecs; the architecture and arts of the Chalchihuites culture of Zacatecas and Durango; the Casas Grandes painted pottery tradition, and the relationships between Mesoamerica and the Pueblo peoples of the US Southwest.

Units: 3

ARTH 109T. Museum Studies
The course investigates historical, theoretical and practical issues of Museum Studies considering the history of museums, and the museum's main activities of collecting, exhibiting, and educating. Although the course looks specifically at art museums, the basic principles apply to other types of museums such as history, science and nature. The first part of the course focuses on the history of the museum investigating its social, cultural, and political role from its origin to the present day. The student gains insight into the museum's organizational structure and various museum careers. The second part of the course provides an understanding of museum collections and exhibitions. The discussions focus on the importance of the object, the building and managing of collections and the curating of exhibitions. The final part of the course considers the museum's educational programs in the context of its audiences and various interpretative methods. The course also includes a field trip looking behind the scenes of a local museum.

Units: 3

ARTH 120. Italian Renaissance
Artistic revival of classical antiquity in Italy between 1300-1550.

Units: 3

ARTH 122. Northern Renaissance
Painting and sculpture from the Netherlands, France, and Germany between 1300-1550.

Units: 3

Course Typically Offered: Fall

ARTH 124. Italian Baroque
Baroque art from its conception in Rome to its dispersal throughout Italy from 1600-1750.

Units: 3

Course Typically Offered: Spring

ARTH 126. Northern Baroque
Diffusion of Italian Baroque art to the Netherlands, France, Spain, Germany, and Austria between 1600-1750.

Units: 3

Course Typically Offered: Spring

ARTH 131. Nineteenth Century Modern Art
A more developed critical look at modern art in its relationship to the needs of the social political context of the 19th century.

Units: 3

ARTH 132. Twentieth Century Modern Art
A more developed critical look at modern art in its relationship to the needs of the social political context of the 20th century, up to the mid-1950s.

Units: 3

Course Typically Offered: Fall

ARTH 136. Contemporary Art
A comprehensive survey of contemporary art focusing on the issue of postmodernism from the mid-1950s onward.

Units: 3

Course Typically Offered: Spring

ARTH 160. Africa
Sculpture, painting, architecture, festivals, and personal adornment of sub-Saharan Africa.

Units: 3

Course Typically Offered: Spring

ARTH 170. Native North American
Arts of the indigenous North American cultures from the Arctic to the American Southwest.

Units: 3

Course Typically Offered: Spring

ARTH 173. Pre-Columbian Mexico
Art of the Olmec through the Aztec cultures.

Units: 3

Course Typically Offered: Fall

ARTH 175. Pre-Columbian Andes
Art of the Chavin through the Inca cultures.

Units: 3

Course Typically Offered: Fall

ARTH 190. Independent Study
See Academic Placement - Independent Study. Approved for RP grading.

Units: 1-3, Repeatable up to 6 units

Course Typically Offered: Fall, Spring

ASIAN AMERICAN STUDIES (ASAM)

ASAM 15. Introduction to Asian Americans
Historical, social, and psychological factors in the changing status and identity of Americans from Asia. Examines variables such as cultural heritage, family organization, intergenerational conflict, and the experience of racism in the changing world of Asian Americans. G.E. Breadth D3.

Units: 3

Course Typically Offered: Fall, Spring

GE Area: D3

ASAM 30. Japanese Americans in the United States
A survey of social adaptations and cultural changes among Japanese Americans in different communities such as California and Hawaii. Considers identity, marginality, acculturation, and cultural traditions in Japan and in American communities.

Units: 3

Course Typically Offered: Fall

ASAM 110. Asian American Communities
Prerequisites: G.E. Foundation and Breadth Area D. A multidisciplinary study of Asian American communities and their relations with the larger society. Analyzes values, lifestyles, processes of group identity and boundary maintenance, social organization, and cultural change. Examination of Chinese, Japanese, Filipino, and other Asian American subcultures. G.E. Multicultural/International MI.

Units: 3

Course Typically Offered: Fall, Spring

GE Area: M/I

ASAM 138. Asian Amer Women
Addressses race, ethnic, and class issues from the vatage point of Asian American women. For Asian American women. For Asian AMerican and Southeas Asian communitites, the status of women has long been neglected. Yet women play an important role in the family and its economy even as tehy enter new roles in U.S. society. Helpful to students in sciences and applied fields.

Units: 3

Course Typically Offered: Fall

ASAM 140. Southeast Asian Americans
Since the Immigration Act of 1965 the Asian American population has grown dramatically. This course focuses on recent issues that are facing new arrivals and supplements a history of Asian American communities (e.g., ASAM 110). Useful to students in education, social work, health sciences, the social sciences, and many other fields. (Formerly ASAM 180T)

Units: 3

Course Typically Offered: Spring

ASAM 180T. Topics in Asian American Studies
Prerequisites: ASAM 15, permission of instructor. Detailed consideration of a single topic concerning the past or present position of Asian Americans in U.S. society.

Units: 3, Repeatable up to 6 units

ASAM 190. Independent Study
See Academic Placement - Independent Study. Approved for SP grading.

Units: 1-3, Repeatable up to 6 units

Course Typically Offered: Fall, Spring

ASAM 195. Diversity in the United States: Race and Gender Issues
Units: 3

ANIMAL SCIENCES (ASCI)

ASCI 1. Introduction to Animal Science
Overview of the livestock and poultry industry; types and breeds, world distributions, foods and products from farm animals, reproduction, genetics, nutrition, and marketing. (3 lecture)

Units: 3

Course Typically Offered: Fall, Spring

ASCI 11. Meat Animal Selection and Evaluation
Prerequisite: ASCI 1 or concurrently. Basic factors involved in selection and evaluation of market animals; relationships of live market animal traits to carcass cutability and quality. (2 lecture, 3 lab hours)

Units: 3

Course Typically Offered: Fall, Spring

ASCI 21. Beef Cattle Production
Prerequisite: ASCI 1 or concurrently. Overview of world and United States beef production. Evaluation of the structure of the beef industry (consumer, packer, retailer, feedlot, seedstock, commercial cow-calf, stocker). Discussion of genetics, nutrition, reproduction , and meat science as applied to beef cattle. (2 lecture, 3 lab hours)

Units: 3

Course Typically Offered: Fall, Spring

ASCI 31. Swine Production
Prerequisite: ASCI 1 or concurrently. Management principles and practices of purebred and commercial pork production. Nutrition, reproduction, environ mental management, health, marketing, selection, and records are studied. (2 lecture, 3 lab hours; field trips)

Units: 3

Course Typically Offered: Fall

ASCI 35. Feeds and Feeding

Prerequisite: ASCI 1 or concurrently. Principles of nutrition; nutrients and their metabolism; comparison of qualitative nutrient requirements of non-ruminant and ruminant animals and formulating diets to meet these requirements. (2 lecture, 3 lab hours)

Units: 3

Course Typically Offered: Fall, Spring

ASCI 41. Sheep Production

Prerequisite: ASCI 1 or concurrently. Management of purebred, commercial, and small farm flocks; principles and practices in breeding, feeding, care of ewes and lambs, and marketing of lamb and wool. (2 lecture, 3 lab hours)

Units: 3

Course Typically Offered: Spring

ASCI 51. Horse Production

Prerequisite: ASCI 1 or concurrently. Breeds, selection, and care and feeding of light horses. (2 lecture, 3 lab hours)

Units: 3

Course Typically Offered: Fall

ASCI 56. Beginning Colt Training

Horse training methods for young horses, primarily ground work including leading, grooming, longeing, saddling and bridling. Emphasis on safe protocols, horse psychology and observable outcomes of training protocols. (Formerly ASCI 185T).

Units: 2, Repeatable up to 4 units

ASCI 57. Advanced Colt Training

Advanced training methods for young horses including ground work and basic under saddle training. Emphasis on safe protocols to create a methodical program increasing skill, ability, and confidence in both student and horse. (Formerly ASCI 185T)

Units: 2, Repeatable up to 4 units

ASCI 61. Dairy Cattle Production

Prerequisite: ASCI 1 or concurrently. Principles and practices of milking, feeding, breeding, evaluating, housing, health, behavior, and management of dairy cattle. (2 lecture, 3 lab hours)

Units: 3

Course Typically Offered: Spring

ASCI 65. Introduction to Animal Health

The stockman's approach to animal health and disease control in domestic animals. Classification of animal diseases, their causes and appropriate treatments with emphasis on preventative medicine. (2 lecture, 3 lab hours)

Units: 3

ASCI 67. Animals and Society

Philosophical, ethical, and scientific investigation of the human/animal bond and the significance of animals in our society. Importance of animals in wellness, rehabilitation/convalescence, and stress management. Interdisciplinary investigation of controversies in animal research and human disease. G.E. Breadth E1.

Units: 3

Course Typically Offered: Fall, Spring

GE Area: E1

ASCI 68. Pre-Vet Orientation

Detailed information for students preparing for veterinary school including course requirements, admission policies, application procedures, interview sessions, and career opportunities in vet medicine. (Formerly ASCI 185T)

Units: 1

Course Typically Offered: Fall

ASCI 71. Meat Science

Prerequisite: ASCI 1 or concurrently. Basic meats course covering topics from harvest to consumption. Discussion of meat quality versus quantity, general food safety and meat preparation. Lab will demonstrate all aspects of modern meat industry practices including harvest, fabrication and further processing. (2 lecture, 3 lab hours)

Units: 3

Course Typically Offered: Fall, Spring

ASCI 81. Introduction to Livestock, Meat and Dairy Evaluation

Introductory course in evaluating livestock, meat and dairy cattle. Utilizes visual and performance data in establishing the economic value of animals representing the beef, sheep, swine, dairy, and horse industries. (2 lecture, 3 lab hours)

Units: 3

Course Typically Offered: Spring

ASCI 83. Issues and Opportunities in Animal Sciences

Prerequisite: A SCI 1. Invited speakers provide insight on current industry issues. Comprehensive study of career opportunities available in animal science. Field experience is offered in specific areas.

Units: 2, Repeatable up to 4 units

ASCI 91. Poultry Production

Prerequisite: ASCI 1 or may be taken concurrently. Management principles and practices of commercial poultry production. Nutrition, reproduction, environmental management, health, and processing of broilers and layers. (2 lecture, 3 lab hours)

Units: 3

Course Typically Offered: Spring

ASCI 94. Agri Internship

Prerequisite: minimum GPA of 2.0 and instructor approval. Emphasis on acquisition through experience of practical animal production skill integrated with basic principles acquired in the classroom. This course is for on-campus internships at animal science related units only. CR/NC grading only.

Units: 1-6

Course Typically Offered: Fall, Spring

ASCI 101. Environmental Management of Farm Animals

Prerequisite: ASCI 1. Basic principles of environmental management as applied to domestic farm animals. Special emphasis given to animal behavior, animal welfare, and animal performance. The optimal animal environment will be studied in detail.

Units: 3

ASCI 121. Advanced Beef Management
Prerequisite: ASCI 21. Prevailing and alternative management systems and techniques of beef production in the United States and California including economic analysis. (2 lecture, 3 lab hours)

Units: 3

Course Typically Offered: Spring

ASCI 125. Animal Genetics
Prerequisite: ASCI 1. Genetic principles and application to livestock production; basic inheritance, qualitative genetics, variation in economic traits of livestock, quantitative inheritance, selection progress; current methods of genetic livestock improvement.

Units: 3

Course Typically Offered: Fall

ASCI 131. Advanced Swine Management
Prerequisite: ASCI 31. A comprehensive study of the swine industry. Laboratory exercises designed to improve the management decision ability of students. (2 lecture, 3 lab hours; field trips)

Units: 3

Course Typically Offered: Spring

ASCI 135. Animal Nutrition
Prerequisite: A SCI 35. Principles of nutrition and metabolism; digestive physiology of farm animals.

Units: 3

Course Typically Offered: Fall, Spring

ASCI 145. Anatomy and Physiology of Farm Animals
Prerequisite: BIOL 10 or BIOL 12. General structures of farm animals and physiological functions of organs in the animal body. (3 lecture, 3 lab hours)

Units: 4

Course Typically Offered: Fall, Spring

ASCI 146. Physiology of Lactation
ASCI 61, CHEM 3A. Fundamentals of anatomy, physiology, and endocrinology of milk synthesis and secretion; milking machine systems and management; pathological and environmental factors affecting lactation.

Units: 3

Course Typically Offered: Spring

ASCI 151. Advanced Horse Management
Prerequisite: ASCI 51. Advanced principles of horse management, reproduction, breeding systems, nutrition, facilities, business aspects, exercise physiology, training colts. (2 lecture, 3 lab hours)

Units: 3

Course Typically Offered: Spring

ASCI 152. Equine Nutrition
Prerequisite: ASCI 51. Principles of equine nutrition; digestive anatomy and physiology nutrient requirements; feed formulation, nutritional management, and diseases. (Formerly A SCI 185T)

Units: 3

Course Typically Offered: Fall

ASCI 153. Stable Management
Prerequisite: ASCI 51. An overview of horse farm and stable management theories and applications. The impact of management practices on the animal, on the environment, and on economic viability is considered. (2 lecture, 3 lab hours) (Formerly A SCI 185T)

Units: 3

Course Typically Offered: Fall

ASCI 155. Animal Reproduction
Principles of reproductive physiology, associated endocrine hormones, and their application to domestic animals.

Units: 3

Course Typically Offered: Fall, Spring

ASCI 156. Artificial Insemination Embryo Transfer
Prerequisites: ASCI 155 (may be taken concurrently). Basic principles of artificial insemination and embryo transfer with emphasis on application to cattle. (3 lab hours)

Units: 1

Course Typically Offered: Spring

ASCI 160T. Top A Sci Stock Sch
Units: 3

ASCI 161. Advanced Dairy Farm Management
Prerequisite: ASCI 61. A comprehensive study of daily industry management strategies and practices. Exercises involve recognition of problems and recommendation of solutions associated with managing commercial dairy operations. (2 lecture, 3 lab hours; field trips)

Units: 3

Course Typically Offered: Fall

ASCI 162. Dairy and Meat Systems Management
Prerequisite: ASCI 61or ASCI 71. A comprehensive study of technological systems employed in commercial dairies and meat processing facilities. Exercises involve analysis of systems for application in various facilities and evaluation of dairy and meat plant santitation systems, HACCP and production/processing systems, control of food specific pathogens and their impact of these systems on the animal, food safety, and public health on environment, and on economic viability is considered. (2 lecture, 3 lab hours)

Units: 3

Course Typically Offered: Fall

ASCI 163. Dairy Cattle Nutrition
Prerequisite: ASCI 135. Principles of dairy cattle nutrition. Nutritional requirements of the dairy calf through the mature cow. Special emphasis on computerized diet formulation and feed inventory control.

Units: 3

Course Typically Offered: Spring

ASCI 164. Advanced Commercial Dairy Management Evaluation

Detailed analysis of dairy management. Procedures and methodologies in assessing dairy management productivity and profitability. Actual dairy assessment is emphasized. (Formerly ASCI 185T).

Units: 2, Repeatable up to 4 units

ASCI 165. Infectious Diseases of Domestic Animals

Prerequisite: BIOL 20 or BIOL 120. Microbiological concepts related to bacterial, viral, and fungal diseases in domestic animals with emphasis on specific diseases of veterinary importance. Study of bacterial, viral, and fungal diseases in domestic animals. Discussion of disease identification, prevention, treatment and physiological processes that combat infection.

Units: 3

Course Typically Offered: Fall, Spring

ASCI 171. Advance Meat Science

Prerequisite: ASCI 11 or ASCI 71. Basic advanced meats course: covering comprehensive study of the conversion of muscle to meat and factors that affect meat quality. Topics include muscle structure and function and muscle anatomy. Laboratory exercises involve hands-on techniques of harvest, fabrication and further processing of various products from the major species of production livestock. (2 lecture, 3 lab hours)

Units: 3

Course Typically Offered: Fall

ASCI 172. Meat Technology

Comprehensive study of meat science topics. Emphasis placed on food safetey and systems including HACCP and current product development efforts in the meats industry. Laboratory exercises are designed to improve student application of HACCP principles and to strengthen understanding of the vast array of new and innovative products on the market. (2 lecture, 3 lab hours.)

Units: 3

Course Typically Offered: Spring

ASCI 175. Agricultural Food Safety Systems

Provides an understanding of food safety systems utilized in the agricultural industry. Exposes students to best agricultural and manufacturing practices, standard operating procedures, sanitation practices and standards, HACCP and ServSafe.

Units: 3

Course Typically Offered: Fall

ASCI 180. Undergraduate Research

Open to juniors and seniors. Exploratory work on a suitable agricultural problem in animal science. Approved for RP grading.

Units: 1-4

Course Typically Offered: Fall, Spring

ASCI 181. Advanced Livestock, Meat and Dairy Evaluation

Prerequisite: ASCI 11 or ASCI 81 or permission of instructor. Detailed analysis of animal form related to functional efficiency, economic value, and sound livestock production management. Written and oral defense of judgments (dairy, horse, livestock, meats). (2 lecture, 3 lab hours; field trips)

Units: 3, Repeatable up to 6 units

Course Typically Offered: Fall

ASCI 182. Livestock Marketing and Show Management

Development of skills in the organization, administration, and operation of livestock activities at a district fair level. Emphasis on practical application of skills. Approved for RP grading. (2 lab hours per unit)

Units: 1-2, Repeatable up to 4 units

Course Typically Offered: Fall, Spring

ASCI 185T. Topics in Animal Science

Prerequisites: junior standing and permission of instructor. Anatomy, physiology, pathology, nutrition, genetics, livestock management. Topics may require labs.

Units: 1-4

ASCI 185T. Agricultural Food Safety Systems

This course will encompass food safety as it applies to the food supply chain and how it can be effectively implemented and managed in a variety of agricultural food systems. Students will be exposed to good agricultural practices, good manufacturing practices, standards operating procedures, sanitation standard operating procedures, HACCP, and ServSafe.

Units: 3, Repeatable up to 6 units

ASCI 185T. Ag Industry Tour

Agricultural Industry Tours is designed to expose students to various types of operations and organizations that are involved in and effect livestock production and management. Students will hear from industry experts various segments of the agriculture industry. Students will also attend tours of working operations ranging from production to manufacturing of livestock and their products.

Units: 3

ASCI 186. Animal Science Seminar

Prerequisite: senior standing or permission of instructor; 12 upper-division units in the major. Latest developments in research; assigned papers in animal science to be presented in both oral and written form.

Units: 1

Course Typically Offered: Fall, Spring

ASCI 187. Equestrian

Women only. (See ATHL 181)

Units: 2, Repeatable

Course Typically Offered: Fall, Spring

ASCI 190. Independent Study

See Academic Placement Independent Study. Approved for RP grading.

Units: 1-3, Repeatable up to 6 units

ASCI 194. Agricultural Internship

Prerequisites: junior or senior standing and approval of internship committee. This course to be used by students doing off-campus,

industry-related internships only. Emphasis on development of decision-making ability through industrial experience integrated with basic principles acquired in the classroom. CR/NC grading only.

Units: 1-8

Course Typically Offered: Fall, Spring

ASCI 196. Enterprise Management

Prerequisites: ASCI 21 or ASCI 31 or ASCI 41 or ASCI 51 or ASCI 61 or ASCI 91; MEAG 3; or MEAG 5 or permission of instructor; concurrent participation in project program required. Theory and field application of management principles in beef, sheep, swine, horses, dairy cattle or poultry, and other appropriate animal science enterprises. Approved for RP grading.

Units: 1-3, Repeatable up to 6 units

ASCI 229. Seminar

Prerequisite: permission of instructor. Students investigate and present current research problems. Observation and evaluation of additional assigned seminars. Oral and written reports required. (Formerly AGRI 229)

Units: 1, Repeatable up to 3 units

ASCI 240T. Topics in Animal Science

Prerequisite: upper-division animal science appropriate to study topic; permission of instructor. Investigation of topic in animal science; anatomy, physiology, pathology, nutrition, genetics, or economics. Topics may require lab hours. (Formerly AGRI 240T)

Units: 3, Repeatable up to 12 units

ASCI 241. Endocrine and Reproductive Physiology

Prerequisite: ASCI 155. Physiology which deals with neural and hormonal integration and control of the animal body, including scientific aspects of the processes of reproduction and application of current knowledge in improving reproductive efficiency. (Formerly AGRI 241)

Units: 3

ASCI 242. Environmental Physiology of Domestic Animals

Prerequisite: A SCI 145A; permission of instructor. A study of environmental factors affecting domestic animals under field and controlled conditions. (Formerly AGRI 242)

Units: 3

ASCI 246. Ruminant Nutrition

Prerequisite: ASCI 135, CHEM 150. Ruminant physiology of digestion, absorption, and metabolism and nutrients, and the relationship of enzymes and hormones. (Formerly AGRI 246)

Units: 3

ASCI 247. Concepts in Non-Ruminant Nutrition

Prerequisite: ASCI 135 or equivalent, graduate standing or consent of instructor. Digestion, absorption, nutrient utilization, and interrelationships in poultry, swine, and other non-ruminants. (Formerly AGRI 247)

Units: 3

ASCI 248. Meat Science and Muscle Biology

Prerequisite: ASCI 171, graduate standing or consent of instructor. Evaluation of muscle as meat; biological characteristics, growth and development of skeletal muscle, glycogen metabolism, and factors affecting quality of meat. (Formerly AGRI 248)

Units: 3

ASCI 290. Independent Study

See Academic Placement - Independent Study. Approved for RP grading. (Formerly AGRI 290)

Units: 1-3, Repeatable up to 6 units

ASCI 299. Thesis

Prerequisite: See Criteria for Thesis and Project. Preparation, completion, and submission of an acceptable thesis for the master's degree. Approved for RP grading. (Formerly AGRI 291)

Units: 2-4

ASCI 299C. Thesis Continuation

Prerequisite: Thesis 298. For continuous enrollment while completing the thesis. May enroll twice with department approval. Additional enrollments must be approved by the Dean of Graduate Studies.

Units: 0

AEROSPACE STUDIES (ASP)

ASP 1A. The Foundations of the United States Air Force

The Air Force in the contemporary world. Focuses on the organizational structure and missions of Air Force organizations; officership and professionalism; and includes an introduction to communication skills. Students should first contact the department recruiter at 559.278.6204 for permission number.

Units: 1

Course Typically Offered: Fall

ASP 1B. The Foundations of the United States Air Force

The Air Force in the contemporary world. Focuses on the organizational structure and missions of Air Force organizations; officership and professionalism; and includes an introduction to communication skills. Students should first contact the department recruiter at 559.278.6204 for permission number.

Units: 1

Course Typically Offered: Spring

ASP 2A. The Evolution of USAF Air and Space Power

Prerequisite: ASP 1A completed or in-progress. A study in the general aspects of air and space power through a historical perspective from the first balloons and dirigibles to the space-age global positioning systems of the Persian Gulf War. Historical examples are used to understand the development of Air Force capabilities and missions. The course will also cover Air Force Core Values using operational examples. This course includes writing and briefing exercises as part of a four year Air Force ROTC communication skills development process.

Units: 1

Course Typically Offered: Fall

ASP 2B. The Evolution of USAF Air and Space Power

Prerequisite: ASP 1A completed or in-progress. Focuses on factors contributing to the development of air power from its earliest beginnings to the space-age global positioning systems of the Gulf war; the evolution of air power concepts and doctrine; and an assessment of communication skills.

Units: 1

Course Typically Offered: Spring

ASP 3. Leadership Laboratory

Open to students who are members of the Reserve Officer Training Corps or are eligible to pursue a commission as determined by the professor of aerospace studies. Course must be taken each semester of the General Military Course (GMC). A study of Air Force customs and courtesies, issuing military commands, instructing, directing and evaluating the preceding skills, studying the environment of an Air Force officer and learning about areas of opportunity available to commissioned officers. CR/NC grading only.

Units: 1, Repeatable up to 6 units

Course Typically Offered: Fall, Spring

ASP 103C. Air Force ROTC Field Training

Prerequisite: ASP 1 and 2. Field training provides leadership and officership training in a military environment which demands conformity to high physical and moral standards. Within this structured environment cadets are screened for officer potential as measured against AFROTC field training standards. Motivation and professional development is achieved through various programs such as flight orientation, marksmanship, and survival training.

Units: 3

Course Typically Offered: Fall

ASP 104A. Air Force Leadership Studies

Prerequisite: ASP 2. Corequisite: ASP 113 Leadership Laboratory (one unit). A study of leadership and management fundamentals, leadership responsibilities, ethics, and communicative skills required of an Air Force junior officer. Case studies are used to examine Air Force leadership and management situations as a means of demonstrating and exercising practical application of the concepts being studied.

Units: 3

Course Typically Offered: Fall

ASP 104B. Air Force Leadership Studies

Corequisite: ASP 113 Leadership Laboratory (one unit). A study of leadership and management fundamentals, leadership responsibilities, ethics, and communicative skills required of an Air Force junior officer. Case studies are used to examine Air Force leadership and management situations as a means of demonstrating and exercising practical application of the concepts being studied.

Units: 3

Course Typically Offered: Spring

ASP 105A. National Security Affairs/Preparation for Active Duty

ASP 105A is not open to students with credit in ASP 105AW. Prerequite: ASP 104. Corequisite: ASP 113 (one unit). An examination of the needs for national security; an analysis of the evolution of the American defense strategy and policy; aerospace doctrine; overview of alliances and regional security, arms control, and terrorism. Special topics of interest focus on the military as a profession, officership, and the military justice system, and current issues affecting military professionalism. Within this structure, continued emphasis is given to developing communication skills.

Units: 3, Repeatable up to 6 units

Course Typically Offered: Fall

ASP 105AW. National Security Affairs/Preparation for Active Duty

Not open to students with credit in ASP 105A, ASP 105B. Prerequisite: ASP 104 and satisfactory completion (C or better) of the ENGL 5B or ENGL 10 graduation requirement. An examination of the needs for national security; an analysis of the evolution of the American defense strategy and policy; aerospace doctrine; overview of alliances and regional security, arms control, and terrorism. Meets the upper-division writing skills requirement for graduation.

Units: 3

Course Typically Offered: Fall

ASP 105B. National Security Affairs/Preparation for Active Duty

ASP 105B is not open to students with credit in ASP 105BW. Prerequisite: ASP 104. Corequisite: ASP 113 (one unit). An examination of the needs for national security; an analysis of the evolution of the American defense strategy and policy; aerospace doctrine; overview of alliances and regional security, arms control, and terrorism. Special topics of interest focus on the military as a profession, officership, and the military justice system, and current issues affecting military professionalism. Within this structure, continued emphasis is given to developing communication skills.

Units: 3, Repeatable up to 6 units

Course Typically Offered: Spring

ASP 105BW. National Security Affairs/Preparation for Active Duty

Not open to students with credit in ASP 105A, ASP 105B. Prerequisite: ASP 104 and satisfactory completion (C or better) of the ENGL 5B or ENGL 10 graduation requirement. Corequisite: ASP 113 (one unit). An examination of the needs for national security; an analysis of the evolution of the American defense strategy and policy; aerospace doctrine; overview of alliances and regional security, arms control, and terrorism. Special topics of interest focus on the military as a profession, officership, and the military justice system, and current issues affecting military professionalism. Within this structure, continued emphasis is given to developing communication skills. Meets the upper-division writing skills requirement for graduation. (See note below.)

Units: 3

Course Typically Offered: Spring

ASP 113. Leadership Laboratory

Prerequisite: ASP 2 or equivalent military training. Must be taken each semester of the Professional Officer Course (POC). Activities classified as advanced leadership experiences. They involve the planning and controlling of the military activities of the cadet corps, the preparation and presentation of briefings and other

oral and written communications, and the providing of interviews, guidance, and information which will increase the understanding, motivation, and performance of other cadets. CR/NC grading only.

Units: 1, Repeatable up to 6 units

Course Typically Offered: Fall, Spring

ATHLETICS (ATHL)

ATHL 10. Strategies for Student-Athlete Success

Only open to students in intercollegiate athletics. Designed to help entering student-athletes make a smooth transition into the university and increase knowledge of policies, procedures, resources, and requirements especially pertaining to student-athletes. Introduces techniques to improve learning and promotes awareness about relevant career and health issues.

Units: 1

ATHL 100. Conditioning of Athletes

Prerequisite: must be enrolled in a varsity team sport (ATHL 176-199). Refer to current Schedule of Courses for appropriate section and schedule number.

Units: 1, Repeatable

ATHL 100. Cond of Athl/WLcr

Prerequisite: must be enrolled in a varsity team sport (ATHL 176-199). Refer to current Schedule of Courses for appropriate section and schedule number.

Units: 1, Repeatable

ATHL 100. Cond of Athl/WTennis

Prerequisite: must be enrolled in a varsity team sport (ATHL 176-199). Refer to current Schedule of Courses for appropriate section and schedule number.

Units: 1, Repeatable

ATHL 100. Cond of Athl/WGolf

Prerequisite: must be enrolled in a varsity team sport (ATHL 176-199). Refer to current Schedule of Courses for appropriate section and schedule number.

Units: 1, Repeatable

ATHL 100. Cond of Athl/WBk

Prerequisite: must be enrolled in a varsity team sport (ATHL 176-199). Refer to current Schedule of Courses for appropriate section and schedule number.

Units: 1, Repeatable

ATHL 100. Cond of Athl/MTennis

Prequisite: must be enrolled in a varsitiy team sport (Athl 176-199). Refer to current Schduel of Courses for appropriate section and Schedule Number.

Units: 1, Repeatable

ATHL 100. Cond of Athl/Eq

Prerequisite: must be enrolled in a varsity team sport (ATHL 176-199). Refer to current Schedule of Courses for appropriate section and schedule number.

Units: 1, Repeatable

ATHL 100. Cond of Athl/Vb

Prerequisite: must be enrolled in a varsity team sport (ATHL 176-199). Refer to current Schedule of Courses for appropriate section and schedule number.

Units: 1, Repeatable

ATHL 100. Cond of Athl/Trk

Prerequisite: must be enrolled in a varsity team sport (ATHL 176-199). Refer to current Schedule of Courses for appropriate section and schedule number.

Units: 1, Repeatable

ATHL 100. Cond of Athl/Women Swimming and Diving

Prerequisite: must be enrolled in a varsity team sport (ATHL 176-199). Refer to current Schedule of Courses for appropriate section and schedule number.

Units: 1, Repeatable

ATHL 100. Cond of Athl/Soc

Prerequisite: must be enrolled in a varsity team sport (ATHL 176-199). Refer to current Schedule of Courses for appropriate section and schedule number.

Units: 1, Repeatable

ATHL 100. Cond of Athl/Sb

Prerequisite: must be enrolled in a varsity team sport (ATHL 176-199). Refer to current Schedule of Courses for appropriate section and schedule number.

Units: 1, Repeatable

ATHL 100. Cond of Athl/Pep

Prerequisite: must be enrolled in a varsity team sport (ATHL 176-199). Refer to current Schedule of Courses for appropriate section and schedule number.

Units: 1, Repeatable

ATHL 100. Cond of Athl/MGolf

Prerequisite: must be enrolled in a varsity team sport (ATHL 176-199). Refer to current Schedule of Courses for appropriate section and schedule number.

Units: 1, Repeatable

ATHL 100. Cond of Athl/Fb

Prerequisite: must be enrolled in a varsity team sport (ATHL 176-199). Refer to current Schedule of Courses for appropriate section and schedule number.

Units: 1, Repeatable

ATHL 100. Cond of Athl/MBk

Prerequisite: must be enrolled in a varsity team sport (ATHL 176-199). Refer to current Schedule of Courses for appropriate section and schedule number.

Units: 1, Repeatable

ATHL 100. Cond of Athl/Bb

Prerequisite: must be enrolled in a varsity team sport (ATHL 176-199). Refer to current Schedule of Courses for appropriate section and schedule number.

Units: 1, Repeatable

ATHL 176. Baseball
Men only.

Units: 2, Repeatable

ATHL 177. Men's Basketball
Men only.

Units: 2, Repeatable

ATHL 178. Women's Basketball
Women only.

Units: 2, Repeatable

ATHL 180. Cross Country
Units: 2, Repeatable

ATHL 181. Equestrian

Women only. (See ATHL 181)
Units: 2, Repeatable

ATHL 182. Football
Units: 2, Repeatable

ATHL 183. Men's Golf
Men only.

Units: 2, Repeatable

ATHL 184. Women's Golf
Women only. This class is intended for experienced women's golfers with college level technical skills and advanced knowledge of tactics. The course objectives are achieved through the practical experience of a daily practice and training environment combined with a competitive tournament schedule. Theoretical sessions include video-tape analysis twice weekly and tactical classroom sessions. An emphasis of study will also be placed upon the following topics; mental rehearsal techniques, re-focusing techniques and functional goal-setting for academic and athletic success.

Units: 2, Repeatable

ATHL 185. Soccer
Women only.

Units: 2, Repeatable

ATHL 187. Softball
Women only.

Units: 2, Repeatable

ATHL 189. Swimming and Diving
Women only.

Units: 2, Repeatable

ATHL 191. Men's Tennis
Men only.

Units: 2, Repeatable

ATHL 192. Women's Tennis
Women only.

Units: 2, Repeatable

ATHL 193. Track and Field
Units: 2, Repeatable

ATHL 194. Women Lacrosse
Women Only.

Units: 2, Repeatable

ATHL 196. Volleyball
Women only.

Units: 2, Repeatable

BUSINESS ADMINISTRATION (BA)

BA 18. Business and the Legal Environment
Prerequisite: sophomore standing. Introduction to legal system; relation of ethics to law; administrative, criminal, tort, and labor law; and legal aspects of international trade. A more extensive study of the law of contracts and agency. Case studies; discussion and analysis.

Units: 4

Course Typically Offered: Fall, Spring

BA 88. Public Law Environment of Business
Required of students seeking transfer credit for a 3-unit business law course in lieu of BA 18. Not open to students who completed BA 18 at California State University, Fresno. Relationship of ethics to law. Administrative law and government regulation framework, labor and employment law framework, and legal aspects of international trade.

Units: 1

Course Typically Offered: Fall

BA 101. Business Ethics
Traditional and contemporary ethical principles and their historic context and relevance to business practice. Identifying the ethical beliefs and values of self and others. Examining contemporary business problems from an ethical perspective.

Units: 3

Course Typically Offered: Summer

BA 104. Global Business
Prerequisites: G.E. Foundation and Breadth Area D. Studies globalization of business; role of trade, investment liberalization, and economic integration; technology; multinational enterprises. Examines influence of cultural, social, economic, political, geographic, philosophical, and environmental forces on individual and institutional competitiveness at regional, national and global levels; appropriate strategies. G.E. Multicultural/International MI.*

Units: 3

Course Typically Offered: Fall, Spring

GE Area: M/I

BA 105W. Business Communication
Prerequisites: satisfactory completion (C or better) of the ENGL 5B or ENGL 10 graduation requirement or approved equivalent, and junior standing. Business communication theory; analysis of communication alternatives; effective business writing and speaking; case studies. Meets the upper-division writing skills requirement for graduation.

Units: 3

Course Typically Offered: Fall, Spring

BA 150. Law and Business Activity
Prerequisite: BA 18. Examination of the law of bailments, shipments, sales, commercial paper, and secured transactions. Nature of property; and the relation of the legal, ethical, and regulatory environment to commercial transactions. Case studies; discussion and analysis.

Units: 3

Course Typically Offered: Fall, Spring

BA 152. Law for Entrepreneurs
Prerequisite: BA 18 or permission of the instructor. Special legal problems of entrpreneurs. Topics include hiring legal counsel; selecting a business form; operating small corporations; obtaining capital; using employees to foster organizational goals; and protecting intellectual property, Focus will be on preventative law. (Formerly BA 189T)

Units: 3

Course Typically Offered: Spring

BA 154. Real Estate Law
Meets California statutory course requirement for real estate broker's license. Prerequisite: BA 18. Legal aspects of acquisition and ownership of real estate; conveyances, mortgages, evidences of title; planning and zoning.

Units: 3

Course Typically Offered: Spring

BA 174. Introduction to International Business
Competing in global markets. Accommodating to differing cultural, legal, and political systems. Role of start-up and medium-sized firms, importing, exporting, international contracts, and investment, multi-country production and distribution. Forecasting and compensating for changing government policies, market conditions affecting profitability.

Units: 3

Course Typically Offered: Fall, Spring

BA 175. Tools and Techniques of International Business
Prerequisite: grade of C or better in BA 174 and FIN 120. Organizing international operations, entering foreign markets using global communications, finding business connections and potential imports or exports. Selling abroad, government support services, pricing, shipping, documentation, taxes, duties, quotas, trade licenses. International personnel strategies, accounting systems, travel, international business control.

Units: 3

Course Typically Offered: Fall

BA 176. The International Business Environment
Prerequisite: grade of C or better in BA 174. Evolution of international business. Political regimes, economic success and failure, identifying prosperity, picking winners. Dealing with changing cultures, variations within cultures. Doing business in unstable regions. Implications of global downsizing. Trading blocks and their effects. Forecasting and international business opportunities.

Units: 3

Course Typically Offered: Spring

BA 177. Legal Environment of World Commerce
Prerequisites: BA 18; junior standing; BA 150 recommended. Seminar on international sales, documents, credits, dispute resolution; trade law, including GATT/WTO customs, tariff laws; regulatory ethical environment of international marketplace, intellectual property transfers, political risk, exploitation of labor and environment.

Units: 3

Course Typically Offered: Fall

BA 179. Legal & Ethical Aspects of Sports Marketing
Study and application of agency, franchise, government regulation, antitrust, conctract and tort law principles as they affect the business of sports marketing. Review of ethical aspects of the sports marketing business.

Units: 3

Course Typically Offered: Spring

BA 189T. Topics in Business Administration
Studies in business administration.

Units: 1-3, Repeatable up to 9 units

BA 190. Independent Study
See Academic Placement - Independent Study. Approved for RP grading.

Units: 1-3, Repeatable up to 6 units

Course Typically Offered: Fall, Spring

BA 195. Internship
Prerequisite: permission of internship coordinator. Requires 150 hours of work at a pre-qualified, academically-related work station (business, government or nonprofit agency). Reflective journal, final report, and work station evaluation. As a course substitution, prior department approval required. Only one internship may count towards option requirements. CR/NC grading only.

Units: 3, Repeatable up to 6 units

Course Typically Offered: Fall, Spring

BIOLOGY (BIOL)

BIOL 1A. Introductory Biology
Course one of two-semester sequence required of all Biology majors. Thematic introduction to the unifying concepts of life science: chemical basis of life; cellular processes; energy metabolism; genetics; evolution. G.E. Breadth B2. (3 lecture, 3 lab hours) (Formerly BIOSC 1A) (Course fee, $15)

Units: 4

Course Typically Offered: Fall, Spring

GE Area: B2

BIOL 1B. Introductory Biology

Prerequisite: BIOL 1A passed with C or higher grade . First-time enrollees must take BIOL 1BL concurrently. Course two of a two-semester sequence required of all Biology majors. Continuation of thematic introduction to the unifying concepts of life science: classification and diversity of life; survey of the living organisms; physiology; ecology and environmental Biology. (3 lecture hours) (Formerly BIOSC 1B).

Units: 3

Course Typically Offered: Fall, Spring

BIOL 1BL. Introductory Biology Laboratory

First-time enrollees must take BIOL 1B concurrently. Required of all Biology majors. Continuation of thematic introduction to the unifying concepts of life science: laboratory exercises in evolution, classification and diversity of life; survey of the living organisms; physiology; ecology and environmental Biology. (3 lab hours) (Course fee, $15) (Formerly BIOSC 1B)

Units: 1

Course Typically Offered: Fall, Spring

BIOL 10. Life Science

Not open to students with credit in BIOL 1A. How living things work and why they work that way. Biology from chemical and physical foundations to ecological and evolutionary processes. Biology and its relationship to human affairs. G.E. Breadth B2. (2 lecture, 2 lab hours) (Course fee, $5)

Units: 3

Course Typically Offered: Fall, Spring

GE Area: B2

BIOL 10H. Life Science

Not open to students with credit BIOL 1A. Shows how living things work and why they work that way. Discusses Biology from chemical and physical foundations through ecological adn evolutionary processes. Examines Biology and its relationship to human affairs. (2 lecture, 2 lab hours) G.E. Breadth Area B2.

Units: 3

GE Area: B2

BIOL 11. Plant Biology

Not open to students with credit in BIOL 1B (formerly BIOSC 1B). Structure, function, and development of plants. G.E. Breadth B2. (2 lecture, 2 lab hours) (Formerly BOT 10) (Course fee, $15)

Units: 3

Course Typically Offered: Fall, Spring

GE Area: B2

BIOL 12. Animal Biology

Not open to students with credit in BIOL 1B. Structural and functional comparison of animals; principles and human implications of inheritance, evolution, and ecology; physiology as applied to man. G.E. Breadth B2. (2 lecture, 2 lab hours) (Formerly ZOOL 10)

Units: 3

Course Typically Offered: Fall, Spring

GE Area: B2

BIOL 20. Introductory Microbiology

Not open to students with credit in BIOL 120. Prerequisites: CHEM 1A/1AL or CHEM 3A. Introduction to microBiology; principles and selected applications. (3 lecture, 3 lab hours) (Course fee, $25) (Formerly MICRO 20)

Units: 4

Course Typically Offered: Fall, Spring

BIOL 33. Introductory Human Anatomy and Physiology

Three units allowed for students with prior credit in human anatomy; 2 units allowed for students with prior credit in human physiology. An integrated study of the structure and function of the human body. (4 lecture, 3 lab hours) (Course fee, $25) (Formerly PHYAN 33)

Units: 5

Course Typically Offered: Fall, Spring

BIOL 64. Functional Human Anatomy

Not open to students with credit in BIOL 33. Primarily for students in the health related and biological professions. The life continuum from conception to death. A systems approach to the gross and microscopic structures of the human body. (2 lecture, 3 lab hours) (Course fee, $25) (Formerly PHYAN 64)

Units: 3

Course Typically Offered: Fall, Spring

BIOL 65. Human Physiology

Not open to students with credit in BIOL 33. College chemistry and human anatomy recommended. Homeostasis in the human body; how organ systems function to maintain life; dynamic and adaptive systems at the molecular, cellular, and organ level. (4 lecture, 3 lab hours) (Formerly PHYAN 65)

Units: 5

Course Typically Offered: Fall, Spring

BIOL 67A. Human Anatomy & Physiology I

Prerequisites: BIOL 20, grade of C or better OR BIOL 1A AND CHEM 1A/1AL (or 3A*), grade of C or better.* only if allowed by major. Not open to students with credit in BIOL 33, 64, or 65. Histology, cellular communication, embryological development, and the anatomy and physiology of the following human systems: integumentary, skeletal, muscular, nervous, and special senses. (3 lecture, 3 lab hours) (Course fee, $25)

Units: 4

Course Typically Offered: Fall, Spring

BIOL 67B. Human Anatomy and Physiology II

Prerequisites: BIOL 67A, grade of C or better. Not open to students with credit in BIOL 33, 64, or 65. The anatomy and physiology of the following human systems: endocrine, cardiovascular, lymphatic/immune, respiratory, urinary, digestive, and reproductive as well as introductory nutrition and metabolism, exercise physiology, and human development and aging. (3 lecture, 3 lab hours)

Units: 4

Course Typically Offered: Fall, Spring

BIOL 101. General Ecology
Prerequisites: BIOL 1A and BIOL 1B; PSYCH 42 or MATH 101, or EES 178 (EES majors only). MATH 70 or equivalent recomended. Required of all Biology majors. The structure, function, organization, and regulation of populations, communities, and ecosystems. The role of evolution in environmental relationships. (3 lecture, 3 lab hours)* (Formerly BIOSC 130) (Course fee, $15)

Units: 4

Course Typically Offered: Fall, Spring

BIOL 102. Genetics
Prerequisites: BIOL 1A and BIOL 1B. Co-requisites: CHEM 8 or CHEM 128A. Required of all Biology majors. Fundamentals of inheritance, including an introduction to the underlying molecular mechanisms. (3 lecture hours) (Formerly BIOSC 140A)

Units: 3

Course Typically Offered: Fall, Spring

BIOL 103. Cellular Biology
Prerequisites: BIOL 102 and either CHEM 150 or CHEM 155A. Fundamentals of inheritance and cellular Biology for both prokaryotic and eukaryotic systems, including an introduction to the underlying molecular mechanisms. (3 lecture hours) (Formerly BIOSC 140B)

Units: 3

Course Typically Offered: Fall, Spring

BIOL 104. Genetics and Cell Biology Lab
Prerequisite: BIOL 102 and BIOL 103 (BIOL 103 may be taken concurrently.) Required of all Biology majors. Must be taken a minimum of four semesters from completing BIOL 103. Basic techniques in molecular genetics and cell Biology. No credit if BIOSC 140B taken prior to fall 2005. (3 lab hours) (Course fee, $20) (Formerly BIOSC 140L lab)

Units: 1

Course Typically Offered: Fall, Spring

BIOL 105. Evolution
Prerequisites: senior standing or permission of instructor; BIOL 101, BIOL 102, and BIOL 103. Required of all Biology majors. Evolutionary processes and patterns. Satisfies the senior major requirement for the B.S. in Biology. (Formerly BIOSC 180)

Units: 3

Course Typically Offered: Fall, Spring

BIOL 110. Human Ecology
The study of the relationships between humans and their environment, both natural and man-made; emphasis on scientific understanding of root causes of current environmental problems. (Formerly BIOL 105)

Units: 3

BIOL 119. Molecular Virology
Prerequisite: BIOL 120. This course will emphasize the molecular basis of viral replication, survival, and spread within a host population, the key virus-host interactions that lead to disease, and the basic molecular approaches of inhibiting viral infection. (3 lecture hours)

Units: 3

BIOL 120. Microbiology
Prerequisites: BIOL 1A, BIOL 1B; CHEM 8 or CHEM 128A; or BIOL 11 and CHEM 150. Emphasis on prokaryotes (bacteria); microbial physiology, genetics, ecology, classification, and identification; applications of microBiology. Prerequisite to most upper-division microBiology courses. (3 lecture, 3 lab hours) (Course fee, $25) (Formerly MICO 140)

Units: 4

BIOL 121. Medical Microbiology
Prerequisite: BIOL 120; BIOL 157 recommended. The role of microorganisms in causing infection and disease; strategies for diagnosing and treating infections. (3 lecture hours) (Formerly MICRO 183)

Units: 3

Course Typically Offered: Fall

BIOL 122. Nonvascular Plants
Prerequisites: BIOL 1A and BIOL 1B or permission of instructor. Comparative structure and phylogeny of the fungi, algae, mosses, and liverworts. (2 lecture, 3 lab hours) (Course fee, $20) (Formerly BOT 132)

Units: 3

BIOL 123. Phycology
Prerequisites: BIOL 1A and BIOL 1B or permission of instructor. Morphology, cytology, ecology, physiology, economic importance, and cultivation of the algae. (2 lecture, 6 lab or field hours) (Course fee, $30) * (Formerly BOT 142)

Units: 4

BIOL 124. Vascular Plants
Prerequisites: BIOL 1A and BIOL 1B or permission of instructor. Morphology, reproduction, and evolution of the major groups of vascular plants (both living and extinct). Emphasis placed upon the seed plants. (2 lecture, 6 lab hours) (Formerly BOT 131)

Units: 4

BIOL 125. Plant Taxonomy
Prerequisites: BIOL 1A and 1B or permission of instructor. Principles of plant classification; local flora. (2 lecture, 6 lab or field hours) (Formerly BOT 144)

Units: 4

BIOL 130. Invertebrate Zoology
Prerequisites: BIOL 1A, BIOL 1B. Systematics and phylogeny (based primarily upon external and internal anatomy) and general ecology of free-living invertebrates (excluding insects). Includes field studies of marine and occasionally freshwater habitats. (2 lecture, 6 lab or field hours) (Course fee, $25) * (Formerly ZOOL 141)

Units: 4

Course Typically Offered: Fall

BIOL 131. Parasitology
Prerequisites: BIOL 1A, BIOL 1B and CHEM 1A/1AL or CHEM 3A. A study of the Biology of parasitic organisms, including those of

humans. Lecture topics: life history strategies, infectious processes, epidemiology, ecology, parasite evolution and phylogeny, diagnosis and treatment. Laboratory and field exercises: identification and samplin techniques, taxanomy, investigation of biological processes. (3 lecture, 3 lab hours*) (Course fee, $20) (Formerly ZOOL 148)

Units: 4

Course Typically Offered: Spring

BIOL 132. General Entomology

Prerequisites: BIOL 1A, BIOL 1B. Anatomy, physiology, life history, and classification of insects and other arthropods. (2 lecture, 3 lab or field hours)* (Formerly ZOOL 120)

Units: 3

BIOL 133. Natural History of Vertebrates

Prerequisite: BIOL 101. Systematics, distribution, morphology, behavior, and ecology of fish, amphibians, reptiles, birds, and mammals. Fieldwork includes capture and sampling techniques, species identification and habitat analysis, and may require weekend field trips to coastal, desert,a nd mountain environments. (3 lecture, 3 lab hours)* (Formerly ZOOL 150)

Units: 4

BIOL 134. Ichthyology

Prerequisite: BIOL 101. Ecology, evolution, and diversity of the fish of the world with emphasis on California fish, freshwater and marine. (2 lecture, 3 lab or field hours)* (Formerly ZOOL 171)

Units: 3

BIOL 135. Biology of Reptiles and Birds

Prerequisite: BIOL 101. Ecology, ethology, and evolution of the reptiles and birds of the world. Encompasses the traditional areas of herpetology and ornithology. (3 lecture, 3 lab or field hours) (Course fee, $25) * (Formerly ZOOL 174)

Units: 4

BIOL 136. Mammalogy

Prerequisite: BIOL 101. Ecology, evolution, and diversity of the mammals of the world. (2 lecture, 3 lab or field hours)* (Formerly ZOOL 177)

Units: 3

BIOL 140. Plant Anatomy

Prerequisites: BIOL 1A and BIOL 1B or permission of instructor. Structure and development of flowering plants at the cellular and tissue levels. (2 lecture, 3 lab hours) (Formerly BOT 133)

Units: 3

BIOL 141. Histology

Prerequisites: BIOL 103. Identification and study of vertebrate cells, tissues, and organs. (2 lecture, 6 lab hours) (Formerly PHYAN 134)

Units: 4

BIOL 142. Vertebrate Embryology

Prerequisites: BIOL 1A and BIOL 1B. Morphogenesis of vertebrates from gamete formation through organogenesis, including physiological and experimental aspects of development. Laboratory emphasis on frog, chick, and pig. (2 lecture, 6 lab hours) (Formerly PHYAN 135)

Units: 4

BIOL 143. Comparative Vertebrate Morphology

Prerequisites: BIOL 1A, BIOL 1B. Comparative structure of vertebrate organ systems; laboratory study of representative vertebrates. (2 lecture, 6 lab hours) (Formerly ZOOL 132) (Class fee, $30)

Units: 4

Course Typically Offered: Fall

BIOL 144. Neuroanatomy

Prerequisites: BIOL 33 or BIOL 64 or BIOL 65. Macroscopic and microscopic study of the structure and functional relationships of the human nervous system. (3 lecture, 3 lab hours) (Formerly PHYAN 130)

Units: 4

BIOL 150. Molecular Biology

Prerequisites: BIOL 102; BIOL 103; CHEM 150 or CHEM 155A. The study of genome structure and fluidity, prokaryotic and eukaryotic gene expression, and genomics. If GENET 142 was taken prior to Fall 2005, it is equivalent to BIOL 150 and BIOL 151 (formerly GENET 143). (3 lecture hours) (Formerly GENET 142)

Units: 3

Course Typically Offered: Spring

BIOL 151. Bioinformatics

Prerequisite: BIOL 102; and BIOL 103; CHEM 150 or 155A. Recommended pre- or co-requisite, BIOL 150. Practical use and application of computational tools for the analysis nucleic acids and proteins. Genomic database searching. Sequence alignment, molecular phylogenetic analysis, secondary and tertiary structure modeling of biological macromolecules. No credit if GENET 142 was taken prior to Fall 2005. (1 lecture, 3 lab hours) (Course fee, $10) (Formerly GENET 143)

Units: 2

Course Typically Offered: Spring

BIOL 152. Experimental Molecular Genetics

Prerequisite: BIOL 102 and BIOL 103. The nature of genetic information, its mutation, transfer, and recombination in cells. (2 lecture, 6 lab hours) (Course fee, $30) (Formerly GENET 171)

Units: 4

BIOL 153. Microbial Genetics

Prerequisite: BIOL 102 and BIOL 120 or permission of instructor. Genetic variation, gene transfer, and regulation of gene expression in model microbial systems and medically and industrically important microbes. (3 lecture, 3 lab hours) (Formerly GENET 182)

Units: 4

BIOL 155. Developmental Biology

Prerequisite: BIOL 102 and BIOL 103. Investigations concerning the variety of mechanisms acting during the several stages of development of the living organism, from gamete formation to morphological and biochemical differentiation of organ systems;

emphasis on different genetic control. (3 lecture, 3 lab hours) (Course fee, $20) (Formerly GENET 172)

Units: 4

Course Typically Offered: Spring

BIOL 156. Plant Growth and Development

Prerequisites: BIOL 102 or permission of instructor. Processes involved in plant growth with emphasis on the development of form in higher plants and the experimental approach. (2 lecture, 3 lab hours) (Course fee, $20) (Formerly BOT 137)

Units: 3

Course Typically Offered: Fall

BIOL 157. Immunology

Prerequisites: BIOL 102 required; BIOL 103 and CHEM 150 or CHEM 155A highly recommended. Principles of mammalian immune response, featuring the molecular and cellular interactions involved in both humoral and cell-mediated immunity. Regulatory controls and adverse clinical conditions involving immune functions are addresses. Experimental basis of inquiry is emphasized. (Formerly PHYAN 160)

Units: 3

Course Typically Offered: Fall

BIOL 157L. Immunology Laboratory

Prerequisites: BIOL 157 and either BIOL 103 and BIOL 104 or BIOL 120 (formerly MICRO 140). Experimental illustration of immune response; classical and contemporary immunology techniques; interpretation and presentation of experimental outcomes. (6 lab hours, 1 hour discussion) (Course fee, $30) (Formerly PHYAN 160L)

Units: 3

BIOL 158. The Biology of Cancer

Prerequisite: BIOL 103 (Cell Biology) or permission of the instructor. Examination of the environmental causes of cancer, the underlying genetic and cellular changes that lead to a cancer diagnosis, and new strategies for treatments.

Units: 3

Course Typically Offered: Fall

BIOL 160. Microbial Physiology

Prerequisite: BIOL 120. Structure, function, energy metabolism, growth, and regulatory mechanisms of microorganisms. (2 lecture, 6 lab hours) (Course fee, $25) (Formerly MICO 161)

Units: 4

BIOL 161. Plant Physiology

Prerequisites: BIOL 1A and BIOL 1B (or BIOL 11); CHEM 1A/1AL or CHEM 3A; CHEM 3B or CHEM 8 or CHEM 128A; or permission of instructor. General metabolism (photosynthesis, water relations, respiration, nutrient use, etc.) of plants and functional integration with structure. (3 lecture, 3 lab hours) (Course fee, $20) (Formerly BOT 130)

Units: 4

BIOL 162. Comparative Animal Physiology

Prerequisite: BIOL 102 and BIOL 103. Evolution of physiological systems; functional adaptations to different environments; physiological principles as applied to animals. (3 lecture) (Formerly PHYAN 151 lecture)

Units: 3

Course Typically Offered: Fall, Spring

BIOL 162L. Comparative Animal Physiology Lab

Prerequisite: BIOL 102 and BIOL 103. BIOL 162 is a pre- or co-requisite. Comparative experimental approach to understanding how animals adapt to different environmental challenges and investigations into physiological processes. (3 lab hours) (Course fee, $20) (Formerly PHYAN 151 Lab component)

Units: 1

Course Typically Offered: Fall, Spring

BIOL 163. Advanced Human Physiology

Prerequisites: BIOL 103 and either BIOL 65 or equivalent. Primarily for students in Biology and in the health professions. Advanced study of the cardiovascular, respiratory, excretory, and digestive systems. Concepts explaining normal functioning will be illustrated through study of specific examples, such as exercise. (Formerly PHYAN 163)

Units: 3

BIOL 164. Hematology

Prerequisite: BIOL 103; BIOL 65 and BIOL 157 recommended. Development, structure, identification, and quantification of cellular blood elements; qualitative and quantitative considerations of hemoglobin, coagulation, and immunohematology. (Formerly PHYAN 162)

Units: 3

Course Typically Offered: Spring

BIOL 165. Endocrinology

Prerequisite: BIOL 102 and BIOL 103. A systems approach to the study of hormone synthesis, secretion, function as intercellular signals, and their role in both controlling and integrating normal physiological processes. (Formerly PHYAN 165)

Units: 3

Course Typically Offered: Spring

BIOL 166. Neurophysiology

Prerequisites: BIOL 33 or BIOL 64 or BIOL 65 or BIOL 103 or BIOL 162. Function of the human nervous system with emphasis on molecular mechanisms of electrical and chemical signaling. (Formerly PHYAN 140)

Units: 3

Course Typically Offered: Fall

BIOL 170. Microbial Ecology

Prerequisites: BIOL 101 and BIOL 120. Physiological ecology of microorganisms; interactions of microorganisms with abiotic and biotic factors in the environment; microbial habitats including soil, water, and organisms; techniques of microbial ecology (field laboratory). (3 lecture, 3 lab hours)* * Late afternoon, Saturday and/or overnight field trips may be required.

Units: 4

Course Typically Offered: Spring

BIOL 171. Terrestrial Ecology
Prerequisite: BIOL 101. The interaction of organisms and communities with the physical and biotic environment, with emphasis on the biotic communities of Central California. (3 lecture, 3 lab or field hours) (Course fee, $20) * (Formerly ECOL 151)

Units: 4

Course Typically Offered: Fall

BIOL 172S. Aquatic Ecology
Prerequisite: BIOL 101. Physical-chemical features of inland waters as related to their Biology; community structure and function, ecological interactions, adaptations, and identification of aquatic organisms. (3 lecture, 3 lab or field hours) (Course fee, $15) * (Formerly BIOL 172)

Units: 4

Course Typically Offered: Spring

BIOL 173. Marine Biology
Prerequisite: BIOL 1B or BIOL 12. Introduction to the marine environment with emphasis on the biological aspects; systematics, ecology, and morphological and physiological adaptations of marine organisms, especially intertidal and shallow water forms; pollution; utilization of marine resources. (One field trip required) (Formerly ECOL 135)

Units: 3

BIOL 174. Animal Behavior
Prerequisite: BIOL 101; one additional course in ecology or natural history recommended. Principles of ethology with emphasis on mechanisms of behavior. (2 lecture, 3 lab hours)* (Formerly ZOOL 152)

Units: 3

Course Typically Offered: Fall

BIOL 175. Case Studies in Ecology
Prerequisites: BIOL 101. Discussion-based course focusing on analysis and problem solving in ecology. Cases are grounded in basic ecological and environmental science, but include relevance and application to sociological, economic, and political considerations. (2 lecture hours, 1 Tba) (Formerly ECOL 140)

Units: 3

BIOL 176. Field Methods Ecology
Prerequisite: BIOL 101. Teaches a broad range of field methods used in ecology. Focuses on quantitative techniques for studying animal populations: census techniques, capture/marking, radio telemetry, habitat assessment, behavioral observation and experiments, and design and logistics of field experiments. (2 lecture; 3 lab hours) (Course fee, $25) (Formerly ECOL 141)

Units: 3

BIOL 178. Systematic Biology
Prerequisite: BIOL 1A and BIOL 1B; BIOL 102 and BIOL 103 recommended. Modern theory and methods of phylogenetic analysis applied to the study of biodiversity and evolution. (2 lecture, 3 lab hours) (Formerly ECOL 174)

Units: 3

Course Typically Offered: Fall

BIOL 181. Seminar in Cellular and Molecular Biology
Prerequisites: BIOL 150 may be co-requisite or permission of instructor. Trends and breakthroughs in cellular and molecular Biology accessed through the primary literature. (1 seminar hour) (Formerly GENET 170)

Units: 1

Course Typically Offered: Spring

BIOL 185T. Protozoology
Units: 3

BIOL 189T. Topics in Biology
Prerequisite: permission of instructor. Investigation of selected areas in the field of Biology. (Lecture and/or laboratory)

Units: 1-4, Repeatable up to 6 units

BIOL 189T. Macroevolution
Introduction and exploration of macroevolutionary theories, principles, and case studies. We will use the primary literature to understand how macroevolution differs from Darwinian microevolution.

Units: 4, Repeatable up to 8 units

BIOL 189T. Honors Peer Instruction
Peer instruction in Biology focuses on the development of improved oral communication, reinforcement of foundational Biology knowledge, and development of teaching skills through service as a peer-instructor in Biology.

Units: 1, Repeatable up to 2 units

BIOL 189T. Biology Colloquium - Genetics
The aim of the Biology Colloquium is to expose undergraduate students to selected topics in Biology. Speakers within the department and outside the department and university will address topics in their speciality in Botany.

Units: 1, Repeatable up to 6 units

BIOL 189T. Conservation Biology
Introduction to the basic tenants of conservation Biology and a review of seminal studies and theories. We will review primary literature and case studies to explore this discipline.

Units: 3, Repeatable up to 6 units

BIOL 190. Independent Study
See Academic Placement - Independent Study. Approved for RP grading.

Units: 1-3, Repeatable up to 6 units

Course Typically Offered: Fall, Spring

BIOL 204. Biology of Speciation
Prerequisites: BIOSC 140A-B and 180. Evolution of the species as a unit of biological organization.

Units: 2

BIOL 208. biological Field Studies
Prerequisite: permission of instructor. Integrated studies or specialized topics, including botanical, environmental, microbiological, or zoological field studies. Approved for SP grading.

Units: 1-6

BIOL 224. Evolutionary Developmental Biology
This course examines principles and mechanisms of animal development. Emphasis will be held on the evolution of developmental pathways, and how the alteration of these pathways has led to the evolution of animal morphology.

Units: 3

BIOL 225. Molecular Evolution
Patterns and processes by which biological molecules evolve. Lecture topics include rates and modes of DNA sequence evolution, molecular phylogenetics, gene duplication, concerted evolution, genome organization, and application of computers to comparative

Units: 3

BIOL 230. Foundations of Ecology
Prerequisites: permission of instructor. Ideas and papers that defined ecology as an independent scientific discipline are discussed, both in the context of their time of publication and in comparison to current ecological paradigms. Time period covered is late 19th century to present.

Units: 2

BIOL 240. Systems Ecology
Prerequisites: BIOL 130, MATH 70. Quantitative approach to the analysis of whole ecosystems including data acquisition and statistical treatment, conceptual and mathematical ecosystem modeling, and computer simulations in FORTRAN or baSIC. No programming experience needed. (2 lecture, 3 lab hours)

Units: 3

BIOL 241A. Molecular Biology I-II
(BIOL 241A same as CHEM 241A and FBS 241A.) Prerequisites: BIOL 102, BIOL 103, CHEM 150 or CHEM 155A or permission of instructor. Current topics in molecular Biology are addressed, including protein and nucleic acid structure, DNA replication, transcription, translation, prokaryotic and eukaryotic regulation, mechanisms of exchange of generic material, and recombinant DNA technology.

Units: 3

BIOL 241B. Molecular Biology I-II
(Same as BIOL 241A and BIOL 241B.) Prerequisites: BIOL 140A, BIOL 140B, CHEM 150 or CHEM 155A, or permission of instructor. BIOL 241A/CHEM 241A is prerequisite for BIOL 241B or CHEM 241B. Current topics in molecular Biology are addressed, including protein and nucleic acid structure, DNA replication, transcription, translation, prokaryotic and eukaryotic regulation, mechanisms of exchange of generic material, and recombinant DNA technology.

Units: 3

BIOL 242. Techniques in Protein Purification and Analysis
(Same as BIOL 242.) Prerequisite: CHEM 151 or CHEM 156 or permission of instructor. Corequisite: BIOL 241A or CHEM 241A. Deals with the technologies relevant to protein isolation, purification, analysis, immobilization, and modification in micro and macro quantities. (1 lecture, 6 lab hours) (Class fee, $40)

Units: 3

BIOL 243. Nucleic Acid Technology Lab
(Same as BIOL 243.) Prerequisites: BIOL 241A or CHEM 241A and BIOL 242 or CHEM 242. Corequisite: BIOL 241B or CHEM 241B. A lecture/laboratory course focusing on the technologies used in nucleic acid chemistry; specifically, synthesis, translation, mutagenesis, and genetic engineering. (1 lecture, 6 lab hours) (Course fee, $40)

Units: 3

BIOL 244. Cell Culture Techniques
(Same as BIOL 244.) Prerequisites: BIOL 103 and BIOL 104. The theory and practice of in vitro propagation of eukaryotic cells, including growth characteristics, metabolic requirements, genetic analysis, and screening assays. Special focus is on cancer cell lines with the potential for stem cell manipulation relative to cell Biology culture and application to biotechnology. (1 lecture, 6 lab hours)

Units: 3

BIOL 245. Industrial Biotechnology
Prerequisites: BIOL 120 and CHEM 150 or CHEM 155A or permission of Instructor. Theory and current practices of bioprocessing, including hands-on experience with standard techniques and formulation of a strategic plan for a new technology or product. (2 lecture, 3 lab hours).

Units: 3

BIOL 248. Seminar in Molecular Biology and Biotechnology
(CHEM 248 same as BIOL 248.) Prerequisite: admission to the Biology or chemistry graduate program. Preference will be given to students enrolled in the Master of Biotechnology or Biotechnology Certificate Programs. Reviews and reports on current literature in various aspects of biotechnology and molecular Biology.

Units: 1-2, Repeatable up to 4 units

BIOL 250. Scientific Writing
Prerequisite: permission of instructor. Prepare a writing sample to fulfill Graduate Writing Requirement; how to write a proposal for a research project, including language (composition for scientific writers), structure (elements of proposals), and content (literature review, scientific question). (3 lecture hours)

Units: 3

BIOL 255T. Topics in Botany
Prerequisite: permission of instructor. Investigation of new fields, areas not in current courses, or advanced studies in a given area. (Lecture and/or laboratory)

Units: 1-3, Repeatable up to 9 units

BIOL 260T. Topics in Biology
Prerequisite: permission of instructor. Investigation of new fields, areas not in current courses, or advanced studies in a given area. (Lecture and/or laboratory)

Units: 1-3, Repeatable up to 9 units

BIOL 260T. Experimental Design for Biologists
A good understanding of the scientific method and experimental design are key to successful research in Biology. Experimental Design for biologists offers an overview of the philosophy of sci-

ence and the scientific method, and helps students establish the framework for their experimental projects. The course will guide students on how to 1) set up a study system, 2) frame experimental question and develop critical hypotheses, 3) design experiments to test hypotheses, 4) determine and use the correct set of controls, and 5) interpret the results of experiments.

Units: 3, Repeatable up to 9 units

BIOL 260T. Molecular Virology

Core lectures on molecular virology along with discussions of the current literature. The course will emphasize the molecular basis of viral replication, survival and spread within a host population and the key virus-host interactions that lead to disease. The course will also highlight novel approaches of inhibiting viral infection and the ethnical use of viral agents in “dual use” research.

Units: 3, Repeatable up to 9 units

BIOL 260T. Molecular Phylogenetics and Evolution

Application of molecular markers to studies of species, populations and natural history of aquatic and terrestrial organisms; Biodiversity and historical biogeography.

Units: 2, Repeatable up to 8 units

BIOL 260T. Conservation Biology

Introduction and exploration of conservation biological theories, research approaches, and empirical studies. Discussion of current issues and future directions in global conservation.

Units: 3, Repeatable up to 9 units

BIOL 265T. Topics in Physiology

Prerequisite: permission of instructor. Investigation of new fields, areas not in current courses, or advanced studies in a given area. (Lecture and/or laboratory)

Units: 1-3, Repeatable up to 9 units

BIOL 266. Neuroethology

Neuroethology links brain function to natural behavior. This course explores the underlying neural and molecular mechanisms that drive animal behavior and how the nervous system has evolved and adapted to the specific challenges in the environment. (Formerly BIOL 260T)

Units: 3

BIOL 270T. Topics in Zoology

Prerequisite: permission of instructor. Investigation of new fields, areas not in current courses, or advanced studies in a given area. (Lecture and/or laboratory)

Units: 1-3, Repeatable up to 9 units

BIOL 273. Applied Bioethics

This course explores historical and modern ethical issues in order to prepare students to understand and to address situations they will likely encounter in biological research. Topics include responsible data management, publications and authorship, negligence and fraud, conflict of interest, and the use of animals and humans in research. The course will combine brief background lectures with case study presentations and discussions. 1 lecture hour per week.

Units: 1

Course Typically Offered: Spring

BIOL 274. Biostatistics & Experimental Design

Prerequisite: one statistics class, preferably MATH 101. Application of statistical techniques to biological problems with emphasis on sampling, analysis of variance, experimental design, and regression techniques. Emphasis on analysis of real biological data and interpretation of results.

Units: 3

BIOL 275. Biogeography

Prerequisite: permission of instructor. Seminar in descriptive and ecological geography of animal and plant groups.

Units: 3

BIOL 276. Biology of Climate Change

The course examines the physical mechanisms and drivers of the earth’s climate system, specifically analyzing biosphere-climate interactions. Using a lecture-discussion format, the course evaluates climatic impacts on the biosphere integrating across spatial (cell-to-ecosystem) and temporal (hours-to-decades) scales.

Units: 3

Course Typically Offered: Spring - even

BIOL 280. Biology Colloquium

The aim of the Biology Colloquium is to expose graduate students to selected topics in Biology. Speakers within the department and outside the department and university will address topics in their speciality.

Units: 1, Repeatable up to 2 units

Course Typically Offered: Fall, Spring

BIOL 281. Seminar in biological Science

Prerequisite: permission of instructor. Reviews and reports on current literature in the various phases of Biology.

Units: 1-2, Repeatable up to 3 units

BIOL 290. Independent Study

See Academic Placement - Independent Study. Approved for SP grading.

Units: 1-3, Repeatable up to 6 units

BIOL 295. Research

Prerequisite: permission of instructor. Independent research by the advanced graduate student.

Units: 2-6

BIOL 298C. Project Continuation

Project Continuation

Units: 0

BIOL 299. Thesis

Prerequisite: See Criteria for Thesis and Project. Preparation, completion, and submission of an acceptable thesis for the master’s degree. Approved for SP grading.

Units: 2-4

BIOL 299C. Thesis Continuation

Prerequisite: Thesis BIOL 298. For continuous enrollment while completing the thesis. May enroll twice with department approval. Additional enrollments must be approved by the Dean of Graduate Studies.

Units: 0

BIOTECHNOLOGY (BIOTC)

BIOTC 275. Biotechnology Industrial Experience

Prerequisites: PSM Program Classification; BIOL 241B or CHEM 241B; BIOL 248 or CHEM 248; BUS 272; or permission of instructorInternship to develop familiarity with biotechnology business practices. Requires a minimum of 150 hours of onsite work and completion of a project for written and oral presentation. Specific placement is facilitated by the PSM coordinator. Approved for RP grading.

Units: 3

BIOTC 298. Biotechnology Culminating Project

Prerequisites: PSM Advancement to Candidacy and completion of all other courses in the program of study. Field studies, including appropriate experimentation, addressing a biotechnology business/science problem identified through student's independent analysis. Extensive written documentation on the plans and outcomes are required. A final progress report meeting the requirements of the culminating experience for a Master's degree and an oral defense are required. Approved for RP grading.

Units: 4

BIOTC 298C. Project Continuation

Prerequisite: Project BIOTC 298. For continuous enrollment while completing the project. May enroll twice with department approval. Additional enrollments must be approved by the Dean of Graduate Studies.

Units: 0

BIOTC 299. Thesis

Prerequisites include PSM advancement to candidacy and completion of all other courses in the program of study. Preparation, completion and submission of an acceptable thesis for a Master's Degree addressing. An oral defense is required. Approved for RP grading.

Units: 4

BIOTC 299C. Thesis Continuation

Prerequisite: Thesis BIOTC 299. For continuous enrollment while completing the thesis. May enroll twice with department approval. Additional enrollments must be approved by the Dean of Graduate Studies.

Units: 0

COMMUNICATIVE DISORDERS AND DEAF STUDIES (CDDS)

CDDS 80. Introduction to Human Communication and Disorders

An overview of speech, language and hearing, and disorders of communication; interrelations between the causes of communication disorders and thier psychological and sociaological effects.

Units: 3

CDDS 90. Deaf American Literature

Introduction to major American Sign Language and English-language works composed by Deaf authors and artists in America. Addresses contexts in which literary and cultural texts were created, and how they reflect and shape American Deaf culture. Knowledge of Sign Language recommended but not required.

Units: 3

GE Area: C2

CDDS 91. American Sign Language I

Introduction to the appreciation, comprehension, and analysis of a language developed in a visual/gestural mode. American Sign Language, its cultural/historical background, the role it plays in the deaf community, and its growing influence in American mainstream society.

Units: 3

Course Typically Offered: Fall

CDDS 92. American Sign Language II

Prerequisite: G.E. Foundation A2; CDDS 91 or permission of instructor. Further appreciation, comprehension, and analysis of the uniqueness of a visual/gestural language, including its cultural/historical background and the role it has played in deaf communities in the United States adn throughout the world. G. E. Breadth C2. (Formerly CSD 134)

Units: 3

Course Typically Offered: Fall, Spring

GE Area: C2

CDDS 93. American Sign Language III

Prerequisites: CDDS 92. Continued study of grammatical structure of the lexicon of American Sign Language related to its historical, artistic, and cultural influence in mainstream society with emphasis on receptive/expressive conversational and cultural skills for communication. (Formerly CSD 93)

Units: 3

Course Typically Offered: Fall, Spring

CDDS 94S. American Sign Language IV

Prerequisites: CDDS 93. Full development of receptive/expressive conversational skills in a culturally appropriate and participatory fashion, using American Sign Language to converse, narrate, and engage in conversations with deaf children and adults from diverse backgrounds. (Formerly CDDS 94S)

Units: 3

Course Typically Offered: Fall, Spring

CDDS 95. Introduction to Speech and Language Development

Study of normal verbal development; compilation of developmental milestones in speech and language acquisition.

Units: 3

Course Typically Offered: Fall, Spring

CDDS 96. Linguistics of American Sign Language

Prerequisites: CDDS 91, CDDS 92. This course includes an overview of basic morphology, phonology, syntax and sociolinguistics; a study of systems previously used to analyze American Sign Language; and comparison of the structure of American Sigh Language to spoken languages. (Formerly CDDS 138)

Units: 3

Course Typically Offered: Fall

CDDS 98. Introduction to Hard of Hearing and Deaf People

Introduces diversity among hard of hearing and deaf individuals, their backgrounds, their history, and their life experiences. Emphasis on understanding their minority status and appreciating communications and cross-cultural skills for interaction. G. E. Breadth D3.

Units: 3

Course Typically Offered: Fall, Spring

GE Area: D3

CDDS 101. Phonetics of American English

Perceptual and physiological characteristics of American English speech sounds; application of phonetics to the study of normal and abnormal speech patterns and regional dialects.

Units: 3

Course Typically Offered: Fall, Spring

CDDS 102. Anatomy and Physiology of the Speech Hearing Mechanisms

Anatomic and physiologic bases of the speech and hearing mechanisms.

Units: 3

Course Typically Offered: Fall, Spring

CDDS 103. Speech and Hearing Science

Physiological acoustics, psychoacoustics, acoustic phonetics, and perception of speech.

Units: 3

Course Typically Offered: Fall, Spring

CDDS 105. Speech Sound Disorders in Children

Prerequisites: A minimum 3.0 G.P.A.in CDDS 80, CDDS 95, CDDS 101, CDDS 102, with a grade of C or better in each course. Seminar on the assessment and treatment of articulation and phonological disorders.

Units: 3

Course Typically Offered: Fall, Spring

CDDS 106. Analysis of Language Acquisition by Deaf Children

Prerequisite: ENGL 5B or ENGL 10. Comparative analysis of the structure of written language of normally developing and deaf children and youth.

Units: 3

Course Typically Offered: Fall, Spring

CDDS 107. Observation in Communicative Disorders and Deaf Studies: Speech-Language Pathology

Prerequisites: CDDS 80, CDDS 95, CDDS 101, CDDS 102, CDDS 103, CDDS 105; corequisite: CDDS 110. Observation of assessment, treatment, parent counseling, and other clinical services in the University Speech and Hearing Clinic or at other professional settings. FS

Units: 1-3

Course Typically Offered: Fall, Spring

CDDS 109. Disorders of Language

Prerequisites: A minimum 3.0 G.P.A.in CDDS 80, CDDS 95, CDDS 101, CDDS 102, with a grade of C or better in each course. Seminar on language disorders in children; description of clinical subgroups; assessment and treatment.

Units: 3

Course Typically Offered: Spring

CDDS 110. Diagnostic Procedures

Prerequisites: CDDS 80, CDDS 95, CDDS 101, CDDS 102, CDDS 105. Corequisite: CDDS 107 (1 unit). Principles and procedures of diagnostic evaluation of communicative disorders. FS

Units: 3

Course Typically Offered: Fall, Spring

CDDS 114. Education of Exceptional Children

Characteristics of exceptional children; diagnostic and instructional programs; legal and certification issues; observation.

Units: 3

Course Typically Offered: Spring

CDDS 115. Disorders of Fluency and Voice

Prerequisites: A minimum 3.0 GPA in CDDS 80, CDDS 95, CDDS 101, CDDS 102 with a grade of C or better in each course. Normal and deviant vocal productions; introduction to assessment and treatment principles of analysis, measurement, and management of fluency disorders in children and adults.

Units: 3

Course Typically Offered: Fall

CDDS 116. Treatment Procedures in Communicative Disorders

Select one of the following prerequisites: CDDS 105, CDDS 109, or CDDS 115. Treatment procedures that apply across disorders of communication; developing client-specific treatment programs.

Units: 3

Course Typically Offered: Spring

CDDS 117. Behavioral Principles in Assessing and Treating Communicative Disorders

Prerequisites: A minimum 3.0 GPA in CDDS 80, CDDS 95, CDDS 101, CDDS 102 with a grade of C or better in each course. Introduction to the principles of behaviorism and applications to the assessment and treatment of communicative disorders.

Units: 3

Course Typically Offered: Spring

CDDS 121. Cochlear Implants and Deaf Children

Strategies for addressing academic, social, emotional, and audiological needs of children with cochlear implants in a variety of educational settings. Emphasis on communication skills, developing auditory skills, early literacy development, checking and troubleshooting equipment.

Units: 3

Course Typically Offered: Spring

CDDS 125. Audiometry and Audiology for School Nurses

Prepares students in obtaining certification as a School Audiometrist. Provides an introduction to the profession of Audiology, hearing loss and its medical aspects, the components of a hearing conservation program, basic assessment and management, and the fundamentals of interpretation.

Units: 3

Course Typically Offered: Fall

CDDS 128. Observation in Audiology

Prerequisites: CDDS 80, CDDS 95, CDDS 102; priority will be given to seniors; corequisite: CDDS 131. Observation of audiologic testing.

Units: 1-3

Course Typically Offered: Fall, Spring

CDDS 131. Principles of Audiology

Prerequisite: CDDS 80, CDDS 95, CDDS 102; priority will be given to seniors; corequisite: CDDS 128. Hearing loss and its medical aspects; introduction to hearing conservation; assessment of hearing loss; interpretation of diagnostic test results. (Formerly C D 131)

Units: 3

Course Typically Offered: Fall, Spring

CDDS 135. Sign Variations for Classroom Use

Prerequisites: CDDS 91, CDDS 92, CDDS 93. Focus on signing skills and different models/systems of communication used with deaf and hard-of-hearing students in a classroom.

Units: 3

CDDS 136S. Sign Language Vocabulary for Professionals

Prerequisites: CDDS 94S (with a grade of "C" or better) and CDDS 139. Focus primarily on building extensive specialized vocabularies essential for gaining sign language fluency and conversational competence for professionals working and communicating with deaf and hard-of-hearing children and adults.

Units: 3

Course Typically Offered: Spring

CDDS 137. ASL Immersion

Prerequisite: CDDS 94S. Corequisite: CDDS 136S (3 units). Principles and linguistic features of American Sign Language. CR/NC grading only. (2 lab hours)

Units: 1

CDDS 139. Deaf Culture

Prerequisites: G.E. Foundation and Breadth Area D. Experiences faced by deaf people, and their varying degrees of participation in deaf culture/deaf community; social, emotional, vocational, intellectual, and linguistic aspects of deaf culture; historical and current struggles to overcome problems experienced by deaf people in American and international cultures. G.E. Multicultural/International MI. (Formerly HHS 139)

Units: 3

Course Typically Offered: Fall, Spring

GE Area: M/I

CDDS 141. Education of Deaf Children and Their Parents

Study of deaf children in general, parent education, and various educational programs and services for deaf children and their parents. Emphasis on methods of instruction, education of deaf children, and families.

Units: 3

Course Typically Offered: Spring

CDDS 162. Speech for Deaf and Hard-of-Hearing Children and Youth

Prerequisites: CDDS 80, CDDS 91, CDDS 92, CDDS 95, CDDS 106; corequisite: CDDS 138. Seminar on techniques to develop speech in deaf and hard-of-hearing children and youth; observation, demonstration, and practice with deaf and hard-of-hearing children and youth. S

Units: 3

Course Typically Offered: Spring

CDDS 163. ASL and English Acquisition by Deaf Children and Youth

Prerequisites: CDDS 80, CDDS 91, CDDS 92, CDDS 95, CDDS 106, CDDS 138, CDDS 141. Teaching techniques to develop language in deaf and hard-of-hearing children and youth; construction of English sentences and grammar; comparative studies of various language curricula.

Units: 3

Course Typically Offered: Fall

CDDS 164. School Subjects for Deaf and Hard-of-Hearing Children and Youth

Prerequisites: CDDS 80, CDDS 91, CDDS 92, CDDS 95, CDDS 106, CDDS 138, CDDS 141; and permission of instructor. The process of teaching academic school subjects to deaf and hard-of-hearing children and youth; observation and demonstration. (2 lecture, 2 lab hours) (CSU liability insurance fee, $8)

Units: 3

Course Typically Offered: Fall

CDDS 166. Introduction to Interpreting

Corequisites: CDDS 93 and CDDS 139. Study of the theoretical foundations and technical skills needed to interpret in professional settings for deaf and hard-of-hearing children and adults. The roles, responsibilities, and ethics of interpreters providing interpreting services in various professional settings.

Units: 3

Course Typically Offered: Fall

CDDS 168. Observations in Sign Language Studies

Prerequisite: CDDS 166. Co-requisite: CDDS 169 or CDDS 170. Development of practical interpreting skills in professional settings, such as: artistic, educational, health, legal, medical, mental health, rehabilitation, and social services settings.

Units: 2

CDDS 169. Theory & Proc SL Interpreting

Prerequisites: grade of C or better in CDDS 136, CDDS 166, and CDDS 170. Emphasis on the development of the communication skills necessary for interpreting between spoken English and sign language in professional settings.

Units: 3

Course Typically Offered: Spring

CDDS 170. Comparative Linguistic Analysis in Sign Language Interpreting

Prerequisites: grade of C or better in CDDS 136, CDDS 166, and CDDS 169. Emphasis on the development of the communication skills to compare, analyze, and produce equivalent messages between sign language and spoken English in professional settings.

Units: 3

Course Typically Offered: Spring

CDDS 171. Professional Writing in Communicative Disorders and Deaf Studies

Select one of the following prerequisites: CDDS 105, CDDS 106, or CDDS 109. Principles of clinical and scientific writing in communicative disorders; exercises in writing professional and scientific reports.

Units: 3

Course Typically Offered: Fall

CDDS 172. Neural bases of Speech, Language, and Hearing

Prerequisites: Prerequisites: A minimum 3.0 GPA in CDDS 80, CDDS 95, CDDS 101, CDDS 102 with a grade of C or better in each course. Neuroanatomical and neurophysiological bases of speech, language, and hearing; clinical implications of neuropathology.

Units: 3

Course Typically Offered: Spring

CDDS 175. Internship in Interpreting

Prerequisites: permission of instructor. CDDS 169 or CDDS 170.. Interpreting under supervision in professional settings such as: artistic, educational, health, legal, medical, mental health, rehabilitation, and social services settings. CR/NC grading only. FS (Formerly CSD 175)

Units: 1-3, Repeatable up to 6 units

Course Typically Offered: Fall, Spring

CDDS 188T. Topics in Communicative Disorders and Deaf Studies

Special courses offered on various topics not included in the regular curricula in speech, language, and hearing sciences and disorders.

Units: 1-3, Repeatable up to 6 units

CDDS 188T. Educational Internship in Elementary School

Overview of the challenges, responsibilities, and tasks that sign language interpreters will face in elementary school environment.

Units: 1, Repeatable up to 6 units

CDDS 190. Independent Study

See Academic Placement - Independent Study.

Units: 1-3, Repeatable up to 6 units

Course Typically Offered: Fall, Spring

CDDS 200. Graduate Studies and Research Methods in Communicative Disorders

Prerequisite: statistics (PH 92 or equivalent). Introduction to graduate studies and methods of research in communicative disorders; concepts and methods of science and clinical research designs; graduate level professional and scientific writing skills.

Units: 3

CDDS 201. Supporting Families with D/HH Children

Theory and practice in interviewing and counseling students and families related to specific language, speech, and hearing loss. Techniques for altering and modifying behaviors that affect maximum growth and potential students and their families.

Units: 3

CDDS 202. Aural Rehabilitation

Prerequisites: CDDS 128, CDDS 131. Habilitative and rehabilitative procedures to assist people with hearing loss: amplification, speech-reading, auditory training, speech and language training; psycho-socio-educational issues. (Formerly C D 202)

Units: 3

CDDS 203. Graduate Studies and Research Methods in Deaf Studies

Prerequisites: statistics (PH 92 or equivalent). Introduction to graduate studies and methods of research in deaf studies; concepts and methods of science and research designs; graduate level professional and scientific writing skills. (Formerly CDDS 200).

Units: 3

CDDS 204. Seminar in Stuttering

Prerequisite: permission of instructor. Research on stuttering in children and adults; assessment and treatment procedures.

Units: 3

CDDS 206. Audiology for Teachers of D/HH Students

Prerequisites: CDDS 128, CDDS 131. Habilitative and rehabilitative procedures to assist students with hearing loss; amplification, speech-reading, auditory training, speech and language training; psycho-socio-educational issues.

Units: 3

CDDS 207. Seminar in Neurogenic Language Disorders

Prerequisite: CDDS 172. Demography, etiology, and symptomatology of aphasia, traumatic brain injury, and dementia; medical and communication assessment; treatment and treatment efficacy

research.

Units: 3

CDDS 209. Professional Issues in Communicative Disorders

Corequisite: CDDS 257. Seminar in professional issues in communicative disorders; the Code of Ethics and Scope of Practice; trends in professional practice; license, certification, and credentialing requirements; advanced certifications; local, state, and national regulations and policies relevant to professional practice.

Units: 1

CDDS 210. Seminar in Communicative Disorders with Orofacial Anomalies

Prerequisite: permission of instructor. Etiology and symptomatology of cleft palate and other orofacial syndromes in children; medical and communication assessment and treatment procedures.

Units: 3

CDDS 213. Seminar in Motor Speech Disorders

Prerequisites: CDDS 102, CDDS 172. Etiology and symptomatology of apraxia, and dysarthia; assessment and treatment.

Units: 3

CDDS 214. Seminar in Child Language Disorders

Prerequisites: CDDS 95, CDDS 109. Etiology, symptomatology, assessment, and habilitation of language disorders in infants, children and adolescents.

Units: 3

CDDS 215. Phonological and Severe Speech Disorders: Communication Intervention, Augmentation, and Alternatives

Advanced study in intervention of phonologic and severe speech disorders. The design, selection, and use of augmentative and alternative methods of communication; the populations for which they are appropriate; and issues related to assessment and treatment.

Units: 3

CDDS 216. Seminar in Voice Disorders

Information addressing significant clinical, theoretical, and scientific issues in the study, diagnosis, and treatment of voice disorders in children and adults. Presentation of case studies. Analysis of current research.

Units: 3

CDDS 218. Autism Spectrum Disorders and Augmentative or Alternative Communication

Characteristics and possible etiologies of autism spectrum disorders, their assessment, diagnosis, and treatment. The design, selection, and use of augmentative and alternative methods of communication; the populations for which they are appropriate; and issues related to the assessment and treatment.

Units: 3

CDDS 220. Introduction to Dysphagia and Traumatic Brain Injury

Introduction to assessment and treatment of dysphagia and cognitive and communicative disorders associated with traumatic brain injury (TBI). Anatomy and physiology as it relates to normal and disordered swallowing, consequences of TBI, and recovery from TBI.

Units: 3

CDDS 221. Seminar in Advanced Clinical Methods for Dysphagia and Traumatic Brain Injury

Prerequisite: CDDS 220. Assessment and treatment of dysphagia and cognitive-communication problems associated with traumatic brain injury (TBI) in the following populations: pediatrics, combat veterans with TBI/PTSD, and medically complex or tracheostomized patients. Numerous opportunities to evaluate MBSS, review case studies, develop treatment plans, and create therapy materials.

Units: 3

CDDS 230. Advanced Clinical Practice in Speech-Language Pathology

Prerequisites: Graduate standing in CDDS. Supervised clinical practice in the diagnosis and treatment of communicative disorders; development of treatment programs, parent counseling; referrals; on- and off-campus clinical sites. CR/NC grading only. (Lab Fee $10)

Units: 1-6, Repeatable up to 24 units

CDDS 250. Advanced Clinical Practice: Audiology

Prerequisites: Supervised clinical practice in diagnosis and management of hearing problems. CR/NC grading only. No enrollment after any two semesters with a grade of NC unless approved by department Chair(Lab fee, $10)

Units: 1-6, Repeatable up to 24 units

CDDS 255. Assessment of D/HH Students

Prerequisite: permission of instructor. In-depth examination of psychological, achievement, language, communication, and diagnostic assessment tools and unique administration procedures used with deaf children and youth, including an extensive independent child/ youth study and evaluation, shared through discussions, student presentations, and written form.

Units: 3

CDDS 257. Student Teaching: Speech-Language Pathology

Prerequisites: 5-15 units of CDDS 230; admission to the credential program; corequisite: CDDS 209. Directed observation, participation, and clinical practice (100 hours minimum) under supervision. CR/NC grading only. No enrollment after any two semesters with a grade of NC unless approved by department Chair. (Formerly AS 164A; CD 164A; CSD 164A) (CSU liability insurance fee, $8)

Units: 1-9

CDDS 258. Student Teaching: Deaf and Hard-of-Hearing

Prerequisites: CDDS 206, CDDS 255, CDDS 262, CDDS 263, CDDS 264, 2-12 units of CDDS 248, permission of instructor; CSET must be taken and passed. Teaching under supervision in a class for deaf or hard-of-hearing children and youth. Directed observation, participation, and weekly conference with university supervisor. CR/NC grading only. (Formerly C D 164B; CSD 164B)

(CSU liability insurance fee, $8)

Units: 6-12

CDDS 260. Advanced Clinical Practice: Deaf Education

Prerequisites: CDDS 138, CDDS 162, CDDS 163, CDDS 164. Supervised clinical participation and practice in teaching deaf and hard-of-hearing children and youth; parent counseling; on- and off-campus clinical sites. CR/NC grading only. (Lab fee, $10) (CSU liability insurance fee, $8)

Units: 1-6, Repeatable up to 12 units

CDDS 262. Spoken Language Development for Teachers of D/HH Students

Prerequisites: CDDS 206, permission of instructor. Methods to develop oral communication for deaf and hard-of-hearing students; demonstration and off-campus practicum. (2 lecture, 2 lab hours)

Units: 3

CDDS 263. Seminar in Language Development and Instruction for D/HH Students

Prerequisites: CDDS 248, permission of instructor. Language problems of deaf and hard-of-hearing children and youth; techniques of remediation; use of specialized equipment and development of teaching materials. (2 lecture, 2 lab hours)

Units: 3

CDDS 264. Curriculum and Instruction for D/HH Students

Prerequisites: CDDS 248 and permission of instructor. Special problems and techniques of adapting pre- K-12 school curriculum and instruction to the needs of deaf and hard-of-hearing children and youth; demonstration and practice. Project required.

Units: 3

CDDS 267. Externship in Speech-Language Pathology

Prerequisites: 5-15 units of CDDS 230 and permission of instructor. Supervised externship in speech-language pathology; diagnosis and management of communicative disorders. CR/NC grading only. No enrollment after any two semesters with a grade of NC unless approved by department Chair. (CSU liability insurance fee, $8)

Units: 1-9

CDDS 268. Externship with Deaf Children and Youth

Prerequisites: CDDS 202, CDDS 255, CDDS 258, CDDS 262, CDDS 263, CDDS 264, 2-12 units of CDDS 260, permission of instructor; CSET must be taken and passed. Supervised externship in a residential school for deaf children and youth. Full time in residence for 8 weeks. CR/NC grading only. (CSU liability insurance fee, $8)

Units: 6

CDDS 278. Application fo theory into Practice in Deaf Education

Supervised field experience workign with deaf and hard-of-hearing students with an emphasis on the intergration of applied research and therory into practice. Development of an induction plan will include the candidate, university supervisor, and school district representative where the candidate is employed. CR/NC grading only.

Units: 3

CDDS 279. Induction Plan-based Field Experience in Deaf Education

Prerequisites: CDDS 278. Final supervised field experience working with deaf and hard-of-hearing students with an emphasis on self-assessment, goal-setting, and other induction plan components. Support is provided through collaboration between university and school district personnel.

Units: 3

CDDS 290. Independent Study

See Academic Placement - Independent Study. Approved for RP grading.

Units: 1-3, Repeatable up to 6 units

CDDS 292. Seminar in Advanced Clinical Methods in Communicative Disorders

Prerequisites: Completion of CDDS 200 and two graduate seminars. Advanced review of clinical methods, research trends, and recent developments in assessment and treatment procedures with emphasis on language disorders in adolescents and young adults. Required for non-thesis/project SLP graduate students.

Units: 3

CDDS 298. Individual Research Project

Prerequisite: consent of advisory committee. See Criteria for Thesis and Project. A written report on an individual or group research project for the master's degree. Approved for RP grading. (Formerly C D 298)

Units: 1-6

CDDS 298C. Project Continuation

Prerequisite: Project CDDS 298. For continuous enrollment while completing the project. May enroll twice with department approval. Additional enrollments must be approved by the Dean of Graduate Studies.

Units: 0

CDDS 299. Thesis

Prerequisite: See Criteria for Thesis and Project. Preparation and submission of a thesis. Approved for RP grading.

Units: 2-6

CDDS 299C. Thesis Continuation

Prerequisite: Thesis CDDS 298. For continuous enrollment while completing the thesis. May enroll twice with department approval. Additional enrollments must be approved by the Dean of Graduate Studies.

Units: 0

CIVIL ENGINEERING (CE)

CE 20. Engineering Mechanics: Statics

Prerequisites: MATH 76 and PHYS 4A. Analysis of force systems, equilibrium problems, section properties; graphic, algebraic, and vector methods of problem solution. (CAN ENGR 8)

Units: 3

Course Typically Offered: Fall, Spring

CE 29. Engineering Mechanics

Same as CE 29: Prerequisites: MATH 77 (or concurrently); PHYS 4A. Not open to mechanical or civil engineering majors. Study of fundamental priciples of statics and synamics by scalar and vector methods.

Units: 3

CE 85. Introduction to Civil Engineering

The civil engineering profession and its role in society; creative thinking and critical thinking as integral parts of the engineering decision process; engineering methods of analysis; problem solving; computer drafting; career opportunities. (Field trips required)

Units: 3

Course Typically Offered: Fall, Spring

CE 110. Computer Applications in Civil Engineering

Prerequisites: MATH 76 or concurrently. Use and modification of existing programs. Creation of new programs. Use of structured language, spreadsheets, and numerical solutions CAD. Term projects.

Units: 3

Course Typically Offered: Fall, Spring

CE 121. Mechanics of Materials

Prerequisite: CE 20. Applications of principles of mechanics to find stresses and deformations in machine and structural members.

Units: 3

Course Typically Offered: Fall, Spring

CE 121L. Mechanics of Materials Laboratory

Prerequisite: CE 121 or concurrently. Application of principles and methods of testing to verify theory and determine limitations of principles of mechanics of materials. (3 lab hours)

Units: 1

Course Typically Offered: Fall, Spring

CE 123. Soil Engineering

Prerequisites: CE 121, CE 123L concurrently. Physical and mechanical properties of soil, lab and field testing, flow of water in soils including permeability and seepage, stree in soils, soil consolidation and settlement, earth pressure, slope stability, and introduction to foundation design.

Units: 3

Course Typically Offered: Fall, Spring

CE 123L. Soil Engineering Laboratory

Prerequisite: CE 121L or concurrently, CE 123 concurrently. Soil properties and testing, grain size distribution and soil classification, water content, specific gravity, permeability, compression, consolidation, and stress-strain relationships.

Units: 1

Course Typically Offered: Fall, Spring

CE 124. Concrete Laboratory

Prerequisite: CE 121L. Proportioning of concrete mixes; admixtures; workability tests; compressive, flexural, and tensile strength tests; reinforced concrete. (3 lab hours; field trips required)

Units: 1

Course Typically Offered: Fall, Spring

CE 125. Geotechnical Engineering Design

Prerequisites: CE 123, CE 123L. Theory and design of earth retaining walls, filtration and drawing systems, excavation and supporting systems, soil improvement and ground modification, geosynthetics design and applications, introduction to geoenvironmental engineering.

Units: 3

Course Typically Offered: Spring

CE 128. Civil Engineering Hydraulics

Prerequisite: CE 20 or concurrently. Fundamentals of civil engineering hydraulics with application to hydraulic structures. (3 lab hours)

Units: 3

Course Typically Offered: Fall, Spring

CE 129. Engineering Hydraulics Lab

Prerequisite: CE 128 or concurrently. Experiments and demonstrations in fluid properties, flow management, pipe flow, open channel flow, pumps, and hydraulic scour. (3 lab hours)

Units: 1

Course Typically Offered: Fall, Spring

CE 130. Theory of Structures

Prerequisite: CE 121. Trusses and frames analyzed by algebraic and graphic procedures; influence lines and live loading analysis; rigid frames analyzed by slope deflection and moment distribution. Introduction to matrix methods. FS

Units: 3

Course Typically Offered: Fall, Spring

CE 131. Intermediate Theory of Structures

Prerequisite: CE 130. Analysis of statically indeterminate beams, trusses, and frames; advanced topics in slope deflection and moment distribution; matrix methods.

Units: 3

Course Typically Offered: Fall, Spring

CE 132. Reinforced Concrete Design

Prerequisite: CE 130. Design of reinforced concrete structural elements using the Ultimate Strength Design Method. Introduction to prestressed concrete. (2 lecture, 3 lab hours; field trips required)

Units: 3

Course Typically Offered: Fall, Spring

CE 133. Design of Steel Structures

Prerequisite: CE 130. Design of steel members and systems for buildings. Design areas include: tension members, compression members, beams, beam-columns, connections and plate girders. (2 lecture, 3 lab hours)

Units: 3

Course Typically Offered: Fall, Spring

CE 134. Foundation Design

Prerequisites: CE 123, CE 123L, CE 132 or concurrently. Design and theory of spread and continuous wall, rectangular, cantilever and trapezoidal footings; earth pressures and cantilever as well as gravity retaining walls; pile foundations; pile driving; constructions considerations; load tests; subsurfave investigations; case hisotries; and computer-aided design of foundations. (2 lecture, 3 lab hours)

Units: 3

Course Typically Offered: Fall

CE 136. Design of Timber Structures

Prerequisite: CE 130. Design of timber members and systems for buildings. Design areas include: loads, properties of wood, tension members, beams, columns, beam-columns, connections, diaphragms, shear walls, and glued laminated arches.

Units: 3

Course Typically Offered: Fall

CE 137. Seismic Analysis of Building Structures

Prerequisites: CE 130, ME 112. Effects of earthquakes on structures. Introduction to structural dynamics. Response of structures. Seismic provisions of building codes. Basic concepts in seismic -resistant design. Detailing for seismic-resistant construction. Term project. (Field trips required)

Units: 3

Course Typically Offered: Spring

CE 140. Hydrology

Prerequisites: CE 128 or concurrently. The hydrologic cycle, atmospheric conditions, precipitation, infiltration, ground water, soil moisture, evaporation, runoff, streamflow, hydrographs, flood routing, hydrologic statistical analysis; applications to water resources planning and management. (Field trips required)

Units: 3

Course Typically Offered: Spring

CE 141. Water Resources Engineering

Prerequisites: CE 128, CE 142 (or concurrently). Hydraulic design of water distribution, and sewerage. Computer-assisted pipe network analysis. Pump applications. (2 lecture, 3 lab hours; field trips required)

Units: 3

Course Typically Offered: Fall

CE 142. Environmental Engineering

Prerequisites: CHEM 1A or CHEM 3A or concurrently; CE 128 or concurrently. Introduction to the principles and practices of environmental quality management, including water and air quality, waste management, and the environmental effects of engineered systems.

Units: 3

Course Typically Offered: Fall, Spring

CE 142L. Environmental Quality Laboratory

Prerequisite: CE 142 or concurrently. Study and analysis of physical, chemical, and biological characteristics of air, water, and solid wastes. (Field trips required)

Units: 1

Course Typically Offered: Fall, Spring

CE 144. Design of Water Quality Control Processes

Prerequisites: CE 142 or permission of instructor. Analysis and design of selected physical, chemical, and biological facilities for water purification and wastewater treatment. (2 lecture, 2 lab hours) (Field trips required)

Units: 3

Course Typically Offered: Spring

CE 146. Urban Stormwater Management

Prerequisites: CE 128, CE 140 (or concurrently). Overview of stormwater management; introduction to urban stormwater drainage system design; stormwater management history and regulations; urban hydrology and hydraulic design; stormwater quality; receiving-water impacts; best management practices; computer assisted analysis and design. (Field trips may be required). (2 lecture, 3 lab hours).

Units: 3

Course Typically Offered: Fall

CE 150. Transportation Planning and Design

Prerequisite: GME 15, upper-division standing. Geometric design of land transportation facilities, primarily road/street systems. Traffic theory and analysis, including statistical analysis of traffic parameters. Freeway and intersection capacity. Simple transportation demand forcast. (2 lecture, 3 lab hours)

Units: 3

Course Typically Offered: Fall, Spring

CE 151. Pavement Design

Prerequisite: CE 123 or concurrently. Analysis of pavement structures. Factors affecting pavement performance. Structural design of flexible and rigid highway and airfield pavements. Pavement rehabilitation and repair.

Units: 3

Course Typically Offered: Fall

CE 152. Trans Engr Mtlrs

Prerequisite: CE 123. Properties and durability of Portland cement concrete. Properties and testing of aggregates for asphalts concrete. Asphalt cements and asphalt concrete performance. Traditional and SUPERPAVE mix design and specification of asphalt concrete.

Units: 3

CE 153. Traffic Operations and Control

Prerequisite: CE 150. Transportation studies. Highway traffic characteristics. Highway system traffic analysis. Highway system capacity design. Traffic regulations and control.

Units: 3

CE 155. Transportation Geographic Information Systems (GIS)

Prerequisite: grade of C or Better in CE 150. This course covers

basic and advanced concepts of Transportation GIS, introduces basic applications of two ArcGIS extensions (spatial and network analysts), and enables advanced applications of user-defined functions through the usage of the Model Builder and Python scripting.

Units: 3, Repeatable up to 6 units

Course Typically Offered: Fall

CE 161. Construction Engineering I

Prerequisite: CE 130, permission of the instructor. Basics of civil engineering contracting, project funding, cash flow, equipment costs.

Units: 2

Course Typically Offered: Fall, Spring

CE 180A. Project Design

Prerequisites: Completion of Upper Division Writing Requirements, senior standing in civil engineering; permission of instructor. Co-requisites: CE 123/L; CE 124; CE 129; CE 132; CE 142/L; CE 150; CE 161; Technical Area Courses (9 units). Civil engineering practice, ethical issues, project analysis and design. Student teams complete and orally defend proposal for a design project that includes several civil engineering specialties. Information gathering, time/resource management, and communication skills.

Units: 2

Course Typically Offered: Fall, Spring

CE 180B. Senior Project

Prerequisites: CE 180A; CE 123/L; CE 124; CE 129; CE 132; CE 142/L; CE 150; CE 161; Technical Area Courses (9 units); approved project proposal; permission of instructor. Co-requisites: CE 185; Technical Area Courses (12 units including 9 units Design Courses). Synthesis of previous coursework into a civil engineering design project under the supervision of a faculty member. Group projects except by special permission. (Former. (Formerly CE 180)

Units: 2

Course Typically Offered: Fall, Spring

CE 185. Civil Engineering Practice

Prerequisites: senior standing in civil engineering or permission of instructor. Practice of civil engineering; transition from student to professional engineer; engineering ethics. Business and public policy; administration fundamentals; leadership.

Units: 2

Course Typically Offered: Fall, Spring

CE 190. Independent Study

See Academic Placement - Independent Study. Approved for RP grading.

Units: 1-3, Repeatable up to 6 units

Course Typically Offered: Fall, Spring

CE 193. Internship in Civil Engineering

Prerequisite: permission of adviser. Engineering practice in a consulting, industrial, or government work setting. Each cooperative internship period usually spans a summer-fall or spring-summer interval. This course cannot be used to meet graduation requirements. CR/NC grading only.

Units: 2-4

CE 205. Computing in Engineering Analysis

(ENGR 205 same as CE 205). Prerequisite: graduate status in engineering. Solution of engineering problems using digital computation. Modeling of engineering systems for numerical analysis at the graduate level. Solution of engineering problems using digital computation. Modeling of engineering systems for numerical analysis.

Units: 3

CE 206. Engineering Environmental Impact

Evaluation of environmental impacts due to engineering projects. The incorporation of environmental considerations into engineering design. Alternative solutions to engineering problems. Case histories of selected engineering projects.

Units: 3

CE 210. Research Methods in Civil Engineering

Development of research and skills, understanding, and application of the scientific method in engineering research, and development of individual research topic and proposal. Discussion of new developments in civil engineering science, oral presentations, and submittal of research papers.

Units: 3

CE 220. Advanced Foundation Engineering

Prerequisite: graduate standing. Design of cantilevered and anchored sheet-pile walls; axial- and lateral-loaded pile groups; drilled piers; pile driving stresses and wave equation analysis; beams on elastic foundations; footings on expansive and non-uniform soils and on rock; and case histories.

Units: 3

CE 223. Advanced Soil Mechanics

Prerequisites: CE 123, CE 123L, CE 125, and CE 134, or upon instructor's approval. The course covers in-depth discussion of soil aggregates and structures, pore water pressure, unsaturated soil mechanics, permeability and seepage, consolidation, and shear strength. Advanced soil testing (triaxial tests of shear strength and flexible-wall permeability tests) is conducted in class.

Units: 3

CE 225. Numerical Methods in Geotechnical Engineering

Prerequisites: CE 123 and CE 123L, CE 125, and CE 134. Covers introduction to programming, principles of finite element method, and principles of probabilistic methods in geotechnical engineering. Students apply various numerical methods in geotechnical applications (e.g., slope stability, seepage, consolidation) by developing numerical programs and using existing FEM software.

Units: 3

CE 230. Advanced Theory of Structures

Prerequisite: graduate standing in engineering or permission of instructor. Analysis of indeterminate structures by force (flexibility) methods and by displacement (stiffness) methods; Matrix methods suitable for digital computer solutions. Virtual work, real and complementary energy. Classical structural theorems. Introduction

to the finite element method.

Units: 3

CE 232. Prestressed Concrete Design

Prerequisite: graduate standing in engineering or permission of instructor. Structural behavior and design of prestressed concrete elements and systems - continuous beams, frames, slabs. Partial prestress. (Field trip[s] required)

Units: 3

CE 233. Advanced Behavior and Design of Steel Structures

Prerequisite: graduate standing in engineering or permission of instructor. Material behavior and design of basic structural units; plate girders; connections; inelastic buckling; composite design; plastic design; P effect. Analysis and design of continuous structures, braced and unbraced frames; stability of steel structures. Critical study of the AISC specifications.

Units: 3

CE 234. Theory of Plates and Shells

Prerequisite: graduate standing in engineering or permission of instructor. Methods of calculating stresses and deformations in plates and shells used in engineering structures. Bending of circular and rectangular plates under various conditions. Membrane and flexural analysis of shells of revolution.

Units: 3

CE 235. Finite Element Analysis

Prerequisite: graduate standing in engineering or permission of instructor. Theoretical and conceptual bases for formulation of finite element representations in solid mechanics. Development of element stiffness matrices for plane stress and plane strain probelms, bending of plates and deformation of shells.

Units: 3

CE 236. Reinforced Masonry Theory and Design

Un-reinforced and reinforced masonry. Current and historic design and analysis methods of buildings and their components using clay, brick and concrete masonry. Masonry beams, columns, walls, shear wall, and retaining structures.

Units: 3

CE 237. Dynamics of Structures

Analysis of structural members and systems subject to dynamic loads. Basic theory for single-degree-of-freedom and multi-degree-of-freedom analytical models; free vibration, harmonic and transient excitation, response spectrum, LaGrange's equations, earthquake analysis.

Units: 3

CE 238. Stability of Structures

Elastic buckling of bars; different approaches to stability problems; inelastic buckling of columns and beam columns; columns and beam columns with linear, nonlinear creep; combined torsional and flexural buckling of columns; buckling of plates.

Units: 3

CE 239. Advanced Reinforced Concrete Theory

Background and origin of modern reinforced concrete theory and procedures. Projection to anticipated future changes in design and construction practices. Application and extension of theory to include new and future construction materials such as high performance concrete and fiber reinforced polymers.

Units: 3

CE 240. Engineering Hydrology

Prerequisites: CE 128, CE 140. Analysis of the physical and stochastic processes governing the occurrence and movement of water in its natural environment. Applications to hydraulic engineering practice.

Units: 3

CE 241. Contaminants Fate and Transport Engineering

Introduction to contaminants migration in the environment, risk assessments and engineering remediation methods. Understanding factors controlling multimedia contaminants transport; qualifying transport rate; predicting and reducing resulting concentrations in air, water, and soil. Mathematical knowledge beyond the elementary level is required.

Units: 3

CE 242. Urban and Industrial Water Systems

Prerequisite: graduate standing in engineering or permission of instructor. A study of the interrelations of engineering, economic, legal, political, administrative, ecological, and social factors involved in the planning and management of water resources.

Units: 3

CE 242. Urban & Industrial Water Systems

This course introduces water management systems in urban and industrial settings. Water infrastructure master planning and the basics of water occurrence, use, tranport, quality, treatment, and disposal are included. (3 hours lecture of fully online, or hybrid of lecture and online).

Units: 3

CE 245. Geoenvironmental Engineering

Prerequisites: BIOL 10, CHEM 3A, CE 123, CE 128, CE 129, CE 142, or upon approval from the instructor. Topics covered in the course include basic soil physics, principles of groundwater flow, mass transport and transfer in soils, non-aqueous phase liquid in soils, geosynthetics, basic soil microBiology and biochemistry, environmental regulations, solid waste landfills, site contamination and treatment techniques.

Units: 3

CE 246A. Advanced Water Quality

Prerequisite: CE 142 or permission of instructor. Theory and practice of physical/chemical processes for controlling water quality, including chemical equilibrium and kinetics; mass transfer mechanisms; physical separation processes; adsorption, exchange, and membrane-based processes; disinfection.

Units: 3

CE 246B. Advanced Water Quality

Prerequisites: CE 142 or permission of instructor; CE 246A recommended. Theory and practice of biological processes for controlling water quality, including suspended growth systems;

attached growth systems; ponds; land treatment. Also sludge treatment. Also sludge treatement processes, including biological stabilization thickening, and dewatering; sludge disposal.

Units: 3

CE 247. Solid Wastes Engineering

Planning and design of waste collection and disposal systems. Waste segregation and energy impact related to recovery and recycling practices. Environmental impact and institutional issues related to solid and hazardous waste systems.

Units: 3

CE 251. Advanced Boundary Law

Prerequisite: GME 151 or equivalent. Land and water boundary legal issues, both historical and new. Case investigations.

Units: 3

CE 261. Geoprocessing

Prerequisite: GME 173 or equivalent. Integration of computer technologies for gathering, analyzing, and displaying data associated with the earth's spatial features. Engineering design problems dependent on competing factors.

Units: 3

CE 271. Geodetic Systems Optimization

Prerequisite: GME 108 or equivalent. National geodetic networks; planimetric and vertical control systems; geodetic control densification; network optimization criteria and methodology.

Units: 3

CE 275. Satellite Surveying

Prerequisite: graduate standing. Discussion of GPS orbital theory, data collection and processing algorithms, network adjustments, project design and optimization techniques. Review of current research trends and applications. (Field trips required)

Units: 3

CE 276. GPS Theory and Application

Operational theory of Global Positioning Systems (GPS) and Global Navigation Satellite Systems (GNSS). Applications to engineering practice.

Units: 3

CE 280. Geomatics Engineering Seminar

Prerequisite: graduate standing. Current California State University, Fresno surveying engineering research presented and discussed by faculty and graduate students. Oral presentation and written report documenting ongoing research activities required.

Units: 1, Repeatable up to 3 units

CE 283. Digital Remote Sensing

Prerequisite: GME 140 or equivalent. Quantitative approach in remote sensing; digital image characteristics, error correction, registration; geometric and radiometric image enhancement; image classi fication; system design; remote sensing and GIS.

Units: 3

CE 285. Advanced Analytical Photogrammetry

Prerequisite: GME 125 or equivalent. Mathematical models in photogrammetry; bundle block adjustment, self-calibration; close-range photogrammetry; real time photogrammetry and data snooping. System design; hardware and software considerations in photogrammetry.

Units: 3

CE 286. Geographic Information Systems Design

Prerequisite: GME 173 or equivalent. Data structures and algorithms, databases for GIS, error modeling and data uncertainty, visualization, data exchange and standards, the multipurpose cadaster, advanced analysis techniques.

Units: 3

CE 290. Independent Study

Prerequisite: graduate status in engineering. See Academic Placement - Independent Study. Approved for RP grading.

Units: 1-3, Repeatable up to 6 units

CE 291T. Topics in Engineering

Prerequisite: permission of instructor. Investigation of selected engineering topics. May be offered with a lab. (Formerly ENGR 291T)

Units: 1-3, Repeatable up to 6 units

CE 291T. Water Resources Systems Optimization

This course is designed to learn analytical techniques in optimization. It provides theoretical background and practical approaches to solve optimization problems in the field of hydrosystem engineering. Students will learn how to formulate an optimization problem to find the best alternative solution for planning, management, operation, and design. The course covers theoretical background of optimization and the application of the analysis techniques to the water resources engineering system.

Units: 3, Repeatable up to 6 units

CE 291T. Transportation Planning

This course covers both state-of-practice as well as state-of-the-art in transportation planning. While trip-based models and the traditional four-step transportation planning model will be discussed as the state-of-practice, activity-based models and the FHWA's Transportation Analysis and Simulation System (TRANSIMS) will cover the state-of-the-art in transportation planning. The course includes critique and assessment of both paradigms. In addition to the mathematical and theoretical foundation, students will learn about the economic, social, and environmental aspects of transportation planning and will gain hands-on experience running both models using software packages.

Units: 3, Repeatable up to 6 units

CE 298. Project

Prerequisite: graduate status in engineering. Independent investigation of advanced character such as analysis and/or design of special engineering systems or projects; critical review of state of the art of special topics, as the culminating requirement for the master's degree. Abstract required. Approved for RP grading.

Units: 3

CE 298C. Project Continuation

Prerequisite: Project CE 298. For continuous enrollment while completing the project. May enroll twice with department approval.

Additional enrollments must be approved by the Dean of Graduate Studies.

Units: 0

CE 299. Thesis

Prerequisite: See Criteria for Thesis and Project. Preparation, completion, and submission of an acceptable thesis for master's degree. Approved for SP grading.

Units: 2-6

CE 299C. Thesis Continuation

Prerequisite: Thesis CE 298. For continuous enrollment while completing the thesis. May enroll twice with department approval. Additional enrollments must be approved by the Dean of Graduate Studies.

Units: 0

COGNITIVE SCIENCE (CGSCI)

CGSCI 100. Foundations of Cognitive Science

An interdisciplinary area of study focusing on cognition: how we perceive the world, and how we can model the ways we think or perceive. Brings together the key fields of linguistics, psychology, philosophy and computer science.

Units: 4

CGSCI 101. Cognitive Science Seminar

Introduces students to the discipline of Cognitive Science through a series of lectures given by local and visiting Cognitive Scientists. The structure and content will vary from term-to-term. May be taken 3 times for credit.

Units: 3, Repeatable up to 9 units

CHILD AND FAMILY SCIENCES (CFS)

CFS 31. The Family in America

Interdisciplinary introduction to American families, their place within society, and their influence on human behavior. Topics include historical development, social functions, methods for studying, cultural and subcultural influence and meaning, family types, parenting, family violence, and the impact of race, class, and gender. G. E. Breadth D3.

Units: 3

Course Typically Offered: Spring

GE Area: D3

CFS 32. Intimacy

An exploration of personal, relationship, and social aspects which contribute to loving relationships. barriers to loving will also be discussed. Topics include the nature of love, awareness, emotional needs, fears, communication, conflict, values, beliefs, expecations, freedom, and responsibility.

Units: 3

Course Typically Offered: Fall

CFS 37. Introductory Child Development Practicum

An interdisciplinary study in a laboratory setting of the physical, social, emotional, and intellectual development of toddler and preschool children. Children's relationships to family, peers, community, and culture will be a primary focus. Antibias curriculum will be explored through principle and practice. Open only to Child and Family Science majors. (3 lecture, 3 lab hours)

Units: 4

Course Typically Offered: Fall

CFS 38. Life Span Development

A balanced study of basic theories, research, applications, and principles of physical, cognitive, and psychosocial development from conception to death, presented in an integrated manner in the context of the family in a diverse society. Includes behavior, sexuality, nutrition, health, stress environmental relationships, and implications of death and dying. G. E. Breadth E1.

Units: 3

Course Typically Offered: Fall, Spring

GE Area: E1

CFS 38H. Honors Lifespan Development

Open to Smittcamp Honors College Students only. Basic theories, research, and principles of physical, cognitive, and psychological development from conception to death presented from the perspective of diverse families. This honors course emphasizes reading original theoretical and empirical works by prominent developmentalists and student conducted research project. G. E. Breadth E 1.

Units: 3

GE Area: E1

CFS 39. Introduction to Child and Adolescent Development

An interdisciplinary study of physical, social, emotional, and intellectual development from conception through adolescence. Examines development in contexts of family, culture, and socio-historical perspective. Introduces child study methodologies. G.E. Breadth E1

Units: 3

Course Typically Offered: Fall, Spring

GE Area: E1

CFS 90T. Topics in Child Dev and/or Family Science

Topics related to child development and/or family relations

Units: 1-3, Repeatable

CFS 100. Child and Family Science

Open only to Child and Family Science majors. Introduction to the Child and Family Science major, options within the major, and professional career paths. Topics include: Major and option requirements, potential career paths, writing conventions in the field, and instruction on making the most of an undergraduate education.

Units: 3

Course Typically Offered: Fall, Spring

CFS 118. Program Evaluation: Models and Tools

Introduction to and application of current accreditation, quality standards, and evaluation instruments in use in child development programs at the national and California state levels. (Only open to

students enrolled in the Child Development Practitioner Option.)

Units: 3

Course Typically Offered: Fall

CFS 130W. Professional Writing in Child and Family Science

Open only to Child and Family Sciences majors. Professional writing in CFS, including correspondence, memos, running records, charts and tables, and literature reviews

Units: 3

Course Typically Offered: Fall, Spring

CFS 131. Family Relations

A study of family processes, the inner workings of families, from the perspective of family systems theory. Topics include the interplay of gender, temperament, and roles on family functioning, intergenerational transmission in families, communication, power dynamics, and development of the family over time. Open only to Child and Family Sciences majors and minors, and Liberal Studies majors.

Units: 3

Course Typically Offered: Fall, Spring

CFS 132T. Topics in Child Development and Family Relationships

Prerequisites: CFS 39 and/or CFS 131. Topics relating to child development and family relationships. Some topics may have labs.

Units: 1-4, Repeatable up to 12 units

CFS 134. Multicultural Perspectives on Children and Families

Prerequisites: CFS 38 or CFS 39 or Psych 101. Exploration of the challenges families face in living in a diverse society. Includes a survey of research on how children develop identity and attitudes about gender, ethnicity, and disability. An approach that facilitates healthy self identity and positive attitudes toward diversity. Open only to Child and Family Sciences majors and minors, and Liberal Studies majors

Units: 3

Course Typically Offered: Fall, Spring

CFS 135. Parenting

Prerequisite: CFS 38, CFS 39, or PSYCH 101. Study of the significant impact of adult-child relationships upon the developing person. Topics include guidance and discipline theories, attachment, self-esteem, trust, encouragement, communication, consequences, rewards, punishment, abuse, and children with special needs. Open only to Child and Family Sciences majors and minors, and Liberal Studies majors

Units: 3

Course Typically Offered: Fall, Spring

CFS 136. Adolescent Development

Prerequisite: CFS 38 or CFS 39 or Psych 101. Interdisciplinary study of physical, social, emotional, and intellectual development of adolescents and emerging adults in a diverse society. Examines development of the self in the context of family, peer group, educational environments, work, community, and culture. Open only to Child and Family Sciences majors and minors, and Liberal Studies majors

Units: 3

Course Typically Offered: Fall

CFS 137. Infant and Toddler Development

Prerequisite: CFS 38, CFS 39,or PSYCH 101. Interdisciplinary study of physical, social, emotional, and intellectual development from birth to three years in a diverse society. Examines development of the self in the context of family, community, and culture. Open only to Child and Family Science majors and minors, and Liberal Studies majors.

Units: 3

Course Typically Offered: Fall, Spring

CFS 138. Early Childhood Development

Interdisciplinary study of physical, social, emotional, and intellectual development from two to seven years in a diverse society. Topics include vulnerability and resilience, brain development, social and emotional regulation, mathematical understanding, emergent literacy, family and societal influences, and policy issues. Open only to Child and Family Science majors and minors, and Liberal Studies majors.

Units: 3

Course Typically Offered: Fall, Spring

CFS 139. Advanced Child Development Practicum

Prerequisites: CFS 37; CFS 38 or CFS 39 or Psych 101; junior or senior standing. Comprehensive study of the young child and ways to foster physical, social, emotional, and intellectual development. Students will plan developmentally appropriate learning episodes, conduct observations, and employ assessment techniques. Open only to Child and Family Sciences majors. (3 lecture, 3 lab hours)

Units: 4

Course Typically Offered: Spring

CFS 140. Advanced Child Development Theories

Prerequisites: CFS 38 or CFS 39 or PSYCH 101. In-depth study of major child development theories with implication for play for children infancy through adolescence. Course considers ethological and cultural perspectives, gender differences, and special populations. Examines psychoanalytic, sociocultural, attachment, cognitive, social learning, moral development, and information processing perspectives. Open only to Child and Family Science majors

Units: 3

Course Typically Offered: Fall, Spring

CFS 143. Children at Risk

Examines environmental, societal, family, and developmental factors that contribute to risk from an ecological perspective. Explores categories and characteristics of high- and low-risk children with emphasis on early and middle childhood periods.

Units: 3

Course Typically Offered: Fall, Spring

CFS 145A. Observing the Development of Children

Prerequisites: CFS 38 or CFS 39 or PSYCH 101. Techniques in observing and recording development and behavior of school age children. Interpretation and reporting of observational data. Emphasis on children 6 to 13 years of age in diverse elementary school settings from developmental, ecological and systems perspectives. (3 hours lecture; 3 hour lab)

Units: 4

Course Typically Offered: Fall

CFS 145B. Advanced Observing of the Development of Children

Prerequisite: CFS 145A. Advanced application of techniques in observing and recording child development and behavior. Observation of children six to 13 years of age in diverse elementary school settings in affective, physical, and cognitive domains. Interpretation and reporting of observational data. Open only to Child and Family Science majors. (3 hours lecture; 3 hours lab)

Units: 4, Repeatable up to 12 units

Course Typically Offered: Spring

CFS 146. Middle Childhood

Prerequisites: CFS 38, CFS 39, or PSYCH 101. Interdisciplinary study of physical, social, emotional, and intellectual development of children 6-13 years of age in a diverse society. Examines development of the self in the context of the family, peer group, educational environments, community, and culture. Open only to Child and Family Sciences majors and minors, and Liberal Studies majors

Units: 3

Course Typically Offered: Fall, Spring

CFS 153. Developmental Research and Inquiry for Practitioners

PSYCH 101, PSYCH 155, or CFS 31 and CFS 39 recommended prior to enrollment in this course. Empirical and theoretical treatment of developmental issues. Emphasizes understanding the process of scientific discovery and learning to accurately interpret and evaluate development research. Examines theories and methods that guide research on physical, social, cognitive, and emotional development.

Units: 3

Course Typically Offered: Fall, Spring

CFS 179. Family Life Education

Preparation for students to enter careers in family life education. Exploration of job opportunities available locally to pursue a career in this field. Topics include: areas of family life education, teaching methods, program evaluation, professional ethics,professional writing, and graduate school options. Open only to Child and Family Science majors.

Units: 3

Course Typically Offered: Fall

CFS 193. Internship

Prerequisites: Completion of at least 60 units; good academic standing; permission of the department. Combines study with paid or unpaid work experience in a supervised career-related placement.

Units: 3

Course Typically Offered: Spring

CHEMISTRY (CHEM)

CHEM 1A. General Chemistry 1A

Prerequisites: High school chemistry. Pre or co-requisites: G.E. Foundation B4 and CHEM 1AL. Not open to students with credit in CHEM 1B. Fundamental principles of chemistry such as chemical bonding and structure, stoichiometry, thermochemistry, oxidation-reductions, and states of matter. G.E. Breadth B1 with CHEM 1AL. (3 lecture hours) (CAN CHEM 2 with CHEM 1AL)

Units: 3

GE Area: B1

CHEM 1AL. General Chemistry Laboratory 1A

Pre or Co-requisite: CHEM 1A. Introduction to laboratory methods in general chemistry. G.E. Breadth B1 with CHEM 1A. (3 lab and 1 discussion hours) (Course fee, $15) (CAN CHEM 2 with CHEM 1A)

Units: 2

GE Area: B1

CHEM 1B. General Chemistry 1B

Prerequisite: CHEM 1A and 1AL with grades of C or better. Pre or co-requisite: CHEM 1BL. Acid-base theory; chemical kinetics; equilibrium (acid-base, hydrolysis, and solubility); thermodynamics, electrochemistry; selected topics in nuclear chemistry, coordination chemistry, and/or chemistry of selected groups. (3 lecture hours)

Units: 3

CHEM 1BL. General Chemistry Laboratory 1B

Pre or Co-requisite: CHEM 1B. Introduction to laboratory methods in general chemistry. (6 lab hours) (Class fee, $15) (CAN CHEM 4 with CHEM 1B) Course Fee $15.

Units: 2

CHEM 3A. Introductory General Chemistry

Prerequisite or co-requisite: G.E. Foundation B4. No credit for CHEM 3A after CHEM 1A. High school chemistry recommended. For applied science and nonscience majors. Composition of matter and physical and chemical changes; fundamental laws and principles; atomic and molecular structure; acid-base theory, redox and equilibria; qualitative and quantitative theory and techniques. G.E. Breadth B1* (Course fee, $15)

Units: 4

Course Typically Offered: Fall, Spring

GE Area: B1

CHEM 3B. Introductory Organic and Biochemistry

No credit for CHEM 3B to students with credit in CHEM 1B. Primarily for students in health-oriented professions; not a substitute for CHEM 8. Prerequisite: CHEM 3A. Introduction to the basic concepts of organic and biochemistry. Structure and behavior of organic and biological compounds, metabolism, and regulation.

Units: 3

Course Typically Offered: Fall, Spring

CHEM 3BL. Introductory Organic and Biochemistry Laboratory

Prerequisite: CHEM 3A and CHEM 3B (or concurrently). Introductory laboratory study of the properties and chemistry of carbon containing compounds and biological molecules. (3 laboratory hours) (Course fee, $20)

Units: 1

Course Typically Offered: Fall, Spring

CHEM 8. Elementary Organic Chemistry

Not open to chemistry majors. Recommended for students requiring a one- semester course in the field. Prerequisite: CHEM 1B or CHEM 3A. Lectures, discussions, and demonstrations of fundamental principles; structure and chemical behavior of organic compounds.

Units: 3

Course Typically Offered: Fall, Spring

CHEM 10. Chemistry and Society

Not open to students with credit in college chemistry; for non-science majors. Prerequisite: completion of the General Education B4 area requirement. The significance of chemical principles in contemporary society; benefits and hazards relative to areas such as energy, health, diet, environment, and agriculture. G.E. B1. (3 Lecture, 2 lab hours) (Course fee, $7) * (Formerly CHEM1)

Units: 4

Course Typically Offered: Fall, Spring

GE Area: B1

CHEM 10H. Chemistry & Society

Prerequisites: G.E. Foundation B4. Not open to students with credit in college chemistry; for non-science majors. Discusses significance of chemical principles in contemporary society; benefits adn hazards relative to areas such as energy, health, diet, environment and agriculture. (3 lecture, 3 lab hours) G.E. Breadth B1.

Units: 4

GE Area: B1

CHEM 102. Quantitative Analytical Chemistry

For chemistry majors; recommended for other science majors. Prerequisites: CHEM 1B (with a grade of C or better) and CHEM 128A. Students with credit in a similar lower-division quantitative analysis course will receive only one additional unit of credit. Introduction to principles and methods of analytical chemistry. (3 lecture, 6 lab hours) (Course fee, $25)

Units: 5

Course Typically Offered: Fall, Spring

CHEM 105. Quantitative Analysis Laboratory

Not open to chemistry majors. Prerequisites: CHEM 1A (with a grade of C or better), or CHEM 3A (with a grade of B or better), or permission of instructor. Laboratory study of principles and methods of applied quantitative analysis. (2 lecture, 6 lab hours) (Course fee, $25)

Units: 4

Course Typically Offered: Fall, Spring

CHEM 106. Analytical Measurements Laboratory

Prerequisites: CHEM 102 (with a grade of C or better), CHEM 108 or CHEM 110A, or permission of instructor. Completion of Upper Division Writing Exam or passing a “W” course with a C or better. Principles and methods of analytical measurements of organic and inorganic substances by instrumental and non-instrumental techniques. (2 lecture, 6 lab hours) (Course fee, $25)

Units: 4

Course Typically Offered: Fall

CHEM 106S. Instrumental Analysis in Industrial Settings

Prerequisites: CHEM 102 (with a grade of C or better), CHEM 108 or CHEM 110A, completion of the upper-division writing requirement, or permission of instructor. Principles and methods of analytical measurements using instrumental techniques. Meets off campus and focuses on the use of techniques within industry settings for environmental monitoring in the Central Valley. (2 lecture, 6 lab hours). $25.00 course fee

Units: 4

CHEM 108. Introductory Physical Chemistry

Prerequisites: MATH 76 (MATH 77 strongly recommended), CHEM 8 or CHEM 128A and PHYS 2A, PHYS 2B or PHYS 4A, PHYS 4AL, PHYS 4B, PHYS 4BL, and PHYS 4C. Basic treatment of gas laws, thermodynamics, phase equilibria, properties of solutions, kinetics, and spectroscopy.

Units: 4

Course Typically Offered: Fall

CHEM 110A. Physical Chemistry

Prerequisites: MATH 76; CHEM 1B, CHEM 8 or CHEM 128A; PHYS 2B or PHYS 4B. MATH 77 and PHYS 4C strongly recommended. Mathematical treatment of the elementary statistical and quantum mechanics, crystal structure, molecular structure, and molecular spectroscopy.

Units: 3

Course Typically Offered: Fall

CHEM 110B. Physical Chemistry

Prerequisites: MATH 77; CHEM 110A; PHYS 4C or permission of instructor. Mathematical treatment of the laws of thermodynamics, reaction kinetics, statistical thermodynamics, properties of solutions, kinetic theory of gases, and nuclear chemistry.

Units: 3

Course Typically Offered: Spring

CHEM 111. Physical Chemistry Laboratory

Prerequisite: CHEM 110B or CHEM 112 or concurrently, CHEM 102. Completion of Upper Division Writing Exam or pasing a “W” course with a C or better. Techniques of physical measurements, error analysis and statistics; ultra- violet, infrared, and nuclear magnetic resonance spectroscopy; dipole moments, viscosity, calorimetry, kinetics phase diagrams, thermodynamic measurements, and report writing. (1 lecture, 6 lab hours) (Course fee, $25)

Units: 3

Course Typically Offered: Spring

CHEM 112. Biophysical Chemistry

Prerequisites: CHEM 108 or 110A. Principles of thermodynamics, equilibria, and kinetics applied to biological processes and systems including proteins, nucleic acids, and membranes. Microscopic structure and assembly, statistical analyses, spectroscopy, photoBiology, and biological magnetic resonance.

Units: 3

Course Typically Offered: Spring

CHEM 123. Advanced Inorganic Chemistry

Prerequisites: CHEM 1B, CHEM 102 and CHEM 110A (or concurrently). Treatment of ionic and covalent bonding, atomic structure, molecular structure, and reaction mechanisms. Introduction to visible and infrared spectroscopy of transition metal complexes, special topics.

Units: 3

Course Typically Offered: Fall

CHEM 124. Synthesis and Characterization

Prerequisite: CHEM 123 or concurrently. Completion of Upper Division Writing Exam or pasing a "W" course with a C or better. Techniques of preparation to include high temperature reactions, vacuum line and glove box preps, nonaqueous syntheses, solid state reactions. Emphasis on structural characterizations using instrumental methods. (6 lab hours) (Class fee, $35)

Units: 2

Course Typically Offered: Spring

CHEM 125. Applied Analytical Techniques

Prerequisites: CHEM 8 or CHEM 128A and CHEM 102 or CHEM 105. Analytical techniques and their applications in clinical, environmental, agricultural and forensic analytical and bioscience laboratories. (2 lecture, 3 lab hours)

Units: 3

CHEM 128A. Organic Chemistry

For chemistry majors; recommended for premedical, prepharmacy, preveterinary, predental, preoptometry students and other science majors. Prerequisites: CHEM 1B with a grade of C or better, CHEM 8 with a grade of C or better, or permission of instructor. Introduction to structure and reactivity of principal classes of organic compounds with emphasis on theory and mechanism.

Units: 3

Course Typically Offered: Fall, Spring

CHEM 128B. Organic Chemistry

For chemistry majors; recommended for premedical, prepharmacy, preveterinary, predental, preoptometry students and other science majors. Prerequisites: CHEM 128A with a grade of C or better. Introduction to structure and reactivity of principal classes of organic compounds with emphasis on theory and mechanism

Units: 3

Course Typically Offered: Fall, Spring

CHEM 129A. Organic Chemistry Laboratory

Prerequisites or corequisites: CHEM 128A or CHEM 8 with a grade of C or better. Introduction to experimental techniques used in organic chemistry, including the preparation, purification, and identification of organic compounds. (6 lab hours) (Course fee, $25)

Units: 2

Course Typically Offered: Fall, Spring

CHEM 129B. Organic Chemistry Laboratory

CHEM 129A is a prerequisite. CHEM 128B is a prerequisite or corequisite. Preparation, purification, and identification of organic compounds. Introduction to chemical research by way of independent projects. (Course fee, $15

Units: 2

Course Typically Offered: Fall, Spring

CHEM 140T. Topics in Chemistry

Prerequisite: permission of instructor. Seminar covering special topics in one of the areas of chemistry: analytical, biochemistry, inorganic, organic, physical. Some topics may have a laboratory.

Units: 1-4, Repeatable up to 6 units

CHEM 150. General Biochemistry

Prerequisite: CHEM 3B or CHEM 8, or both CHEM 128A and CHEM 128B. (CHEM 150 and CHEM155B together constitute a year sequence.) Chemistry and metabolism of basic cellular constituents including carbohydrates, lipids, proteins, and nucleic acids.

Units: 3

Course Typically Offered: Fall, Spring

CHEM 155A. Fundamentals of Biochemistry

Prerequisites: CHEM 128B. Primarily for chemistry majors; recommended for premedical students and graduate students in the sciences. Structure, function, and metabolism of chemical entities in living systems.

Units: 3

Course Typically Offered: Fall

CHEM 155B. Physiological Chemistry and Metabolism

Prerequisite: CHEM 150 or CHEM 155A. Continuation of CHEM 150 or CHEM 155A. Intensive discussion of the degradation and biosynthesis of major cellular constituents; energy metabolism; control of metabolic processes and pathological implications in mammalian systems. (Formerly CHEM 153)

Units: 3

Course Typically Offered: Spring

CHEM 156. Biochemical Laboratory Techniques

Prerequisites: senior standing or permission of instructor; CHEM 150 or CHEM 155 or 155A (or concurrently), CHEM 102 or CHEM 105, CHEM 129A. Completion of Upper Division Writing Exam or pasing a "W" course with a C or better. Provides the student with a range of techniques and methodology appropriate to the study or phenomena at the biochemical, cellular, and organismic levels. Satisfies the senior major requirement for the B.A. in Chemistry. (1 lecture, 6 lab hours) (Course fee, $30)

Units: 3

Course Typically Offered: Spring

CHEM 160H. Research Techniques

Prerequisites: Admission to the chemistry honors program or permission of instructor. Concepts of experimental design and the

development of practical research expertise and communication skills through the planning, completion, and presentation (written and oral) of a short laboratory project (1 lecture, 6 lab hours.

Units: 3

Course Typically Offered: Spring

CHEM 161W. Scientific Writing Workshop

Prerequisites: GE Foundation and Breadth Area B, ENGL 5B or ENGL 10 (C or better), to be taken no sooner than the term in which 60 units are completed. A review of common conventions and forms of scientific and technical writing including practical assignments in the preparation of laboratory procedures, research grant proposals, and research manuscripts. Meets the upper-division writing skills requirement for graduation.

Units: 3

CHEM 165SH. Peer Instruction in Chemistry

The development of improved oral communication, reinforcement of foundational chemistry knowledge, and development of teaching skills through service as a peer-instructor in chemistry.

Units: 3

Course Typically Offered: Fall

CHEM 170. Chemistry in the Marketplace

Not open to chemistry majors. Prerequisites: completion of General Education Quantitative Reasoning and Area B2 Breadth requirements. The impact of chemistry and chemicals on society and individual lives. G.E. Integration IB. (3 lecture hours)

Units: 3

GE Area: IB

CHEM 180H. Honors Seminar in Chemistry

Prerequisites: Admission to the chemistry honors program or permission of instructor. Development of critical evaluation skills of presentations and current literature and research in various chemistry disciplines.

Units: 1-2

Course Typically Offered: Fall

CHEM 190. Independent Study

Prerequisite: Permission of instructor. See Academic Placement - Independent Study. Approved for RP grading.

Units: 1-3, Repeatable up to 6 units

Course Typically Offered: Fall, Spring

CHEM 199. Undergraduate Thesis

Prerequisites: CHEM 190 or 160 or 160H. Preparation, completion, and submission of an acceptable thesis based on undergraduate research in chemistry.

Units: 3

Course Typically Offered: Fall, Spring

CHEM 201. Chemistry Laboratory Teaching Techniques

Prerequisites: concurrent appointment as a teaching associate in the department of Chemistry or permission of instructor. Discussion and practice of effective laboratory teaching techniques, laboratory safety, common equipment setups, and grading. (2 activity hours)

Units: 1

CHEM 211. Chemical Thermodynamics

Prerequisites: CHEM 110A, CHEM 110B, CHEM 111. Principles of thermodynamics; application to chemical problems; introduction to statistical methods, calculation of thermody namic functions from spectroscopic data.

Units: 3

CHEM 212. Chemical Applications of Group Theory

Prerequisites: CHEM 110A, CHEM 110B, CHEM 111. Introduction to symmetry operations, point groups and their properties. Application of group theory to chemical problems such as; selection rules for electronic, IR, Raman and microwave activity, molecular orbital theory, transition metal complexes, hybridization, and other chemical topics.

Units: 1-2

CHEM 215. Quantum Chemistry

Prerequisite: graduate standing. Seminar on recent advances in quantum mechanics; chemical bonding, and atomic and molecular spectroscopy.

Units: 3

CHEM 220. Theoretical Inorganic Chemistry

Prerequisites: CHEM 110A, CHEM 110B, CHEM 123. Seminar on theoretical inorganic chemistry emphasizing structure and bonding of inorganic and coordination compounds, valence bond, molecular orbital and ligand field theories; correlation of structure and reactivity.

Units: 3

CHEM 222. Advances in Inorganic Chemistry

Prerequisites: CHEM 110A, CHEM 110B, CHEM 123, CHEM 128B. Seminar on recent advances in inorganic chemistry. Topics may include, but are not limited to, organometallic chemistry, solid-state chemistry, nonmetallic complexes, and the chemistry of rare-earth compounds.

Units: 3

CHEM 225. Separation Methods in Chemistry

Prerequisites: CHEM 106 and CHEM 129B. Seminar on the theory, application, and literature of various separation methods for organic and inorganic analysis. May include laboratory.

Units: 1-3

CHEM 226. Electrochemistry

Prerequisite: CHEM 106. Seminar on the theory, application, recent developments, and literature of electrochemistry and electrochemical methods of organic and inorganic analysis. May include laboratory.

Units: 1-3

CHEM 227. Analytical Spectroscopy

Prerequisites: CHEM 106, CHEM 110A, CHEM 110B, or permission of instructor. Theory, instrumentation, and application. Recent developments and literature of spectroscopic techniques. May include laboratory.

Units: 1-3

CHEM 228. Mass Spectrometry
Prerequisites: CHEM 106 or CHEM 125, CHEM 128B, CHEM 108 or CHEM 110A, and CHEM 110B; or permission of instructor. Seminar on the theory and application of mass spectrometry techniques to chemical analysis and identification. May include laboratory.

Units: 1-3

CHEM 230. Advanced Organic Chemistry
Prerequisites: CHEM 128B, CHEM 129B. Seminar on recent advances in organic chemistry including reaction mechanisms and synthetic applications with references to current literature.

Units: 3

CHEM 235. Physical Organic Chemistry
Prerequisites: CHEM 110A, CHEM 110B, CHEM 128B. Seminar in application of modern theoretical concepts to the chemical and physical properties of organic compounds.

Units: 3

CHEM 240T. Topics in Advanced Chemistry
Seminar covering special topics in one of the areas of chemistry: analytical, biochemistry, inorganic, organic, physical. Some topics may have a laboratory.

Units: 1-3

CHEM 240T. Biomolecular Structure and Function
An examination of modern structural Biology. The course highlights underlying principles of protein structure and function. Topics may include forces and landscapes of protein structure, cytoplasmic and membrane protein structure, protein folding, structure determination by X-ray crystallography, and protein engineering/design. The course will illustrate these concepts through a combination of lecture, group projects and case studies drawing on recent advances in structural Biology.

Units: 3

CHEM 240T. Bioorganic Principles of Drug Design and Drug Action
This course is intended for graduate students interested in application of organic chemistry knowledge and reaction mechanism to explore how and why certain chemicals interact at the targets in living mechanism. The emphasis is on understanding relationship between chemical structures and their individual mode of actions. The fundamentals of drug design and drug metabolism from an organic chemical perspective, using real drugs as examples, will also be provided.

Units: 3

CHEM 240T. Nuclear Magnetic Resonance Spectroscopy: Theory and Practice
This course is intended for graduate students interested in applications of nuclear resonance (NMR) spectroscopy to problems in molecular and structural chemistry/Biology. Starting from the fundamentals that underlie magnetic resonance phenomena, NMR will be explained based on vector model, product operator formalism and density matrices. Experimental details on spectrometer operation, data acquisition, and processing and detailed description on multidimensional NMR experiments will be provided. Finally, applications in chemistry, Biology, and medicine will be discussed with hands-on experience with a spectrometer. Previous exposure to elementary quantum mechanics and its applications in spectroscopy would be useful.

Units: 3

CHEM 241A. Molecular Biology I-II
(BIOL 241A same as CHEM 241A and FBS 241A.) Prerequisites: BIOL 102, BIOL 103, CHEM 150 or CHEM 155A or permission of instructor. Current topics in molecular Biology are addressed, including protein and nucleic acid structure, DNA replication, transcription, translation, prokaryotic and eukaryotic regulation, mechanisms of exchange of generic material, and recombinant DNA technology.

Units: 3

CHEM 241B. Molecular Biology I-II
(Same as BIOL 241A and BIOL 241B.) Prerequisites: BIOL 140A, BIOL 140B, CHEM 150 or CHEM 155A, or permission of instructor. BIOL 241A/CHEM 241A is prerequisite for BIOL 241B or CHEM 241B. Current topics in molecular Biology are addressed, including protein and nucleic acid structure, DNA replication, transcription, translation, prokaryotic and eukaryotic regulation, mechanisms of exchange of generic material, and recombinant DNA technology.

Units: 3

CHEM 242. Techniques in Protein Purification and Analysis
(Same as BIOL 242.) Prerequisite: CHEM 151 or CHEM 156 or permission of instructor. Corequisite: BIOL 241A or CHEM 241A. Deals with the technologies relevant to protein isolation, purification, analysis, immobilization, and modification in micro and macro quantities. (1 lecture, 6 lab hours) (Class fee, $40)

Units: 3

CHEM 242. Forensic DNA Analysis
Prerequisites: BIOL 102, CHEM 150 or CHEM 155, or permission of instructor. FBS 241A recommended but not required. Provides an understanding of forensic DNA analysis, from extraction of DNA from biological tissues commonly encountered in forensic practice through typing and interpretation of profiles obtained to the presentation of these types of data in courts of law. (Formerly FBS 252)

Units: 3

CHEM 243. Nucleic Acid Technology Lab
(Same as BIOL 243.) Prerequisites: BIOL 241A or CHEM 241A and BIOL 242 or CHEM 242. Corequisite: BIOL 241B or CHEM 241B. A lecture/laboratory course focusing on the technologies used in nucleic acid chemistry; specifically, synthesis, translation, mutagenesis, and genetic engineering. (1 lecture, 6 lab hours) (Course fee, $40)

Units: 3

CHEM 244. Cell Culture Techniques
(Same as BIOL 244.) Prerequisites: BIOL 103 and BIOL 104. The theory and practice of in vitro propagation of eukaryotic cells, including growth characteristics, metabolic requirements, genetic analysis, and screening assays. Special focus is on cancer cell lines with the potential for stem cell manipulation relative to cell

Biology culture and application to biotechnology. (1 lecture, 6 lab hours)

Units: 3

CHEM 245. Industrial Biotechnology

(Same as BIOL 245) Prerequisites: BIOL 120 and CHEM 150 or CHEM 155, or permission of instructor. The study of bioprocessing, both theory and current practices, including hands-on experience with standard techniques and formulation of a strategic plan for a new technology or product. (2 lecture, 3 lab hours).

Units: 3

CHEM 248. Seminar in Molecular Biology and Biotechnology

(CHEM 248 same as BIOL 248.) Prerequisite: admission to the Biology or chemistry graduate program. Preference will be given to students enrolled in the Master of Biotechnology or Biotechnology Certificate Programs. Reviews and reports on current literature in various aspects of biotechnology and molecular Biology.

Units: 1-2, Repeatable up to 4 units

CHEM 250. Forensic Micropscopy & Materials Analysis

Forensic science methods for analysis of inorganix evidentiary materials, including composition and comparison of trace and impression eveidence and their interpretation and significance. This course will cover topics in microscopy (confocal, polarized, brightfield, phase contrast, dissecting, compound, comparison, electron), impression evidence (fingerprints, firearms/toolmarks), trace evidence (hair, fibers, and biological), arson, ink comparisons, evidentiary statistics, and quality assurance/quality control (QA/QC). (2 hours lecture, 2 hours lab)

Units: 3

CHEM 251. Forensic Drug Chemistry and Toxicology

(FBS 251 same as CHEM 251) Prerequisites: CHEM 128B, CHEM 129A, and CHEM 102 or CHEM 105, or persmission of instructor. CHEM 106 or CHEM 125 strongly recommended. Forensic science methods for analysis of controlled substances (in vivo or ex vivo) and their interpretation and significance May include laboratory.

Units: 3

CHEM 260. Advanced Research Techniques

Prerequisites: classified standing or permission of the instructor. Advanced concepts in experimental design. Development of practical research expertise and communication skills through the planning, completion, and presentation (both written and oral) of a short laboratory project. (1 lecture, 6 lab hours)

Units: 3

CHEM 280. Seminar in Chemistry

Approved for RP grading.

Units: 1, Repeatable up to 3 units

CHEM 290. Independent Study

See Academic Placement - Independent Study. Approved for RP grading.

Units: 1-3, Repeatable up to 6 units

CHEM 291. Intership in Science Laboratory

(Same as CHEM 291) Prerequisites: classified standing in the MSFS program with successful completion of the Graduate Writing Requirement and beginning work with the student's research mentor on approved project/thesis research. Minimum of 150 hours research internship. May be completed at any public crime laboratory or facility approved by program coordinator. (Current employees of public crime laboratories may take FBS 290 instead of FBS 291 - must pass required agency background investigation.) S

Units: 3

CHEM 295. Research

Prerequisite: permission of instructor. Independent investigations of an advanced character for the graduate student with adequate preparation. Approved for SP grading. (May include conferences, laboratory, library.)

Units: 2

CHEM 298. Project

Prerequisite: Preparation, completion, and submission of an acceptable thesis for the master's degree. Approved for RP grading.

Units: 4

CHEM 298C. Project Continuation

Prerequisite: Project CHEM 298. For continuous enrollment while completing the project. May enroll twice with department approval. Additional enrollments must be approved by the Dean of Graduate Studies.

Units: 0

CHEM 299. Thesis

Prerequisite: See Criteria for Thesis and Project. Preparation, completion, and submission of an acceptable thesis for the master's degree. Approved for RP grading.

Units: 4

CHEM 299C. Thesis Continuation

Prerequisite: Thesis BIOL 299. For continuous enrollment while completing the thesis. May enroll twice with department approval. Additional enrollments must be approved by the Dean of Graduate Studies.

Units: 0

CHEM 340T. Topics in Chemistry

A professional development seminar covering speical topics in one of the areas chemistry: analytical, biochemistry, forensic, inorganic, organic, physical. Some topics may have a laboratory or activity component.

Units: 1-3

CHINESE (CHIN)

CHIN 1A. Elementary Chinese 1A

Prerequisite: G. E. Foundation A2. Beginning (1st semester) course in modern Mandarin Chinese, developing students basic skills in listening, speaking, reading, and writing, including understanding and appreciation of Chinese language, culture, and history. Not open to students with previous training in Chinese.

Units: 4

Course Typically Offered: Fall, Spring

GE Area: C2

CHIN 1B. Elementary Chinese

Prerequisite: G. E. Foundation A2. and Chinese 1A or equivalent. Beginning (2nd semester) course in modern Mandarin Chinese, continuing to develop students basic communication skills in listening, reading, speaking, and writing, including understanding and appreciation of Chinese language, culture, and history. G. E. Breadth C2

Units: 4

Course Typically Offered: Fall, Spring

GE Area: C2

CHIN 2A. Intermediate Chinese

Prerequisite: CHIN 1B. Intermediate grammar, speaking, reading, and writing.

Units: 3

Course Typically Offered: Fall

CHIN 2B. Intermediate Chinese

Prerequisite: CHIN 1B. Intermediate grammar, speaking, reading, writing.

Units: 3

Course Typically Offered: Spring

CHIN 100. Advanced Chinese

Advanced Mandarin Chinese course focusing on the skills of listening, speaking, reading, writing, and traditions and culture of the Chinese people.

Units: 3

Course Typically Offered: Fall

CURRICULUM AND INSTRUCTION (CI)

CI 100. Educational Applications of Technology

Use of multiple applications of current and emerging technologies to increase subject matter knowledge and understanding. Evaluation of technologies as effective tools of learning. Exploration of ethical and social issues related to technology.

Units: 3

Course Typically Offered: Fall, Spring

CI 101. Educational Applications of Technology for Secondary Teachers

Use of multiple applications of current and emerging technologies to increase knowledge and understanding of secondary teachers. Evaluation of technologies as effective tools of learning. Exploration of ethical and social issues related to technology. (2 lecture, 2 lab hours)

Units: 3

Course Typically Offered: Fall, Spring

CI 123. Classroom Management

Classroom organization, management, and mainstreaming including focus on the culturally, linguistically diverse student. (Formerly CTET 123)

Units: 2

Course Typically Offered: Fall, Spring

CI 124. Priniciples of Character Education

Prerequisites: Senior status or credential student status.This course is to provide an introduction to and background of character education as required by the California Education Code Section 233.5{a}. The class normally will be offered as a one-unit, two-day weekend course. This course is an elective one-unit class designed for students of senior status who seek admission to a CSUF credential program or for current credential students. (Formerly CI 180T).

Units: 1, Repeatable up to 2 units

Course Typically Offered: Fall, Spring

CI 127. Child Abuse and Neglect for Teachers

Develop realistic perspectives on child abuse and neglect for students, teachers, and teaching candidates. Focus is on identifying, assessing, and documenting child maltreatment and knowledge, application and documentation of the California Mandated Reporting Laws.

Units: 1

CI 136. Multicultural Education

Assists teachers and other school personnel to acquire skills in multicultural cur riculum design and delivery. Emphasizes language acquisition instruction and mentoring techniques for working with students in a pluralistic society. (Formerly CTET 136)

Units: 3

CI 137. Creative Dramatics

(DRAMA 137 same as CI 137.) Basic techniques for the use of dramatization in elementary education; sociodrama, dramatization of school subjects, creative dramatic play; simplified staging techniques.

Units: 3, Repeatable up to 6 units

Course Typically Offered: Fall, Spring

CI 149. Curriculum, Instruction, and Technology in Secondary Classrooms

Use of research to inform decisions about instructional planning, pedagogical strategies, assessment, and classroom organization to facilitate learning for all students in secondary classrooms. Use of current and emerging technologies to enhance learning.

Units: 3

CI 150ECE. Mananging Early Learning Environments

Appropriate for Early Child Emphasis, Multiple Subject Credential candidates in their second semester of the teacher education program. Introduces pre-service teachers to a variety of psychological approaches to managing early learning environments. CR/NC only. (Formerly EHD 111)

Units: 1

Course Typically Offered: Fall

CI 151. Social Contexts of Teaching and Learning

Foundations of education contemporary issues; legal responsibilities; effective involvement with family and community.

Units: 3

Course Typically Offered: Fall, Spring, Summer

CI 152. Adolescent Learning and Development

Prerequisites: Admission to Single Subject Credential Program. Psychological theories of teaching and learning, growth and development of adolescents, motivation, classroom management, and student performance and assessment issues.

Units: 3

Course Typically Offered: Fall, Spring, Summer

CI 159. Curriculum and Instruction in Secondary Schools

Prerequisites: admission to the Single Subject Credential Program and Concurrent enrollment in EHD 155A. Instructional planning, methodologies of teaching and learning, evaluation techniques, motivation, classroom management, preparation and evaluation of materials, technology integration. Lesson demonstration and analysis. (2 lecture, 2 lab hours) (Instructional materials fee, $5) (Formerly CTET 159)

Units: 3

Course Typically Offered: Fall, Spring, Summer

CI 161. Content Area Methods and Materials in Secondary Teaching

Prerequisites: CI 152 AND CI 159 or Concurrent enrollment; admission to the Single Subject Credential Program or teaching experience. Planning, delivering, and assessing content-specific instruction; academic and common core standards; identifying specific standards that require literacy strategies. (Instructional materials fee for Single Subject - Art Methods and Materials enrollees, $10)

Units: 3, Repeatable

Course Typically Offered: Fall, Spring

CI 161. Methods and Materials in Middle School Science Teaching

This course is designed to familiarize teachers with the instructional procedures, techniques, and resources that are unique to teaching science at the middle school level.

Units: 3

CI 161. Methods and Materials in Secondary Teaching

Instructional procedures, techniques, and resources for teaching; appraisal of instructional innovations; classroom organization and management; measurement and evaluative techniques.

Units: 3, Repeatable

Course Typically Offered: Spring

CI 161. Mth Mtl H S

Units: 3, Repeatable

CI 161. Mth Mtl F L

Units: 3, Repeatable

CI 161. Mth Mtl I T

Units: 3, Repeatable

CI 161. Mth Mtl S Sci

Units: 3, Repeatable

CI 161. Mth Mtl P E

Units: 3, Repeatable

CI 161. Mth Mtl Mus

Units: 3, Repeatable

CI 161. Mth Mtl H Ec

Units: 3, Repeatable

CI 161. Mth Mtl Engl

Units: 3, Repeatable

CI 161. Mth Mtl Bus

Units: 3, Repeatable

CI 161. Mth Mtl BIOL

Units: 3, Repeatable

CI 161. Mth Mtl Art

Units: 3, Repeatable

CI 161. Mth Mtl Agri

Units: 3, Repeatable

CI 171. Understanding the Learner, Instructional Design and Assessment

Prerequisites: Admission to the Multiple Subject Credential Program. Students not currently enrolled in EHD 174 need to make special arrangements with instructors. This course focuses on applied psychology, considering developmental/learning theory, research, and assessment as it relates to the learner. Students examine the design of integrated curriculum in K-8 classrooms and investigates reforms, curricular theories, and instructional models.

Units: 3

Course Typically Offered: Fall, Spring, Summer

CI 171ECE. Psychological Contexts of Teaching and Learning

Prerequisites: Admission to Multiple Subject Credential, Early Childhood Education Program. Child context (0-8) is explored. Typical/atypical development, psychological theory, research, practice and current issues are examined.

Units: 3

Course Typically Offered: Spring

CI 175. Science Instruction and Applied Technology

Prerequisites: CI 171, LEE 172, LEE 173, EHD 174. Students not concurrently enrolled in EHD 178 need to make special arrangements with instructor. This course is designed to prepare teacher candidates to effectively and equitably teach elementary school science and to use contemporary instructional technologies in culturally and linguistically diverse classrooms. (Instructional Materials fee, $5) (Formerly CI 125)

Units: 3

Course Typically Offered: Fall, Spring

CI 176. Mathematics Instruction and Applied Assessment

Prerequisite: CI 171, LEE 172, LEE 173, EHD 174. Students not concurrently enrolled in EHD 178 need to make special arrangements with instructor. This course is designed to prepare teacher candidates to plan instruction based on the assessment of students' mathematical understanding and to teach mathematics using multiple strategies and methods in culturally and lingistically diverse elementary classrooms.

Units: 3

Course Typically Offered: Fall, Spring

CI 180T. Topics in Curriculum and Instruction

Issues and topics in curriculum and instruction; elementary, middle school, and secondary education; technology, and computer literacy. (Formerly CTET 180T)

Units: 1-3, Repeatable up to 9 units

CI 180T. Teacher Track and STEM

Learners will acquire knowledge of the problem-based learning (PBL) approach and understand how to create inquiry-based, hands-on activities. They will work and explore in groups to design a PBL lesson that incorporates the Engineering Design Process (EDP) of the Next Generation Science Standards (NGSS). Learners will demonstrate PBL with a class of students by implementing the EDP.

Units: 3, Repeatable up to 6 units

CI 180T. Teacher Track: Common Core and Building Assets

Learners will understand the research and underlying concepts of assets-based youth development. They will participate in group dynamics related to assets development and will learn to become asset builders, both with the youth they serve and with the broader school environment in which they work. Learners will incorporate essential strategies from Common Core practices.

Units: 3, Repeatable up to 6 units

CI 180T. Pedagogy for Common Core

This course assists pre-service teachers to acquire skills in pedagogy that is aligned and supportive of the movement towards the Common Core Standards. The emphasis will be on effective teaching strategies that promote student engagement in the 21st century including Cooperative Learning, Inquiry/Problem based Learning, Critical Thinking Pedagogy, and Differentiated Instruction. The course emphasizes the importance of cultural sensitivity in working with English Language Learners, immigrant students and other special needs student groups in our public school system.

Units: 3, Repeatable up to 9 units

CI 180T. More Than Survival: The elements of success in teaching choral music

This class will cover the essential elements of running a successful choral-music program. Topics will include motivation and discipline; rehearsal procedures (e.g. warm-up excercises, vocal-development drills, pacing rehearsals); techniques for introducing music and refining the concert "product," teaching musical literacy; literature for ensembles of various voicings (even unbalanced groups); assessment; preparing for festivals and competitions.

Units: 1, Repeatable up to 9 units

CI 180T. Cognitively Guided Instruction 2016

Teachers will: - Increase knowledge of student mathematical thinking and understanding -Learn typical strategies students use to solve math problems - Learn how to make the shifts necessary to implement the Common Core State Standards for Mathematics -Learn to infuse CGI strategies in your instruction? Enhance instructional decision making -View CGI classroom practice

Units: 2, Repeatable up to 9 units

CI 190. Independent Study

See Academic Placement - Independent Study. Approved for RP grading. (Formerly CTET 190)

Units: 1-3, Repeatable up to 6 units

Course Typically Offered: Fall, Spring

CI 210. Current Issues & Trends in Mathematics Education

Examination and analysis of state, national, and international issues related to K-12 mathematics curriculum, instruction, and assessment with implications for teachers, educational leaders, and policy makers. Professional development resources for mathematics teachers at all instructional levels. (Formerly CTET 280T; CTET 210)

Units: 3

CI 212. Mathematics Education in the Primary Grades

Mathematics content and methods for primary grades. Focus is on using research about children's mathematical understanding and mathematics classrooms to inform instructional decisions. (FOrmerly CTET 212)

Units: 3

CI 225. Integration of Technology Across the Curriculum

Prerequisite: CTC Level 1 technology requirements and completion of final student teaching, or admission to a graduate program or permission of department chair. Appropriate use of advanced technologies to enhance teaching and learning: accessing and evaluating information, analyzing and solving problems, and communicating ideas. Meets CTC Level 2 technology requirements.

Units: 3

CI 227. Current Issues and Trends in Educational Technology

Focuses on the social, economic, and psychological impacts of technology on schools, teaching, and learning. Students examine issues from a historical perspective and formulate a vision of the future of education and technology through readings, discussions, and research. (Formerly CTET 227)

Units: 3

CI 229. Designing Virtual Realities for Education

This course provides students with the skills and knowledge to design virtual reality representations of partner institues in the re-

gion. Working in groups, student create educational products that will be posted on the web. (Formerly CTET 2280T; CTET 229)

Units: 3

CI 230. Planning and Implementing Innovative Technology Programs

Strategies for implementing change in educational settings; planning for equitable technology use; planning and instituting effective staff development programs; managing resources, including networking equipment; locating, developing, and coordinating funding sources; and gaining parent and community support. (Formerly CTET 230)

Units: 3

CI 240. Social Justice and the Multicultural Classroom

Cultural and political contexts of schooling; foundations of education. Enhancing educational equity by providing multicultural curriculum, culturally responsive pedagogy and culturally appropriate assessment. They conduct web-supported classroom research. Use web-based collaborative tools with teachers, families of pupils, and community members.

Units: 3

CI 241. Teaching for Equity and Justice in the Multicultural Classroom: Practice into Theory

Theory and practical application of multicultural curriculum design. Continued attention to learning theory, instructional theory and role of technology in education. Focus is on what knowledge is most worth teaching, given curriculum standards and the explosion of knowledge in a diverse society.

Units: 3

CI 245. Investigating Pratice in the Diverse Classroom: Practitioner Research

Overview of the epistemological, political, and methodological issues associated with teacher/practitioner research, its progress historically, and the specific questions and issues investigated through teacher/practitioner research. Investigation of multicultural teaching as reflected in curriculum, teacher practice, and assessment of student learning.

Units: 4

CI 246. Action Research in the Multicultural Classroom: Capstone Project and Dissemination

Corequisite CI 260, CI 298B, or CI 299B. Culminating learning experience for the Master of Arts in Teaching (MAT) program. Students then disseminate their Action Research Project through digital display and a multimedia presentation. Enrollment limited to students admitted to the MAT program.

Units: 4

CI 250. Advanced Curriculum Theory and Analysis

Theory and practice of curriculum development, evaluation, and revision. Study of contemporary problems and curriculum approaches to meet societal needs.

Units: 3

CI 260. Critical Pedagogy

Students develop knowledge and skills to critically examine and improve planning, instructional decisions, assessment, and student learning. Students engage in systematic reflection of teaching practices.

Units: 4

CI 274. Social Interaction in Teaching

In-depth study of the dynamics of effective interpersonal relations in the classroom with students - and beyond - with administrators, parents, and colleagues. Strategic interaction for creative, low-stress teaching and learning based upon related theory and research. (2 seminar, 2 lab hours) (Formerly ERA 274)

Units: 3

CI 275. Advanced Instructional Theories and Strategies

Study and application of contemporary research and theory in teaching and instruction. (Formerly CTET275)

Units: 3

CI 276. Understanding Mathematics Instruction and Applied Assessment

This course is designed to prepare teachers to plan instruction based on the assessment of students' mathematical understanding and to teach mathematics using multiple strategies and methods in culturally and linguistically diverse elementary classrooms. Graduate students will examing current research and literature that informs instruction in mathematics and guides assessment. (Dual listed with CI 176).

Units: 3

CI 280T. Advanced Topics

Prerequisite: permission of instructor. Advanced, in-depth analysis of issues and problems in curriculum and instruction; elementary, middle school, and secondary education; technology and computers in education. Emphasis placed on advanced research. (Formerly CTET 280T)

Units: 1-3, Repeatable up to 9 units

CI 280T. Curriculum Trend in Education

Using scholarly readings and media, this course will explore current trends in education. Special attention will be given to issues related to Common Core State Standards and new assessments. How are administrators, teachers, parents, and students dealing with these changes? What professional development is needed for increased emphasis on critical thinking, justification, and project-based learning? What are the potential short-term and long-term effects for educational institutions?

Units: 3

CI 280T. Designing Motivating Instruction

Students will learn how to apply elements of Keller's ARCS model in order to design very motivating instruction. Each student will develop an instructional unit for their own students, which makes use of these prescribed strategies.

Units: 3, Repeatable up to 9 units

CI 280T. Exploring Technology & Critical Thinking

This course will be a series of explorations of various technological tools, problem-solving applications, complex search engines, etc. The focus will be on the theoretical foundations of critical thinking and how specific applications of students-centered

instruction can improve the quality and depth of teaching and learning in the 21st Century classroom.

Units: 3, Repeatable up to 9 units

CI 282. Philosophy of Education

Seminar on philosophical issues in educational theory and practice and their historical backgrounds. Educational implications of current and historical systematic philosophical outlooks and ideological trends.

Units: 3

CI 284. Seminar in International Education

Analysis of historical, social, and political forces which shape national education endeavors. Emerging international education efforts and organizations. (Formerly ERF 284)

Units: 3

CI 285. Seminar in Advanced Educational Psychology

Prerequisites: Minimum 3 units from the following: CI 152, CI 171, COUN 174, or PSYCH 101, or permission of instructor. Seminar on the psychological foundations of education; nature and characteristics of development, learning processes, and forces which affect educational growth. (Formerly ERA 285)

Units: 3

CI 286. Social Issues in Education

Prerequisites: Minimum 3 units from the following: CI 151, CI 171, a course in Sociology, a course in Anthropology, or permission of instructor. Seminar for analysis of effect on institutional and ideological trends and problems on the role and operation of the school in American society. (Fomerly ERA 286)

Units: 3

CI 287. Seminar in History of Educational Thought

Prerequisites: CI 282 or philosophy course or permission of instructor. Seminar on historical foundations of educational theory; growth of thought regarding teaching and learning; relationship of educational theory and practice in the United States. (Formerly ERA 287)

Units: 3

CI 290. Independent Study

See Academic Placement - Independent Study. Approved for RP grading. (Formerly CTET 290)

Units: 1-3, Repeatable up to 6 units

CI 298. Project

Prerequisites: advancement to candidacy for the master's degree; B average on 24 units of the master's program including ERE 220. See Criteria for Thesis and Project. A project consists of a significant undertaking appropriate to education such as the development of curricula and instructional materials, educational policy, educational theory, and educational technology. An approved proposal is required for enrollemtn. Approved for RP grading. (Formerly CTET 298)

Units: 2-4

CI 298A. Project: Curriculum and Instruction

Prerequisites: Advancement to candidacy for the M.A. in Education - Curriculum and Instruction option (MAE - C&I); B average in all MAE coursework, including ERE 220. The project is a significant, original product in the area of curriculum and/or instruction. See MAE - C&I Thesis and Project Guidelines for details. Approved for RP grading.

Units: 1-3

CI 298B. Project: MAT

Prerequisites: Advancement to Candidacy for the Master of Arts in Teaching (MAT) degree; B average on initial 13 units of the MAT, including ERE 243. See Criteria for Thesis and Project. The action research project consists of a significant undertaking appropriate to multicultural, social justice education such as the development and refinement of curricula and instructional materials, educational policy, educational theory, and educational technology. An approval proposal is required for enrollment.

Units: 4

CI 298C. Project Continuation

Prerequisite: Project CI 298. For continuous enrollment while completing the project. May enroll twice with department approval. Additional enrollments must be approved by the Dean of Graduate Studies.

Units: 0

CI 299A. Thesis: Curriculum and Instruction

Prerequisites: Advancement to candidacy for the M.A. in Education - Curriculum and Instruction option (MAE - C&I); B average in all MAE coursework including ERE 220. The thesis involves a systematic study of a significant problem and demonstrates original, critical, and independent thinking. See MAE - C&I Thesis and Project Guidelines for details. Approved for RP grading.

Units: 1-3

CI 299B. Thesis: MAT

Prerequisites: Advancement to Candidacy for the Master of Arts in Teaching (MAT) degree; B average on the initial 13 units of the MAT, including ERE 243; completion of an acceptable action research thesis proposal. See Criteria for Thesis and Project. Preparation, completion, submission, and defense of acceptable action research thesis for the Master of Arts in Teaching (MAT) degree. See Kremen School of Education and Human Development's graduate program coordinator for school thesis guidelines.

Units: 4

CI 299C. Thesis Continuation

Prerequisite: Thesis CI 298. For continuous enrollment while completing the thesis. May enroll twice with department approval. Additional enrollments must be approved by the Dean of Graduate Studies.

Units: 0

CI 380T. Integrating Life Science in the Elementary Classroom

This course combines science theory with hands-on experiments dealing with life science concepts. Teachers in the elementary grades will be provided with opportunities to engage their students in relevant learning experiences, while increasing their own content knowledge in the area of life science. In addition, this course provides the elementary educator with the opportu-

nity to meet professional development needs without leaving the classroom . This course is designed to enhance the classroom teachers ability to teach life science in a meaningful way through utilizing the methods and activities that spark the student's desire to learn. Fun and motivating, the activities cover general botany and Biology as well as the human body - bones, muscles, circulatory and respiratory systems, senses and the brain. Many of the activities are perfect for use at home in order to encourage parental involvement in the educational process of their child. This is possible because most of the materials, many of which are included, are easy to find. Teachers will also have the opportunity to locate and explore appropriate learning activities available on the Internet.

Units: 3

CI 380T. Teaching Poetry: A Structured Approach

This course contains peotry units appropriate for use with intermediate and middle grade students (4th-8th). The course manual addresses the writing process, ways of integrating art, music, social studies, and various developmental language skills into the poetry units. An extensive list of website references is provided for teachers who wish to gain more knowledge of this inspirational portion of the language arts program. Teachers will explore sources for finding special poetry for specific occasions, ideas for integrating poetry into the general curriculum, and poetry lesson plans. Additionally, teachers will be able to meet their professional development needs while engaging their students in meaningful activities. Teaching Poetry presents the teacher with a structured approach for involving their students will explore a range of poetic forms including Clerihew, ballad, Limerick, Haiku, Diamante, Cinquain, and more. Students will engage in collaborative techniques, as they read, write, and share poetry. Teachers will use strategies that are both inspirational and practical as they encourage students to develop poems of their own.

Units: 3

CHICANO AND LATIN AMERICAN STUDIES (CLAS)

CLAS 3. Introduction to Chicano/Latino Studies

Introduction to the historical and contemporary experiences of Chicanos and other Latinos in American society. Their contributions to the United States and their current economic, political, and social status are discussed. G.E. Breadth D3.

Units: 3

Course Typically Offered: Fall, Spring

GE Area: D3

CLAS 5. Chicano Culture

A historical examination of Chicano culture from the pre-Columbian period to the present. The customs, values, belief-systems, and their symbols are analyzed; important events and changes occurring through time are emphasized. G.E. Breadth D3.

Units: 3

Course Typically Offered: Fall, Spring

GE Area: D3

CLAS 9. Chicano Artistic Expression

Introduction to Chicano artistic expression, with special attention to cultural continuity and change; the interrelationships between popular music, dance, drama, literature, and the graphic arts are analyzed. G.E. Breadth C1.

Units: 3

Course Typically Offered: Fall, Spring

GE Area: C1

CLAS 30. Critical Thinking in Chicano and Latin American Studies

Distinguishes belief vs. knowledge and fact vs. opinion; examines relationship between language/logic in structuring around arguments; uses deductive/inductive reasoning; distinguishes and evaluates unsupported beliefs. Critical thinking skills are applied to topics concerning questions race, ethnicity, ender, culture and class with a focus on Chicanos and Latin America. G.E. Foundation A3.

Units: 3

Course Typically Offered: Fall, Spring

GE Area: A3

CLAS 42B. Introduction to Chicano-Latino Research Methods

Prerequisite: CLAS 42A or permission of instructor. Introduces students to basic research methodologies and theories pertaining to Chicano/Latino communities. Focuses on identifying specific areas in need of further research; locating and formulating problems; basic techniques including methods of observation, gathering, and analysis of data; interpretation of data; access database programs; preparation of research paper. (Formerly CLS 180T section)

Units: 3

Course Typically Offered: Spring

CLAS 70. Introduction to Latin American Studies

A basic overview of Latin America; its nations, history, problems, and realities. Theoretical paradigms utilized to analyze Latin American issues are discussed.

Units: 3

CLAS 100. Chicano Literature

An interpretive analysis of written Chicano literature: poetry, drama, short story, novel, and essay. The relationship between literature and a changing Chicano sociocultural environment is explored.

Units: 3

CLAS 102W. Contemporary Chicana/Latina Writing and Culture

Critical, written analysis of Chicana and Latina writing and culture with emphasis on gender, race, sexuality, and social class. Course satisfies the CSU Graduation Writing Assessment Requirement (GWAR).

Units: 3

CLAS 106. Folkloric Dance

History and performance of Mexican folk music and dance; Indian, African, Spanish, and European influences; contemporary relationships to Chicano culture.

Units: 3, Repeatable up to 12 units

CLAS 107. Latino Dance

Examination of origins, composition, and performance of various types of Chicano/Latino music and dance: boleros, huapangos, cumbias, chachas, salsa; emphasis on contemporary and cross-cultural influences in Chicano/Latino music-and-dance. CR/NC grading only.

Units: 2, Repeatable up to 4 units

CLAS 108. Chicano Theatre

Production of Chicano Theatre for major performances. Comedia del Arte, Passion Plays, Theatre of the Absurd, Socially Popular Theatre: Teatro Compesino.

Units: 1-3, Repeatable up to 12 units

CLAS 112. Pre-Hispanic Civilizations

Historical examination of the origins of the Maya-Aztec civilizations in Meso America until 1521. The values, social organization, religion and their daily lives, technological and scientific achievements will be examined.

Units: 3

CLAS 114. Mexico and the Southwest 1810-1910

Prerequisite: G.E. Foundation and Breadth Area D. Examines the development of the Mexican nation from the Independence period to the Mexican Revolution (1810-1910). Special attention is given to the nineteenth-century Mexican-American and Chicano experience in the Southwest United States before the Treaty of Guadalupe Hidalgo (1848). G.E. Integration ID.

Units: 3

Course Typically Offered: Fall, Spring, Summer

GE Area: ID

CLAS 115. Mexico-U.S. Relations Since 1910

Historical perspective of the changing relationship between Mexico and the United States during the 20th century. Analysis of the Mexican Revolution, the Great Depression, World War II, immigration, and their impact on Mexico-U.S. relations. Special emphasis on the status of Mexicanos/Chicanos in the United States.

Units: 3

CLAS 120. Latina/o Cultural Changes

Prerequisite: CLAS 5 for CLAS majors. The course examines the diversity of the Latina/o population in the U.S. It analyzes cultural, political, social, and economic complexities facing Latinas/os. (Formerly CLAS 116).

Units: 3

CLAS 128. Contemporary Political Issues

Political philosophies, goals, and strategies of Chicanos and Latinos as reflected in their attempts to gain political power.

Units: 3

CLAS 130. Latina/o Culture and Media Studies

Evaluates roles of mass media institutions in cultural/social development of Latina/o communities and vice versa. Media and Latina/o community socila/cultural impacts are observed in terms of gender, race/ethnicity, and social class constructs, and ideological agendas in national and international media.

Units: 3

CLAS 141. The Chicano Family

(CLAS 141 same as WS 152.) Traditional and changing relationships in the family structure of the Chicano; interaction with wider instituitional social system. (CLAS 141 formerly CLAS 152).

Units: 3

Course Typically Offered: Spring

CLAS 143. Bilingual/Bicultural Education

Prerequisite: CLAS 120 for CLAS majors; CLAS 120 and recommended for CLAD/BCLAD students. Investigation into what it means to be bilingual and bicultural; review of programs scaled toward a more meaningful education for the Chicano child. (Bilingual Education majors see department chair for further prerequisites.)

Units: 3

CLAS 145. Fieldwork in Community Settings

Prerequisite: CLAS 3 or permission of instructor. Supervised placement in community and educational settings. Provides a variety of learning experiences in community agencies, organizations, or educational institutions. (Liberal Studies Program and BCLAD students, see Advising Notes.)

Units: 3, Repeatable up to 6 units

Course Typically Offered: Fall, Spring

CLAS 150. Research Methods

This course takes an interdisciplinary approach to research design and methods. The course culminates with a research proposal/project to give students the opportunity to think about the application of observation, gathering, and analyzing data in a research project. (Formerly CLAS 142).

Units: 3

CLAS 160. Sex, Race, and Class in American Society

From an interdisciplinary perspective, focuses on ethnic identity and gender and their interrelationship with socioeconomic class structure in American society. Special attention is given to analyzing how inequities in race, gender, and class structures influence and shape social, economic, and political relations in society. G.E. Multicultural/International MI.

Units: 3

Course Typically Offered: Fall, Spring

GE Area: M/I

CLAS 162. Chicana Women in a Changing Society

Focuses on current issues relevant to Chicana women in the workforce, the family, the health care system, and the educational system. The intersection of race, class, and gender will be the analytical context for examining both their historical and contemporary roles.

Units: 3

CLAS 170. Latin American Studies

Prerequisites: G.E. Foundation and Breadth Area D. Overview of the dynamic changes in the nations of Latin America. Uses

an interdisciplinary approach that integrates a cultural, political, social, and economic perspective to the study of Latin American countries. Helps students develop a better understanding of the historical roots and circumstances that are shaping the current realities of each nation. G.E. Multicultural International MI.

Units: 3

Course Typically Offered: Fall, Spring

GE Area: M/I

CLAS 171. Multicultural Brazil

(Same as HIST 161.) This course analyzes Brazil's social, economic, and political relations from a historical perspective. It emphasizes topics such as the contradictory legacy of slavery and its consequences, including inequality and multiculturalism. It also examines Brazil's international relations, its roles as a regional power, and its potential as a global power.

Units: 3

CLAS 172S. Migration in the Americas

Examines Latin American migration from the late nineteenth century to the present. The central question covered is, "Why do people migrate?" This course has a service-learning component.

Units: 3

CLAS 180T. Topics of Chicano Society

Culture, art forms, economy, and societal organization. Certain CLS 180T classes are CR/NC grading only. See department for further information.

Units: 1-3

CLAS 190. Independent Study

See Academic Placement - Independent Study. Approved for RP grading.

Units: 1-3, Repeatable up to 6 units

Course Typically Offered: Fall, Spring

CONSTRUCTION MANAGEMENT (CM)

CM 1. Construction Management Orientation

An overview of construction management education and profession. Introduction to the construction industry, career opportunities, leadership/personality assessment, sustainability, ethics, safety, community service, and university experience.

Units: 1

Course Typically Offered: Fall, Spring

CM 1S. Construction Management Orientation

An overview of construction management education and profession. Introduction to the construction industry, career opportunities, leadership/personality assessment, sustainability, ethics, safety, community service, and university experience. Course work requires 20 hours of service learning in construction.

Units: 1

Course Typically Offered: Fall, Spring

CM 4. Construction Graphics

Co-requisite: CM 1S. Introduction to fundamentals and techniques to communicate graphically in the construction industry. Plan reading, architectural drawing, sketching, drafting methods, computer aided design, and building information modeling. Survey of architectural form and function. Study includes application of building codes and regulations. (2 Lec, 3 Lab hours)

Units: 3

Course Typically Offered: Fall, Spring

CM 5. Construction Materials

Introduction to basic construction materials: concrete, masonry, metals, woods, thermal materials, finishes, equipment, and specialties. (2 lecture, 2 lab hours; field trips)

Units: 3

Course Typically Offered: Fall, Spring

CM 7S. Construction Materials & Basic Building Systems

Prerequisite: CM 4. Introduction to basic construction materials and exploration of theoretic principles relating to the various building systems. Course work requires 20 hours of service learning in construction. Lectures, lab, field trips, and guest speakers. (2 lecture, 3 lab hours)

Units: 3

Course Typically Offered: Fall, Spring

CM 15. Construction Management Software

Introduction to construction industry software and project documentation. basic instruction in estimating, scheduling, design, and project control software. Designed to provide an overview of those particular software packages used in subsequent construction management coursework. (2 lecture, 2 lab hours)

Units: 3

Course Typically Offered: Fall, Spring

CM 20. Construction Contracts & Specifications

Corequisite CM 7S. Principles of Business Law and methods for developing and applying construction contracts and specifications, including bidding requirements, bonds and insurance, certificates, agenda, change orders, general and supplementary conditions, and CSI specifications. (2 lecture, 2 lab hours)

Units: 3

CM 31. Architectural Graphics

Prerequisite: CM 5. Introduction to basic techniques and media used in architectural graphic communication including: perspective techniques, sciagraphy, models, and photography; emphasis on various ways of making drawn representations of architectural design proposals. (6 lab hours)

Units: 3

Course Typically Offered: Fall

CM 32. Architectural Design

Introduction to architectural design theory; analysis of architectural design problems, assessment of human needs, establishment of architectural design criteria and development of architectural design concept. (6 lab hours)

Units: 3

Course Typically Offered: Fall

CM 42. Architectural Drawing
Architectural drafting techniques and standards progressing from fundamentals to details in the area of light construction design through the use of sketching, drafting methods and computer aided design. Study includes the application of building codes and regulations. (6 lab hours)

Units: 3

CM 43. Computer-Aided Construction Detailing
Prerequisite: CM 42. Application of computers to planning and details for wood, concrete, masonry, and steel structures. (6 lab hours) (Formerly CONST 142)

Units: 3

Course Typically Offered: Fall, Spring

CM 50. Basic Building Systems
Prerequisite: CM 5, CM 42. Exploration of theoretic principles relating to the various building systems. (2 lecture, 2 lab hours; field trips)

Units: 3

Course Typically Offered: Fall, Spring

CM 105. Construction Structures
Prerequisites: CM 5, 50; PHYS 2A; MATH 75. Properties, strength, and functional applications of basic construction materials: woods, metals, and concrete. Recent developments in new materials and applications. (2 lecture, 2 lab hours; field trips)

Units: 3

Course Typically Offered: Fall, Spring

CM 107. Advanced Construction Structures
Prerequisite: CM 105. Analysis of construction materials in its application to different structural systems. (2 lecture, 2 lab hours)

Units: 3

Course Typically Offered: Fall, Spring

CM 110. Estimating and Bidding
Prerequisite: CM 20. Basic method used to evaluate, fix cost, calculate worth, make accurate quantity take-offs and labor time estimates; preparing bids for prospective buyers. (2 lecture, 2 lab hours)

Units: 3

Course Typically Offered: Fall, Spring

CM 116. Scheduling and Control
Prerequisites: CM 110. Critical path method; planning, scheduling, and control of construction projects including logic, time assignment and computation, analysis, replanning, diagramming practices, monitoring and updating, computer utilization; role of management. (2 lecture, 2 lab hours)

Units: 3

Course Typically Offered: Fall, Spring

CM 122. Construction Laws
Prerequisite: CM 20. Orientation to the rules and regulations governing construction industry practices and activities including contractors license law, state lien laws, health and safety regulations, personnel relations and supervision, workers compensation, employment insurance and taxes.

Units: 3

CM 124. Construction Labor Law
Prerequisites: CM 122. Study of federal and state labor-oriented regulations as applied to construction industry practices. Interaction between technical and legal aspects of collective bargaining, pre-hire agreements, hiring hall referrals, open shop construction, work force managemnet, labor standards, employment discrimination, strikes, and picketing.

Units: 3

Course Typically Offered: Fall

CM 127. Construction Soils and Foundation
Not open to civil engineering majors. Prerequisite: upper-level standing. Physical and mechanical properties of soil, construction applications of soils engineering design, field control during construction, field problems and remedial measures, and case histories.

Units: 3

CM 131. Advanced Architectural Graphics
Prerequisite: CM 7S and upper division standing. Architectural graphic techniques as tools of three dimensional analysis and representation in the design process. (6 lab hours)

Units: 3

Course Typically Offered: Spring

CM 132. Advanced Architectural Design
Prerequisite: CM 131 and upper division standing. Development of understanding of the forces affecting the man-made environment through function identification, systems analysis, and development of architectural design solutions to problems at an intermediate level of complexity. (6 lab hours)

Units: 3

CM 134. Architectural Design Problems
Prerequisites: CM 116, CM 132. Conceptual planning and design of a large scale architectural project responding to the built environment. Employing team research and analysis leading to the design and presentation on individual solutions with graphic and three-dimensional techniques. (6 lab hours)

Units: 3

CM 140. Building Mechanical, Electrical, and Plumbing
Prerequisites: CM 7S and CM 20. Survey of building mechanical, electrical, and plubming systems. Orientation to the design fundamentals and construction of various sustainable and environmentally friendly systems and equipment. Lectures, field trips, and guest speakers. (2 Lec, 3 Lab hours)

Units: 3

CM 144. Construction Site Planning and Development
Prerequisite: CM 116; senior standing. Analysis of land development; site investigation, grading, street piping systems, and landscaping. (2 lecture, 2 lab hours; field trips)

Units: 3

Course Typically Offered: Fall, Spring

CM 150. Building Construction
Prerequisites: CM 116; CE 121. Problems and methods of solutions in the construction of buildings; site; excavations, foundations, framework, timber, reinforced concrete, structural steel, masonry construction and related elements. Satisfies the senior major requirement for the B.S. in Construction Management. (2 lecture, 2 lab hours; field trips)

Units: 3

CM 151. Heavy Civil Construction
Prerequisites: senior standing or permission of instructor; CM 116; CE 121, CE 127. Problems and methods of solutions in heavy construction from earth moving, paving, compacting to tunneling; administrative procedures, quantity surveying, estimating, scheduling, and bidding. (2 lecture, 2 lab hours, field trips)

Units: 3

Course Typically Offered: Fall

CM 162. Mechanical Systems I
Prerequisites: CM 50. Mechanical systems for heating, ventilating, air conditioning, plumbing, storm drainage, and sewage disposal systems in commercial, industrial, residential construction; heat loss and gain, solar systems, mechanical system sizing, and life cycle cost analysis. Lectures, field trips, and guest speakers.

Units: 3

Course Typically Offered: Fall

CM 164. Building Electrical Systems
Prerequisites: CM 50. Electrical systems for power, light, heat, signals, and communications in commercial, industrial, and residential buildings. (2 lecture, 2 lab hours; field trips)

Units: 3

Course Typically Offered: Spring

CM 166. Mechanical Systems II
Prerequisite: CM 162. Construction application of water systems, plumbing and storm drainage, and sewage disposal systems.

Units: 3

CM 170. Construction Project Controls
Prerequisite: CM 116. Development and application of contruction project control systems; principles of construction project and business management; methods of cost, schedule, quality, safety, and change management; survey of construction accounting and finance. (2 Lec, 2 Lab hours)

Units: 3

Course Typically Offered: Fall

CM 177. Sustainable Construction
Prerequisite: CM 7S. To provide an overview of emerging delivery systems for high performance green buildings and the basis on which their sustainability can be evaluated. Green Building rating systems will be discussed. Lectures, lab, field trips, and guest speakers. (2 Lec, 2 Lab hours)

Units: 3

Course Typically Offered: Fall

CM 180AS. Construction Management Capstone 1
Prerequisite: CM 116, Senior Standing. Prepare conceptual design, implementation of sustainable materials, assess structural components and utilize passive building for Alternative Housing Design. Course works will involve 20 hours of service learning in construction. Lab, field trips and guest speakers (formerly CONST 191T) (3 lab hours)

Units: 1

Course Typically Offered: Fall

CM 180B. Construction Management Capstone 2
Prerequisite: CM 180AS. The construction manager's relation to internal organization, owner, architect, engineer, public, press, leagal aid, unions, trades, equipment, utilities, insurance, finances, government, and others. Lectures, lab, field trips, and guest speakers. (formerly CONST 114) (2 Lec, 3 Lab hours)

Units: 3

Course Typically Offered: Fall, Spring

CM 181. Construction Management Senior Seminar
Prerequisite: Senior Standing. Presentation and discussion of current construction management practices. Standards of professionalism, leadership, and ethics. Professional practice issues and professional licensure.

Units: 1

CM 190. Independent Study
See Academic Placement - Independent Study. Approved for SP grading. (Course fee variable)

Units: 1-3, Repeatable up to 6 units

Course Typically Offered: Fall, Spring

CM 191T. Technical Topics in Construction
Prerequisite: permission of instructor. Investigation and analysis of selected subjects in construction. (2-6 lab hours)

Units: 1-3, Repeatable up to 6 units

CM 191T. Advanced Construction Structures Lab
Application of Principles and methods of testing to verify theory and determine limitations of principles of construction materials.

Units: 1, Repeatable up to 6 units

CM 193. Internship/Work Experience
Open only to construction majors. Prerequisites: sophomore standing and permission of instructor. Supervised work experience in construction related industries. Periodic consultations with instructor.

Units: 1, Repeatable up to 3 units

Course Typically Offered: Fall, Spring

COMMUNICATION (COMM)

COMM 3. Fundamentals of Public Communication
Theories of human communication and their function in contemporary public settings; experiences designed to enhance fundamental communication skills -- research, organization, reasoning, listening, and problem solving -- through a series of oral presentations. G.E. Foundation A1. (CAN SPCH 4) (Formerly SPCH 3)

Units: 3

Course Typically Offered: Fall, Spring

GE Area: A1

COMM 4. Introduction to Interpersonal Communication

Introduction to various theories of interpersonal communication; participation in experiences designed to enhance competence in interpersonal relationships. (CAN SPCH 8) (Formerly SPCH 4)

Units: 3

Course Typically Offered: Fall, Spring

COMM 5. Argumentation

Logical analysis, evidence, reasoning, and proof used in arriving at rational decisions as demonstrated through presentation of public speeches and debates. G.E. Foundation A3. (CAN SPCH 6) (Formerly SPCH 5)

Units: 3

Course Typically Offered: Fall, Spring

GE Area: A3

COMM 6H. Rhetoric for Autonomy and Collaboration in the Marketplace of Ideas

Open for students in the Smittcamp Family Honors College only. Explores invitational rhetoric and its civic function in contemporary public discourse; experiences designed to enhance fundamental communication skills-- research, organization, reasoning, empathic listening and problem-solving-- through series of oral presentations. G.E. Foundation A1.

Units: 3

GE Area: A1

COMM 7. Persuasion

Analysis and practice of the use of persuasion as a social tool for resolving controversy and forming opinions from the perspectives of both the persuader and the persuaded. G.E. Foundation A1. (Formerly SPCH 7)

Units: 3

Course Typically Offered: Fall, Spring

GE Area: A1

COMM 8. Group Discussion

Communication in group thinking and problem solving through preparation and presentation of panels and symposia on public issues. G.E. Foundation A1. (Formerly SPCH 8)

Units: 3

Course Typically Offered: Fall, Spring

GE Area: A1

COMM 10T. Topics in Communication

Contemporary problems and issues in communication; sections include such topics as freedom of speech, parliamentary procedure, special communication skills, rhetoric of protest and response, and communication processes. (Formerly SPCH 10T)

Units: 1-3, Repeatable up to 9 units

COMM 15. Forensics Laboratory

This course provides instruction and experience in competitive policy debate and public debate Course credit for tournament competition and public debate participation is available.

Units: 3, Repeatable up to 6 units

Course Typically Offered: Fall, Spring

COMM 100. Theories of Human Communication

Survey of major theories of human communication, philosophical issues, and applications; theories include interpersonal, group, organizational, intercultural, linguistic, and persuasion. (Formerly SPCH 100)

Units: 3

Course Typically Offered: Fall, Spring

COMM 103. Advanced Public Speaking

Advanced principles of expository and persuasive speaking; development of skills through analysis, preparation, organization, and delivery of various types of speech. (Formerly SPCH 103)

Units: 3

Course Typically Offered: Spring

COMM 105. Argumentation Theory

Analysis of the theories and techniques of argumentation, including models of argument, relationships between persuasion and argumentation, and the effects of argumentative discourse. (Formerly SPCH 105)

Units: 3

Course Typically Offered: Fall

COMM 108. Communication and the Small Group

Analysis of group communication theories and their application to small group behavior in specific variables such as leadership, power, conflict-resolution, conformity, cohesiveness, and related group processes. (Formerly SPCH 108)

Units: 3

Course Typically Offered: Spring

COMM 114. Communication and Learning

(COMM 114 same as CI 158.) The nature of communication and its relationship to learning and instruction; management of oral communication strategies in the educational setting. (Formerly SPCH 114)

Units: 3

Course Typically Offered: Fall, Spring

COMM 115. Advanced Forensics Laboratory

This course provides advanced instruction and experience in competitive policy debate and public debate. Course credit for tournament competition and public debate participation is available.

Units: 3, Repeatable up to 6 units

Course Typically Offered: Fall, Spring

COMM 116. Communication and Humor

Develop your sense of humor and learn to incorporate humor into your world by examining humor theories, social and personal functions of humor. Focuses on (1) stand-up comedy, writing, and presentation, or (2) application of techniques for management, sales, marketing, teaching, and health related fields. (Formerly

SPCH 116)

Units: 3

COMM 120. Gender Communication

Exploration of gender variables that affect human communication behaviors, focusing on behaviors that have some mythical or factual bases in sex similarities and differences. (Formerly SPCH 120)

Units: 3

Course Typically Offered: Fall

COMM 140. Rhetorical Theory

An examination and analysis of significant theories and theorists of rhetoric from the classical to the modern period. Emphasis on preparation of research papers reflecting rhetorical principles of communication. (Formerly SPCH 140)

Units: 3

Course Typically Offered: Fall, Spring

COMM 142. Communication Criticism

Examination of historical and contemporary communication events using principles of critical evaluation from rhetorical, artistic, and media perspectives. Written papers and presentations of analyses utilizing critical principles from these perspectives. (Formerly SPCH 142)

Units: 3

Course Typically Offered: Fall, Spring

COMM 148. American Public Address

An examination of significant American speakers and speeches set in an environment of social and political history. The course is designed to acquaint students with the role of public address within the forces of American history. (Formerly SPCH 148)

Units: 3

Course Typically Offered: Spring

COMM 149. Freedom of Speech

Examines the tradition of freedom of speech and expression in the American democracy. Focuses upon the First Amendment to the Constitution and major case laws which impact contemporary standards for public discourse, politics, broadcast, and journalism. (Formerly SPCH 149)

Units: 3

Course Typically Offered: Fall

COMM 150. Communication and Aging

(COMM 150 same as GERON 150.) Focusing on the communication aspects of the aging process, organized around the major communication components of intrapersonal, interpersonal, and mass communication with addition of such topics as attitudes, stereotypes, nonverbal, and the communication aspects of health care.

Units: 3

Course Typically Offered: Fall

COMM 160. Meaning, Language, and Communication

A review and analysis of the various approaches to the study of human symbolic behavior, with focus on such theories as: General Semantics, Psycholinguistics, Sociolinguistics, Epistemology, and other philosophical and scientific enquiries into the nature of language and meaning. (Formerly SPCH 160)

Units: 3

Course Typically Offered: Fall

COMM 161. Family Communication

Examine communication theories and empirical findings related to interaction in relationships such as parent-child, sibling, romantic, and grandparent-grandchild. Coverage also includes blended and non-traditional family forms. Investigate positive and sub-optimal processes including conflict, relational dissolution, and abuse.

Units: 3

Course Typically Offered: Spring

COMM 162. Interpersonal Communication

An examination, analysis, and application of communication theories and variables involved in interpersonal contexts such acquaintanceships, courtships, friendships, and families. Attention is given to communicative practices involved in the effective management of interpersonal relationships over time. (Formerly SPCH 162)

Units: 3

Course Typically Offered: Fall, Spring

COMM 163. Social Influence and Attitude Change

Seminar on the nature and effects of social influence, with special emphasis on attitude formation and change, conformity, behavior, “brain washing,” prejudice, and propaganda as functions of communication. (Formerly SPCH 163)

Units: 3

Course Typically Offered: Fall, Spring

COMM 164. Intercultural Communication

Prerequisites: G.E. Foundation and Breadth Area D. Analysis of cultural variables and factors in the communication process and strategies for the resolution of intercultural problems; consideration of implications for education and programs necessarily involving intercultural communication. G.E. Multicultural/International MI. (Formerly SPCH 164)

Units: 3

Course Typically Offered: Fall, Spring

GE Area: M/I

COMM 165. Computer Applications in Communication

Survey of information technologies and computer applications in human communication professions, including word processing, spreadsheets, graphics, presentation visuals, e-mail, and Internet. Advanced techniques for creating Web pages, reports, training, presentations, brochures, and newsletters. (Formerly SPCH 165)

Units: 3

Course Typically Offered: Fall, Spring

COMM 166. Communication Research Methods

Application of behavioral research principles to problems in quantification, design, and analysis of data in communication research. (Formerly SPCH 166)

Units: 3

Course Typically Offered: Fall, Spring

COMM 167. Leadership in Groups and Organizations

Theory and practice of selected leadership variables in groups and organizations; functions of leadership in formal and informal structures, understanding and analysis of role-playing techniques. (Formerly SPCH 167)

Units: 3

Course Typically Offered: Fall

COMM 168. Communication in Organizations

Examination of organizational communication from a multiple discipline perspective. Through the study of theory and experiential learning in simulations, students develop skills necessary for planning, staffing, developing, decision-making, and problem-solving in organizations. (Formerly SPCH 168)

Units: 3

Course Typically Offered: Fall, Spring

COMM 169. Communication and Conflict

Examination of the role of communication in conflict in interpersonal, small groups, organizational, and societal settings. Through experiential learning, case study analyses, and practice of intervention skills, students address conflict styles, strategies, tactics, third-party intervention, and mediation techniques. (Formerly SPCH 169)

Units: 3

Course Typically Offered: Spring

COMM 170. Business and Professional Speaking

Development of communication skills necessary for success in business, government, and the professions. Includes theory and practice of interviewing, job instruction training, work group leadership, and proposal presentations. Class activities are adapted to students' career goals. (Formerly SPCH 170)

Units: 3

Course Typically Offered: Spring

COMM 171. Communication and Planning Change in the Social System

Provides students with an understanding of the communication processes involved in the evolution of social systems. Students will examine a full range of social settings (small groups, organizations, cultures, etc.) from a variety of theoretical and analytical perspectives. (Formerly SPCH 171)

Units: 3

Course Typically Offered: Fall

COMM 176. Communication Consulting and Training

Development of skills necessary for effective communication consulting in business, government, and the professions. Includes theory and practice of needs assessments, planning and conducting training activities, and evaluation of educational activities; topics relating to adult education and client-consultant relationships. (Formerly SPCH 176)

Units: 3

Course Typically Offered: Spring

COMM 179. Internship

Prerequisites: major in communication, at least 75 units completed and permission of instructor. Supervised work experience in government, business, social agencies, or nonprofit organizations. CR/NC grading only. (Formerly SPCH 179)

Units: 1-6, Repeatable up to 12 units

Course Typically Offered: Fall, Spring

COMM 188T. Topics in Communication

Selected topics in communication. (Formerly SPCH 188T)

Units: 1-3, Repeatable up to 9 units

COMM 188T. Performance for Social Change

Study of fundamental performance concepts in the Communication discipline and analysis of how performance (in its different senses) can function as a vehicle to achieve social change.

Units: 3, Repeatable up to 9 units

COMM 188T. Rhetoric of Terrorism

This course will examine the rhetorical practices involved in communicating the threat of terrorism to public audiences. Readings will consider the discourse of terrorists as well as foreign policy officials involved with counter-terrorism in order to explore the relationships among these rhetorics, public perceptions of terrorism, and political argumentation regarding the "war on terrorism". In addition to analyzing the effects that diverse rhetorical practices have upon American foreign policy orientations, this course will also evaluate the ways in which talk about terrorism shapes the space for, and scope of, public deliberation on a multitude of political issues.

Units: 3, Repeatable up to 9 units

COMM 188T. Culture & Conflict

As society becomes more diverse, the potential for intercultural misunderstanding and conflict increases. The purpose of the workshop is to address the communication process involved in intercultural conflict. Among the issues explored are the role of culture in communication, prejudice, cultural values, norms, and perceptions. As a result of taking the workshop, participants will develop a better understanding of culture and communication.

Units: 1, Repeatable up to 9 units

COMM 189. Projects in Communication

Prerequisite: permission of instructor. Projects in communication. (4 hours activity) (Formerly SPCH 189)

Units: 1-3, Repeatable up to 6 units

Course Typically Offered: Fall, Spring

COMM 190. Independent Study

See Academic Placement - Independent Study. Approved for RP grading. (Formerly SPCH 190)

Units: 1-3, Repeatable up to 6 units

Course Typically Offered: Fall, Spring

COMM 205. Seminar in Argumentation

Prerequisite: COMM 105, COMM 140, or permission of instructor. Examination of traditional and contemporary argumentation theory and research. Analysis of argument fields, theories of argument, argument as epistemic, argument and persuasion, argument and

critical thinking. (Formerly SPCH 205)

Units: 3

COMM 214. Seminar in Instructional Communication

An examination of the relationships of learning theories to communication study and research. Research in instructional communication, teaching strategies in communication education, and techniques for applying these concepts in educational and training settings. (Formerly SPCH 214)

Units: 3

COMM 215. Seminar in Communication

Research and individually directed work within one area of specialization. Approved for RP grading. (Formerly SPCH 215)

Units: 3, Repeatable up to 9 units

COMM 241. Seminar in Rhetorical Theory

Prerequisite: COMM 140, equivalent, or permission of instructor. A seminar which deals with the development of specific principles by selected theorists. (Formerly SPCH 241)

Units: 3

COMM 242M. Seminar in Contemporary Criticism

Prerequisite: COMM 142, equivalent, or permission of instructor. The role of rhetorical criticism in contemporary society. (Formerly SPCH 242M)

Units: 3

COMM 243. Seminar in Public and Strategic Discourse

A detailed study of the theory and practice of public discourse used to persuade audiences regarding the nature and resolution of political, social, religious, and economic problems.

Units: 3

COMM 262. Seminar in Communication Theory and Research

Prerequisite: COMM 100, equivalent, or permission of instructor. An examination and evaluation of mathematical, philosophical, sociological, psychological, and rhetorical theories of human communication. Emphasis upon the assumptions and implications of various theories, models, and constructs. (Formerly SPCH 262)

Units: 3

COMM 263. Seminar in Group Communication

Prerequisite: COMM 108, equivalent, or permission of instructor. A critical examination of the scientific research and theories in group communication including research variables and methodologies. Implications of research findings for contemporary communication problems. (Formerly SPCH 263)

Units: 3

COMM 264M. Seminar in Communication Research Methods

Prerequisite: Application of quantitative, qualitative, and/or critical methodologies to a variety of problems studied in human communication. Discussion of design, analysis, and interpretation of quantitative and/or experiences.

Units: 3

COMM 265. Seminar in Interpersonal Communication

Prerequisite: COMM 162, equivalent, or permission of instructor. An examination of current quantitative and qualitative theory and research in interpersonal communication. Implications and applications to various kinds of human relationships and various aspects of those relationships, e.g., stages, relational communication, attraction, conflict, self-disclosing. (Formerly SPCH 265)

Units: 3

COMM 266. Seminar in Communication and Culture

An examination of current critical, humanitsitc, and/or social scientific approaches to studying the communicative construction, negotiation, and performance of cultural identities and practices.

Units: 3

COMM 268. Seminar in Organizational Communication

Prerequisite: COMM 168, equivalent, or permission of instructor. Theory and application of organizational communication, including interpersonal and group communication in planning, staffing, development and decision making in complex organizations; organizational systems and environments; recognizing, diagnosing, and solving organizational problems. (Formerly SPCH 268)

Units: 3

COMM 275. Seminar in Applied Communication

An extended examination of theories, research methodologies, and professional practices regarding communication in a specific applied context (e.g., health communication, risk communication, legal communication, etc.).

Units: 3

COMM 276. Seminar in Communication Training and Development

Prerequisite: COMM 176, equivalent, or permission of instructor. In-depth view and application of approaches to training in communication skills in organizations including needs assessment for training, workshop and seminar development, and evaluation of interventions. (Formerly SPCH 276)

Units: 3

COMM 290. Independent Study

See Academic Placement - Independent Study. Approved for RP grading. (Formerly SPCH 290)

Units: 1-3, Repeatable up to 6 units

COMM 298. Project

Prerequisite: prior advancement to candidacy, appropriate methodological tools (COMM 242M or COMM 264M), equivalent, or permission of student's committee. See Criteria for Thesis and Project. Preparation, design, conduct, and evaluation of project applying rhetorical and communication theories; e.g., communication campaign for public agency, communication audit of corporate organization, extensive consulting or training activites, etc. Requires scholarly report similar in format to thesis and final oral defense. Approved for RP grading. (Formerly SPCH 298)

Units: 2-6

COMM 298C. Project Contiunation

Prerequisite: Project 298. For continuous enrollment while completing the project. May enroll twice with department approval.

Additional enrollments must be approved by the Dean of Graduate Studies.

Units: 0

COMM 299. Thesis

Prerequisite: appropriate methodological tools (COMM 242M or COMM 264M), equivalent, or permission of student's committee. See Criteria for Thesis and Project. Preparation, completion, and submission of an acceptable thesis for the master's degree. Approved for RP grading. (Formerly SPCH 299)

Units: 2-6

COMM 299C. Thesis Continuation

Prerequisite: Thesis 298. For continuous enrollment while completing the thesis. May enroll twice with department approval. Additional enrollments must be approved by the Dean of Graduate Studies.

Units: 0

COMMUNITY SERVICE (COMS)

COMS 1. Com Serv-Learn

Provides a community service-learning experience where students apply their academic knowledge and skills to community-based issues and needs. Experiential learning will be enhanced through class discussions and presnetations on topics related to community service-learning. CR/NC grading only.

Units: 1-3

COMS 101. Community Service Internship

Provides a community service-learning experience to help students develop personal, professional, and academic knowledge and skills. CR/NC grading only.

Units: 1-3, Repeatable up to 6 units

COUNSELOR EDUCATION (COUN)

COUN 150. Laws Relating to Children

Current and proposed legislation in parent-child relationships, adoption, and guardianship, education of the minor, marriage contract, child labor, juvenile delinquency, and child welfare programs.

Units: 3

Course Typically Offered: Fall, Spring

COUN 174. Introduction to Counseling

(COUN 174 same as PSYCH 174.) An overview of basic counseling models, including psychoanalytic, behavioral, cognitive, and humanistic approaches. Includes a personal counseling experience.

Units: 3

Course Typically Offered: Fall, Spring

COUN 176. Counseling and Mental Health

Examination of the relationship between counseling and mental health with emphasis on current issues of adjustment in society.

Units: 3

Course Typically Offered: Fall, Spring

COUN 180T. Topics in Counseling

Prerequisite: permission of instructor. Seminar covering special topics relating to counseling: new developments in counseling techniques, special populations, and current research. (Successful Career Development, $10)

Units: 1-3, Repeatable up to 12 units

COUN 180T. Collaborative Leadership Skills for Human Services Professionals

A three-part course designed for human services professionals. These workshop series will identify specific tools and strategies for tackling the challenges in today's complex, client-centered environment. Learn to move beyond concepts to highly leveraged and effective collaborative leadership.

Units: 1, Repeatable up to 12 units

COUN 180T. Attention Deficit Disorder: Information & Interventions for Effective Teaching (VESI)

This course is designed to give students a complete history of ADD along with accepted and experimental treatment methods. The course reviews current treatment of the disorder and practical intervention strategies designed to increase on-task behavior while decreasing disruptive, inappropriate, and off-task behaviors in the classroom. Instructor access is obtained through email or phone office hours. Musthave MAC OS 9.x or OS 10.x or Windows 2000, XP Home, Professional, or newer. Requires 256 MB or RAM, 5 MB of free hard drive space, 15" or larger color monitor with minimum resolution of 800x600, CD driver 4x miminum spped and a printer connected to your computer. Offered cooperatively by CSU Fresno and Virtual Education Software.

Units: 2, Repeatable up to 5 units

COUN 190. Independent Study

See Academic Placement - Independent Study. Approved for SP grading.

Units: 1-3, Repeatable up to 6 units

Course Typically Offered: Fall, Spring

COUN 200. Seminar in Counseling Techniques

(3; Max total 6) Prerequisite: COUN 174. Emphasis given to interviewing skills, philosophy, theory, and methodology as applied to counseling. Student must earn a grade of B or better to move on to COUN 208. (2 seminar, 2 lab hours)

Units: 3

COUN 201. Seminar in Multicultural Aspects of Counseling

Prerequisite: COUN 174. Cognitive and experiential study of social and psychological variables which influence the cross-cultural counseling relationship. Culturally relevant models of counseling theory and practice are explored. Current research methods and findings are presented. (2 seminar, 2 lab hours)

Units: 3

COUN 202. Seminar in Group Counseling

Prerequisite: COUN 174, COUN 200. Theories and methods of interpersonal communication within groups, transferal of informa-

tion, group leadership and membership, role perceptions, verbal and nonverbal interaction, and group counseling. (2 seminar, 2 lab hours - one of the two lab hours consists of mandatory participation in an experiential group)

Units: 3

COUN 203. Seminar in Assessment in Counseling

Prerequisite: ERE 153. Selection, administration, and evaluation of psychological tests and psychometric data for use in counseling settings. (2 seminar, 2 lab hours) (Course fee for assessment materials, $10)

Units: 3

COUN 206. Counseling Through the Lifespan

Prerequisite: COUN 174. Explores developmental issues and life events from infancy through old age and their effect upon individual, couples and family relationships. The impact of gender, race, ethnicity, class and sexual orientation on developmental process is explored.

Units: 3

COUN 208. Practicum in Counseling

Prerequisites: 12 units in counseling program, including COUN 200. Supervised on-campus counseling experiences with selected clients. Experience in individual counseling, critiquing of tapes and typescripts, observations, and case report writing. Students must earn a B or better to take COUN 219, 238, 239, or 249. (2 seminar, 4 lab hours)

Units: 4, Repeatable up to 8 units

COUN 209. Advanced Practicum in Counselor Supervision

Prerequisites: COUN 200 and permission of instructor. Content provides an introductory experience with the role of counselor supervisor. Focuses on the supervisory processes in terms of theoretical perspectives and practices of supervision. Enrollment is by faculty permission only. (Formerly COUN 280T) (CSU liability insurance fee, $8)

Units: 3-6

COUN 211. Seminar in Sexuality Counseling

Presents an overview of theories and research for the treatment of sexual issues, emphasizing relational and social contexts. Topics covered include sexual disorders, sexual abuse, and gay/lesbian/bisexual issues. (Formerly COUN 280T section)

Units: 3

COUN 214. Student Development Theory and Higher Education

Offers an examination of the major theories of college student development. Theories are presented with an exploration of the conceptual framework, relevant research and criticism, and counseling applications. Implications for multicultural and ethical practice are presented throughout the course. (Formerly COUN 280T section)

Units: 3

COUN 215. Foundations of Student Services in Higher Education

Overview of the philosophical and practical foundations of student services in higher education. Covers historical and current trends and issues facing the student services professional in higher education. Visit with representatives from student services. Discusses ethical,legal and professional identity develoment.

Units: 3

COUN 219. Field Practice in Student Services

Prerequisites: COUN 200, COUN 208, and permission of instructor. Supervised practice in a community college, college, or university. Typically requires a one-year commitment with specific clock-hour requirements. Students must carry professional liability insurance. Approved for RP grading and CR/NC grading. (CSU liability insurance fee, $8) Note: If taken a third time the units could be used towards electives.

Units: 3-6, Repeatable up to 9 units

COUN 220. Seminar in Career Development Theory

Prerequisite: COUN 174. Examination of career development theories and research for their implications in understanding career development generally and career counseling specifically. (2 seminar, 2 lab hours) (Course fee for assessment materials, $10)

Units: 3

COUN 230. Seminar in Marriage and Family Therapy Theories

Prerequisite: COUN 174. Study of theories, techniques, and methodology of marriage and family therapy. Current research and methods are presented. (2 seminar, 2 lab hours)

Units: 3

COUN 231. Seminar in Ethics and Professional Practices of Counseling

Prerequisites: COUN 200 or permission of instructor; COUN 230 taken concurrently or completed prior to enrollment. Addresses professional concerns, including legal/ethical issues, professional identity, and Board of Behavioral Sciences regulations. Introduces family mediation and professional consultation. Includes a minimum of seven training hours in child abuse assessment and reporting in accordance with MFT licensing requirements.

Units: 3

COUN 232. Psychopathology and the Diagnostic and Statistical Manual of Mental Disorders

Prerequisite: COUN 174, COUN 176 or equivalent. Analysis of psychopathology within the framework of the current DSM. Emphasis on integrating the etiology of the disorders with diagnosis, theory and treatment. (Formerly COUN 207)

Units: 3

COUN 233. Seminar in Therapeutic Methods with Children, Adolesents, and Their Families

Prerequisites: COUN 206 and COUN 230 recommended. Theories and methods for assessing and treating children, adolescents, and their families. Emphasis is placed on strength-based approaches, play therapy, and current issues in child/adolescent treatment. Covers parent education. (Formerly COUN 213)

Units: 3

COUN 234A. Contemporary Issues in Counseling: Sexuality in Human Relationships

Course provides an overview of the role of sexuality in human relationships, including a review of sexual abuse, gay/lesbian/bisexual isuues, sexual dysfunctions, and intimacy issues. Emphasis on treatment and interventions with couples. Course fulfills Board of Behavioral Sciences (BBS) requirement for human sexuality training.

Units: 1

COUN 234B. Contemporary Issues in Counseling: Violence in Intimate Relationships

Provides an overview of the sociological, systematic, clinical, and treatment aspects of violence in intimate relationships. Emphasis on assessment and intervention issues for individuals, couples, and families. Course meets BBS requirements for domestic violence training. (Formerly COUN 280T)

Units: 1

COUN 234C. Contemporary Issues in Counseling: Substance Abuse Treatment

Course provides overview of substance abuse counseling issues with an emphasis on treatment of the family system. Course meets BBS requiements for substance abuse training. (Formerly COUN 280T)

Units: 1

COUN 234D. Psychopharmacology

Prerequisite: COUN 232; REHAB 204A or REHAB 204B. This course will provide a general working knowledge of psychopharmacology for mental health professionals. The course will cover the biological basis for psychopharmacolgical treatment, principles of psychopharmacological treatment, and clinical psychopharmacology which is the effect on client behavior of psychotropic medications in the treatment of mental and emotional disorders. (Formerly COUN 280T)

Units: 2

COUN 234E. Seminar in Consultation

Prerequisites: COUN 174 and permission of instructor. Introduces students to the concepts, processes, and styles of consultation and highlights the role of counselors as consultants. Emphasis placed on comparing and contrasting consultation to other helping roles.

Units: 1

COUN 235. Couples Therapy

Prerequisite: COUN 230. Course provides an overview of the major theories and approaches to marital and couples therapy. Emphasis is placed on knowledge base, as well as evidence-based clinical intervention theories and skills.

Units: 3

COUN 238. Advanced Practicum

Prerequisites: COUN 208, COUN 230, COUN 232, and permission of instructor; COUN 231 taken concurrently or completed prior to enrollment. Supervised clinical experiences with families, couples, and/or children. Training in family systems assessment and family communication techniques. Students must carry professional liability insurance. Course must be completed with a grade of B or better. (CSU liability insurance fee, $8)

Units: 4, Repeatable up to 8 units

COUN 239. Field Placement in Counseling

Prerequisites: COUN 231; 40 units in counseling program, including COUN 200, COUN 208, COUN 238, and permission of instructor prior to semester of enrollment. Supervised practice of marriage and family therapy. Settings may include community agencies, school therapy programs, and hospitals. Typically requires a one-year commitment with specific clock-hour requirements. Students must carry professional liability insurance. Approved for RP and CR/NC grading. (CSU liability insurance fee, $8)

Units: 3-12

COUN 240. Seminar in Counseling of Exceptional Children and Their Parents

Theories and techniques in working with parents of exceptional children; emphasis placed on individual and group counseling skills with parents; direct contact with families, case study, and current legislation. (2 seminar, 2 lab hours)

Units: 3

COUN 241. Seminar in Organization of Counseling Services

Prerequisite: COUN 200. Organization, administration, and evaluation of counseling programs. (2 seminar, 2 lab hours)

Units: 3

COUN 242. Seminar on Parent Education, Pupil Advocacy, and Consulting

Prerequisites: COUN 174 and COUN 200 or equivalent. Emphasis on current theory and methods of parent education, pupil advocacy, and consulting. Examination of current models in each area including ethical standards, legal concepts, and professional responsibilities. (2 seminar, 2 lab hours)

Units: 3

COUN 249. Field Practice in School Counseling

Prerequisites: COUN 200, COUN 208, and permission of instructor. Supervised counseling practice in school settings. Students must carry professional liability insurance. Required for the Pupil Personnel Services credential in school counseling. Approved for RP grading and CR/NC grading only. (CSU liability insurance fee, $8)

Units: 4-8, Repeatable up to 12 units

COUN 280T. Advanced Topics in Counseling

Prerequisites: postbaccalaureate standing and permission of instructor. Topics may include new developments in counseling techniques, rehabilitation counseling practices, special populations, and current research.

Units: 1-3, Repeatable up to 12 units

COUN 280T. Addictions Counseling

The course will provide students with an introduction to addictions counseling, including substance abuse, co-occurring disorders, and other addictive behaviors, major approaches to identification, evaluation treatment, and prevention of substance abuse and

addictions, legal and medical aspects of substance abuse, populations at risk, the role of support person, support systems and community resources.

Units: 3, Repeatable up to 12 units

COUN 280T. Psychopharmacology in Counseling

This course will provide students with an introduction to psychopharmacology including the biological basis of behavior, basic classifications, indications, and contraindications of commonly prescribed psychopharmacological medications. The course incorporates an overview of drugs, their actions, effects, use and abuse. Students will identify and assess the actions, effects, uses and abuses of legal and illegal drugs and learn to make appropriate referrals.

Units: 3, Repeatable up to 12 units

COUN 280T. Crisis and Trauma in Counseling

This course provides an overview of various concepts and principles of crisis and trauma as they relate to the field of professional counseling. Different aspects of crisis and trauma will be explored with an emphasis on biopsychosocial understanding of trauma; an exploration of interpersonal, communal, and hate crime forms of trauma; an understanding of assessment, prevention, and intervention strategies; and necessary self-care strategies for professional counselors. Topics including crisis theory; multidisciplinary responses to crises, emergencies, or disasters; cognitive, affective, behavioral, and neurological effects associated with trauma; brief, intermediate, and long-term approaches; and assessment strategies for clients in crisis and principles of intervention for individuals with mental or emotional disorders during times of crisis, emergency, or disaster.

Units: 3, Repeatable up to 12 units

COUN 280T. Advanced Counseling Theories

This class will provide students the opportunity to develop an in-depth understanding and appreciation of the major theoretical approaches used in counseling and therapy. Students will learn how to use these theories to conceptualize and prvode treament for various life issues through lectures, presentations, videos, and case examples. Topics discussed include history and core concepts of each theory, conceptualization of life and health issues, interventions, treatment plan, and multicultural issues.

Units: 3, Repeatable up to 12 units

COUN 290. Independent Study

See Academic Placement - Independent Study. Approved for RP grading.

Units: 1-3, Repeatable up to 6 units

COUN 298. Project

Prerequisites: advancement to candidacy for the master's degree; B average on 24 units of the master's program including ERE 220. See Criteria for Thesis and Project. A project consists of a significant undertaking appropriate to counseling such as the development of a program for counseling service delivery, development of audio-visual materials or computer software for counselor education or service delivery. An approved proposal is required for enrollment. Approved for RP grading.

Units: 3-4

COUN 298C. Project Continuation

Prerequisite: Project COUN 298. For continuous enrollment while completing the project. May enroll twice with department approval. Additional enrollments must be approved by the Dean of Graduate Studies.

Units: 0

COUN 299. Thesis

Prerequisites: advancement to candidacy for the master's degree; B average on 24 units of the master's program including ERE 220 and completion of an acceptable thesis proposal. See Criteria for Thesis and Project. Preparation, completion, and submission of an acceptable thesis for the master's degree. See Kremen School of Education and Human Development's graduate programs coordinator for school thesis guidelines. Approved for RP grading.

Units: 3-4, Repeatable up to 6 units

COUN 299C. Thesis Continuation

Prerequisite: Thesis COUN 298. For continuous enrollment while completing the thesis. May enroll twice with department approval. Additional enrollments must be approved by the Dean of Graduate Studies.

Units: 0

CRIMINOLOGY (CRIM)

CRIM 1. Strategies for Success in Criminology

Not open to non-crim majors; first semester major requirement. Program structure; faculty overview; degree requirements; support services; advising; grading; conduct and behavior; areas of academic knowledge and integration with emphasis upon critical thinking, decision-making and communication skills. CR/NC grading only.

Units: 1

Course Typically Offered: Fall, Spring

CRIM 2. Administration of Justice

Purpose, function, and history of agencies dealing with administration of justice; survey of criminal procedures; organization of law enforcement agencies at federal, state, and local levels; organization and functions of courts; probation, parole, and pardons; penology and prison administration; purpose and function of victim services.

Units: 3

Course Typically Offered: Fall, Spring

CRIM 10. Crime, Criminology, and Justice

An introduction to the concept of crime, emphasizing its contextual foundations as the product of evolving criminal laws and the institutions that shape them. A survey of the methodological approaches used to measure and study crime. Patterns of crime and victimization in relation to their impact on society's response in its quest for justice. G.E. Breadth D3.

Units: 3

Course Typically Offered: Fall, Spring

GE Area: D3

CRIM 20. Criminal Law

Highly recommend CRIM 1. Introduction to the case method of studying criminal law, theory, concept, and philosophy of substantive law and criminal offenses; analysis of court decisions and opinions through case method.

Units: 3

Course Typically Offered: Fall, Spring

CRIM 50. Statistical and Computer Applications in Criminal Justice

Statistical and computer applications as they relate to criminological research and policy. Emphasis on descriptive and inferential statistical methods for the analysis of data and the application of appropriate computer statistical packages and other specialized computer programs for criminal justice.

Units: 3

Course Typically Offered: Fall, Spring

GE Area: B4

CRIM 100. Criminology

Sociological, biological, psychological theories of crime causation; crime measurement; schools of criminology; crime typologies. Graduating criminology seniors have first priority; other students may receive priority status by permission of instructor.

Units: 3

Course Typically Offered: Fall, Spring

CRIM 100H. Honors Criminology

Prerequisite: Open only to students who are qualified members of the Criminology Honors Program. An advanced exploration of the etiology of crime. An emphasis on primary literature with analysis and criticism of both classic and modern criminological theories.

Units: 3

Course Typically Offered: Fall

CRIM 101. Crime and Violence in America

Prerequisites: G.E. Foundation and Breadth Area D. Introduces students to types of crime and violence in America within a sociological, cultural, economic, and political context. Emphasis on methodological approaches to crime measurement. Looks at how crime and violence impacts individuals and their environment. G.E. Integration ID.

Units: 3

Course Typically Offered: Fall, Spring

GE Area: ID

CRIM 102. Criminal Justice Organization and Management

Prerequisites: CRIM 2, CRIM 20. Highly recommended: CRIM 100 and CRIM 170. Fundamentals of organization/management theory, principles, and processes relating to the operation and functioning of the criminal justice system, including victim services agencies.

Units: 3

Course Typically Offered: Fall, Spring

CRIM 102H. Honors Criminal Justice Organization and Management

Prerequisite: Open only to members of the Criminology Honors Program. A comprehensive examination of the structure and process of the American Criminal Justice System from an organizational management perspective. Conceptual thinking is essential in this exploration of current and future organizational challenges.

Units: 3

Course Typically Offered: Fall

CRIM 108. Directed Policing

Open only to criminology majors. Prerequisite: Permission of instructor and sponsoring agency. Supervised field experience in police work for interpreting theories developed in parallel criminology courses. Purchase of uniform required. Approved for SP grading. CR/NC grading only. (Minimum of 6 field hours per unit.)

Units: 3, Repeatable up to 12 units

Course Typically Offered: Fall, Spring

CRIM 109. Comparative Systems of Criminal Justice

Prerequisites: CRIM 2. Highly recommended: CRIM 20, CRIM 100, and CRIM 170. Study of selected criminal justice systems in other jurisdictions; examination of the organization; administration and operations of criminal justice agencies in the United States, Europe, the United Kingdom, and Asia.

Units: 3

Course Typically Offered: Fall, Spring

CRIM 110. Police in America

A basic survey course on the functions, roles, personnel systems, and management issues in law enforcement. Issues faced by municipal, county, state, and federal law enforcement are explored in detail. Analysis of contemporary programs and trends in policing. Community policing is explored. Studies issues of less-than-lethal technology and computerized information systems. Formerly CRIM 160T.

Units: 3

Course Typically Offered: Fall, Spring

CRIM 112. Professionalism in Criminal Justice

Prerequisites: CRIM 2, CRIM 20. Highly recommended: CRIM 100 and CRIM 170. Professionalism in criminal justice including formal and informal control; political activity; use of discretion; conflict of interest; rights of clients; ethical, gender, and ethnic issues; and other current topics.

Units: 3

Course Typically Offered: Fall, Spring

CRIM 113. Forensic Science

Prerequisite: CRIM 2. Open only to criminology majors. Advanced study of scientific crime investigation, identification, and detection methods.

Units: 3

Course Typically Offered: Fall, Spring

CRIM 114. Ethics in Forensic Behavioral Sciences

Prerequisite: CRIM 2. Explores ethical aspects of the conduct of forensic behavioral scientists in the civil and criminal justice systems. Designed to provide the student with an informed basis for critically evaluating the behavior of behavioral scientists relative to

legal proceedings.

Units: 3

CRIM 117. Criminal Legal Process

Prerequisite: CRIM 20. Specific emphasis on the laws of arrest, search and seizure, interrogation and confession, procedure prior to and during trial, postconviction procedures, limitations on criminal prosecutions and juvenile proceedings.

Units: 3

Course Typically Offered: Fall, Spring

CRIM 118. Courts and Legal Procedure

Prerequisites: CRIM 20. Structure and function of trial and appellate courts. Procedural requirements of the judicial process. Rules of evidence as they apply to admissibility of behavioral and forensic evidence.

Units: 3

CRIM 119. Legal Aspects of Corrections

Prerequisite: CRIM 20. Legal issues affecting corrections; constitutional issues involving rights of the convicted and civil liability of staff. Origin, development, and classification of criminal law in corrections. Rules of evidence, search and seizure, etc.

Units: 3

CRIM 120. Juvenile Delinquency

The problem of juvenile delinquency; portrait of delinquency; causal factors; agencies of justice; treatment process; programs for control and prevention. G.E.. Integration ID.

Units: 3

Course Typically Offered: Fall, Spring

GE Area: ID

CRIM 126. Women and Violence: Public Policy and the Law

(CRIM 126 same as WS 126.) Historical and contemporary issues in public policy responses to violence against women. Gender bias in the legal system and policing violence against women. Theory and research on problems in government policy and enforcement of the law.

Units: 3

Course Typically Offered: Fall, Spring

CRIM 127. Evidence

Advanced problems in arrest, search, seizure, interrogation, and prosecution. The law of evidence, including problems of relevancy, hearsay, opinion, privilege, and scientific evidence. Juvenile law and procedure from detention to disposition.

Units: 3

Course Typically Offered: Fall, Spring

CRIM 131. Correctional Institution Visitations

The opportunity to visit, examine, and investigate various correctional institutions within the state of California. Visitations will be mandatory. CR/NC grading only.

Units: 1-3

Course Typically Offered: Fall, Spring

CRIM 133. Institution Corrections

Prerequisites: CRIM 2 and CRIM 20. Prison and issues of corrections in terms of historical development and current applications; various perspectives and definitions of social control; philosophical underpinnings of the system; prisoner and societal implications of social control.

Units: 3

Course Typically Offered: Fall, Spring

CRIM 134. Criminal Justice Counseling

An overview of counseling modalities and counseling techniques in criminal justice settings.

Units: 3

Course Typically Offered: Fall, Spring

CRIM 135. Community-based Corrections

Prerequisites: CRIM 2 and CRIM 20. History and contemporary applications of community-based corrections. Juvenile and adult supervision at all three levels: local, state, and federal; probation, parole, electronic monitoring, residential treatment, drug/mental health courts, boot camps, intensive supervision.

Units: 3

CRIM 136T. Topics in Criminology

Analysis of selected areas of criminology; deviant behavior; institutional and non-institutional treatment; corrections; administration and management; law enforcement; criminalistics.

Units: 1-3, Repeatable up to 12 units

Course Typically Offered: Fall, Spring

CRIM 136T. Mock Trial: Basic Courtroom Skills for Attorneys/Witnesses I

Legal aspects of the American legal system with a focus on civil and criminal actions, dynamics and strategy in filing and defending of lawsuits, study of courtroom processes and procedures, use federal rules of evidence, and examination of scientific evidence, forensics, and the expert witness in the system.

Units: 3

CRIM 137. Women, Girls & the Criminal Justice System

Prerequisite: CRIM 2. Analysis of women and girls in the criminal justice system; understanding of the role of gender in terms of female pathways to crime, nature of female offending, victimization, and incarceration. Gender-responsive criminal justice policy and practice.

Units: 3

CRIM 139. Criminal Justice Counseling Skills Practicum

Highly recommend CRIM 134 or permission of instructor. An experiential course designed to teach students essential skills in structuring counseling sessions with offenders. Emphasis on listening, validation, empathy, interviewing, probing, concreteness, self-disclosure, summarizing, confrontation, goal-setting, taking action, closure, and resistance.

Units: 3

CRIM 140. Family Violence

Typology and history of family abuse, including: legal guidelines;

treatment approaches; emotional abuse; sexual abuse; spousal abuse; elderly abuse; and child abuse as a criminogenic factor.

Units: 3

Course Typically Offered: Fall, Spring

CRIM 141. Alcohol, Drugs, and Criminality

Analysis of the composition, manufacture, use, and misuse of drugs (including alcohol); their relationship to criminality, and current responses by governmental and private organizations. Exposure to treatment programs may be required.

Units: 3

Course Typically Offered: Fall, Spring

CRIM 150. Victim Services Program Management

This course examines the management techniques and skills needed to operate non-profit/government based victim services organizations. The course explores the various technologies that ensure victims' rights and efficient/effective service provision. Finally, advocacy regarding organizations, coalitions, and policies will be discussed.

Units: 3

CRIM 152. Elder Abuse

This course provides students with an overview of the history, theories, concepts, and practices of elder abuse. The course will also cover measurement, prevention, intervention, victim non-reporting practices, victims' rights, laws, and policies, victim recovery, and restorative justice practices.

Units: 3

CRIM 153. Psychology of Crime

Prerequisites: G.E. Foundation and Breadth Area D. Explores the psychological bases of criminal behavior as they relate to the Biology of criminality, as well as to the numerous and varied contributions from cultural economic, and geographic aspects of the social environment. G.E. Integration ID.

Units: 3

Course Typically Offered: Fall, Spring

GE Area: ID

CRIM 154. Forensic Behavioral Science

Prerequisite: CRIM 2. Examines applications of behavioral sciences to the study and investigation of behavior and their implications for civil and criminal judicial proceedings. Evaluation of issues related to behavioral sciences as they pertain to civil liability and criminal responsibility.

Units: 3

CRIM 155. Biology of Criminality

This course examines criminal behavior in terms of psychophysiological factors, neurobiological and neuropsychological factors, and genetic factors. To understand the Biology that underlies criminal behavioral responses to specific environmental factors.

Units: 3

CRIM 160H. Honors Seminar in Criminology

Prerequisite: Open only to students who are qualified members of the Criminology Honors Program. Honors seminar in specialized areas, new development and synthesis of criminological processes, thought and theory.

Units: 3, Repeatable up to 6 units

CRIM 160T. Topics in Crimes

Intensive focus on particular crime categories, e.g., political, corruption, terrorism; corporate, computer, white collar, fraud, embezzlement; homicide, assassination, mass murder, sex crimes, violence, assault, rape, mayhem; property, burglary, robbery, piracy, professional pickpocketing, swindling, safe-cracking; organized; arson; and environmental.

Units: 1-3, Repeatable up to 12 units

Course Typically Offered: Fall, Spring

CRIM 170. Research Methods in Criminal Justice

Highly recommended: PH 92, PSYCH 42, MATH 11, SOC 125, DS 73. Research methodology; use of library resources; electronic resources; preparation and handling of materials in criminology; written report required.

Units: 3

Course Typically Offered: Fall, Spring

CRIM 170H. Honors Research Methods

Prerequisite: Open only to members of the Criminology Honors Program. The goal of this introduction to social science research is to develop a literature review and research design. This involves an intense library search, development of a literature review and implementation of a research project.

Units: 3

Course Typically Offered: Fall

CRIM 173. Trauma & Crisis Intervention

Physiological and pyschological aspects of trauma; analysis of Stress Theory, Crisis Theory, and PTSD; short term and long term trauma; advocate intervention techniques and referral sources.

Units: 3

Course Typically Offered: Spring

CRIM 174. Ethnic and Gender Issues in Criminal Justice

The impact of ethnicity, gender and race on criminal justice personnel, offenders, and victims. Special problems experienced by various groups in obtaining services within the criminal justice system.

Units: 3

Course Typically Offered: Fall, Spring

CRIM 175. Victimology

Major theoretical issues and debates in victimology. Victim blaming and defending, research and victim statistics, legal and policy dilemmas, bureaucratic responses to victims, and evaluation of victim compensation and restitution.

Units: 3

Course Typically Offered: Fall, Spring

CRIM 176. Victim Services

Survey of community services for victims. Focus on victim services as a new subsystem. Theoretical, social, and legal issues

that affect delivery of victim services.

Units: 3

Course Typically Offered: Fall, Spring

CRIM 177. Legal Policy in Victim Services

Analysis of legislation and specific legal policies regarding victim services. Victim rights, the process of changing attitudes, and current laws will be a major focus.

Units: 3

Course Typically Offered: Fall, Spring

CRIM 180. Internship in Law Enforcement

Open only to criminology majors. Prerequisites (may be taken concurrently): CRIM 2, CRIM 20, CRIM 102 and CRIM 112. Mandatory student attendance at a "pre-orientation" meeting within one year prior to enrolling in a department internship section. CR/NC grading only. (Minimum of 3 field hours per unit.)

Units: 1-3, Repeatable up to 12 units

Course Typically Offered: Fall, Spring

CRIM 180H. Honors Internship in Law Enforcement

Prerequisite: Open only to members of the Criminology Honors Program with senior standing. Mandatory student attendance at a "pre-orientation" meeting within one year prior to enrolling in a department internship section. The purpose is to relate the student's classroom studies with occupational and professional experiences. Students will be referred to related agencies where they will engage in activities requiring significant responsibility. CR/NC grading only.

Units: 3, Repeatable up to 6 units

Course Typically Offered: Fall, Spring

CRIM 181. Internship in Corrections

Open only to criminology majors. Prerequisites (may be taken concurrently): CRIM 2, CRIM 20, CRIM 102, CRIM 112, and CRIM 130. Mandatory student attendance at a "pre-orientation" meeting within one year prior to enrolling in a department internship section.CR/NC grading only. (Minimum of 3 field hours per unit.)

Units: 1-3, Repeatable up to 12 units

Course Typically Offered: Fall, Spring

CRIM 181H. Honors Internship in Corrections

Prerequisite: Open only to members of the Criminology Honors Program with senior standing. Mandatory student attendance at a "pre-orientation" meeting within one year prior to enrolling in a department internship section. The purpose is to relate the student's classroom studies with occupational and professional experiences. Students will be referred to related agencies where they will engage in activities requiring significant responsibility. CR/NC grading only.

Units: 3, Repeatable up to 6 units

Course Typically Offered: Fall, Spring

CRIM 182. Internship in Victimology

Open only to criminology majors. Prerequisites (may be taken concurrently): CRIM 2, CRIM 20, CRIM 102, CRIM 112, and CRIM 175. Mandatory student attendance at a "pre-orientation" meeting within one year prior to enrolling in a department internship section. CR/NC grading only. (Minimum of 3 field hours per unit.)

Units: 1-3, Repeatable up to 12 units

Course Typically Offered: Fall, Spring

CRIM 182H. Honors Internship in Victimology

Prerequisite: Open only to members of the Criminology Honors Program with senior standing. Mandatory student attendance at a "pre-orientation" meeting within one year prior to enrolling in a department internship section. The purpose is to relate the student's classroom studies with occupational and professional experiences. Students will be referred to related agencies where they will engage in activities requiring significant responsibility. CR/NC grading only.

Units: 3, Repeatable up to 6 units

Course Typically Offered: Fall, Spring

CRIM 190. Independent Study

See Academic Placement - Independent Study. Approved for RP grading.

Units: 1-3, Repeatable up to 6 units

Course Typically Offered: Fall, Spring

CRIM 192. Readings in Criminology

Prerequisite: upper-division standing and permission of the instructor. Supervised readings in a selected field relating to criminology.

Units: 1-3

Course Typically Offered: Fall, Spring

CRIM 200. Research Methods in Criminology

Prerequisite: CRIM 170. Methods and techniques of research in criminology; research designs and models; preparation and critique of a research paper.

Units: 3

CRIM 201. Advanced Criminological Theory

Prerequisite: CRIM 100. An historical approach to a criminological theory. Special treatment of the theoretical underpinnings of contemporary thought. Detailed analysis of major 18th, 19th, 20th century thought.

Units: 3

CRIM 202. Law and the Criminal Justice System

Prerequisite: CRIM 117. The nature and philosophy of law; the common law tradition and our judicial system; the role of legislation and rules of statutory interpretation; Constitutional Law concepts and their applications in the Criminal Justice System.

Units: 3

CRIM 203. Criminal Justice Systems

Prerequisite: CRIM 102. A comprehensive assessment of the historical evolution of the criminal justice system, including current status, victim rights, and future growth, theory (A)and (B) practices relating to (C).

Units: 3

CRIM 204. Quantitative Methods and Analysis

Prerequisites: CRIM 170. Methods of analysis of multivariate

data: including multiple regression, logistic regression and factor analysis. Computer statistical packages, applicatons, and analysis of data.

Units: 3

CRIM 205. Qualitative Methods and Analysis

Examines a range of qualitative research methods and analysis, including theory and strategies, techniques of data collection and writing strategies relevant to qualitative research. Topics covered include interpretative theories, instrument development, interview techniques, ethnography, content analysis and inductive analytic methods.

Units: 3, Repeatable up to 12 units

CRIM 216. Essentials of Homeland Security

This course focuses on Homeland Security, terrorism, and theories of security, risk management, and national security strategy. An overview of key agencies and the legal and privacy issues inherent in balancing law and order with Constitutional rights and liberties.

Units: 3

CRIM 217. Radical Ideologies

Students will acquire an understanding of how ordinary individuals can acquire extraordinary philosophies that disrupt governance, derail the status quo, and often erupt into violent conflict.

Units: 3

CRIM 218. Intelligence Theory

Intelligence Theory is a course intended so that students can acquire an understanding of how the acquisition, analysis, and dissemination of information to generate criminal intelligence can be facilitated in a free society.

Units: 3

CRIM 219. Border and Homeland Security

This course focuses on border and homeland security, terrorism, risk management, and national security strategy. Comparative approach to key agencies, policies and legal issues in securing international borders, critical infrastructure protection and related economic analysis in security, transportation, and immigration policy.

Units: 3

CRIM 220. Seminar in Group Therapy in Criminal Justice Agencies

Prerequisites: admission to the criminology graduate program. The theory and practice of group therapy in criminal justice agencies. Use of transactional analysis concepts in describing group interactions.

Units: 3

CRIM 221. Seminar in Family Counseling in Criminal Justice Agencies

Prerequisites: admission to the criminology graduate program. The theory and practice of family counseling in criminal justice agencies.

Units: 3

CRIM 252. Seminar in Criminal Justice Personnel Administration

Prerequisites: admission to the criminology graduate program. The historical development of modern personnel theory and practice in criminal justice agencies; manpower, merit concepts, concepts of man and work, classification, training and compensation, collective bargaining, and organizational communication.

Units: 3

CRIM 255. Seminar in Criminal Justice Labor Relations

Prerequisites: admission to the criminology graduate program. The historical development of labor relations theory and practice in criminal justice agencies; legislation, court decisions, collective bargaining agreements, arbitration awards and fact-finding, and administrative law decisions.

Units: 3

CRIM 265. Sex Crimes

Sex offenders are explored from epidemiological, psychological and etiological underpinnings and constraints as they relate to power, sex, gender and psychopathology. Attention given to the role of paraphilia and the vast array of sexual predators, lust killers, paraphilic stalkers and the mentally disordered sex offender. (Formerly CRIM 270T)

Units: 3

CRIM 270T. Problems in Criminology

Prerequisites: Admission to the criminoly graduate program. Special problems in law enforcement or corrections; individual research in laboratory, library, or fieldwork;formal written reports. Weekly conference with instructor.

Units: 3-6, Repeatable up to 12 units

CRIM 270T. Criminal Justice Institutions

The course provides a thorough analysis and investigations into primary institutions of the American Criminal Justice system, law enforcement, courts, corrections. Provides linkages and relations with other significant actors and agencies in the criminal justice system. Bureaucracy, discretion, street level workers and other relevant criminological theories, methodologies will be evaluated and reviewed in the context of the purpose, structure, and function of criminal justice institutions.

Units: 3, Repeatable up to 6 units

CRIM 275. Victimology and Social Change

Prerequisite: admission to the criminology graduate program. Theories and scientific research on the effects of crime on victims. An analysis of victim rights and services with specific review agencies and programs of community change. Models and strategies of understanding and assisting crime victims will be analyzed. (Formerly CRIM 270T)

Units: 3

CRIM 281. Supervised Professional Experience

Open only to criminology majors. Prerequisite: permission of instructor and selected agency. Supervised professional experience in law enforcement or correctional work. Approved for SP grading. CR/NC grading only.

Units: 1-6

CRIM 290. Independent Study
See Academic Planning-- Independent Study. Approved for RP grading.

Units: 1-3, Repeatable up to 6 units

CRIM 292. Readings in Criminology
Prerequisites: permission of instructor and chair, Criminology Graduate Committee. Individually directed readings in an area of special concern to the student's graduate program; appropriate written reports and evaluation required, individual student conferences. Approved for RP grading.

Units: 1-3

CRIM 295. Controversial Issues in Crime, Criminology and Law
Prerequisites: CRIM 200, CRIM 201, CRIM 202, and CRIM 203. An inclusive overview of controversial issues in criminology and law with an emphasis upon critical thinking, organization, decision-making and writing skills. An apogean experience involving the integration of graduate-level scholarly knowledge related to the study of criminology. (Formerly CRIM 270T)

Units: 3

CRIM 298. Project
Prerequisites: CRIM 200, CRIM 201, CRIM 202, and CRIM 203. See Criteria for Thesis and Project. Preparation and completion of a project demonstrating a significant undertaking such as implementing a program, evaluating an ongoing program, developing pilot studies of innovative ideas or implementing organizational change in the field of criminology, and submission of a written abstract. Approved for RP grading.

Units: 3-6

CRIM 298C. Project Continuation
Prerequisite: Project CRIM 298. For continuous enrollment while completing the project. May enroll twice with department approval. Additional enrollments must be approved by the Dean of Graduate Studies.

Units: 0

CRIM 299. Thesis
Prerequisites: CRIM 200, CRIM 201, CRIM 202, and CRIM 203. See Criteria for Thesis and Project. Preparation, completion, and submission of an acceptable thesis for the master's degree. Approved for RP grading.

Units: 3-6

CRIM 299C. Thesis Continuation
Prerequisite: Thesis CRIM 299. For continuous enrollment while completing the thesis. May enroll twice with department approval. Additional enrollments must be approved by the Dean of Graduate Studies.

Units: 0

CROP SCIENCE-AGRONOMY AND VEGETABLE CROPS (CRSC)

CRSC 1. Introduction to Crop Science
Not open to students with credit in upper-division CR SC courses. Principles of production for cereal, row, forage and vegetable crops. Culture, insect and disease control, harvesting, storage, and marketing.

Units: 3

Course Typically Offered: Spring

CRSC 101. Row Crops
Prerequisites: BIOL 11, CRSC 1. The culture of beans, cotton, sugar beets, and oil crops; varieties, nutrition, insect, disease, and weed control; harvest, storage, uses, and marketing. (2 lecture, 3 lab hours)

Units: 3

Course Typically Offered: Fall

CRSC 102. Cereal and Forage Crops
Prerequisites: BIOL 11, CRSC 1. The culture of barley, corn, sorghum, oats, rice, rye and wheat; varieties, nutrition, insect disease, and weed control; harvest, storage, uses, and marketing. (2 lecture, 3 lab hours)

Units: 3

Course Typically Offered: Spring

CRSC 105. Range Ecology and Management
Prerequisites: BIOL 10 or BIOL 11, CRSC 1. Identification of range and pasture plants; carrying capacity; methods of range and pasture improvement, grazing management, water development, rodents, fertilization, reseeding, brush removal; mountain range resources. (2 lecture, 3 lab hours)

Units: 3

Course Typically Offered: Spring

CRSC 111. Vegetable Production
Prerequisites: BIOL 11, CRSC 1. Cultural practices, harvesting, processing, and marketing of vegetables of economic importance to California and the San Joaquin Valley. (2 lecture, 3 lab hours) (field trip fee, $65) F

Units: 3

Course Typically Offered: Fall

CRSC 115. Organic Crop Production
Prerequisites: BIOL 11, CRSC 1. Cultural practices, harvesting, processing, and marketing of organically grown crops of economic importance to California and the San Joaquin Valley. (2 lectuers, 3 lab hours)

Units: 3

Course Typically Offered: Spring

CRAIG SCHOOL OF BUSINESS - BUSINESS ADMINISTRATION (CSB)

CSB 150. Strategies for Success
Prerequisites: Upper-Division Writing Skills Requirement (may be taken concurrently). Preparation for job placement including resumes, on-campus recruitment, business etiquette and job offers. Presentations by faculty, recruiters and alumni. May be used as a substitute for CSB 50 with prior written approval of the instructor.

CR/NC grading only.

Units: 1

CSB 184. Junior Honors Seminar

Prerequisite: acceptance into the Craig Honors Program. Survey of the business disciplines and their application to business problems. Empirical, applied, and theoretical background for business research. Current issues and methods for solving business problems. Business research methodology, ethical considerations in designing research. Literature review and written proposal required for honors thesis. (Formerly MGT 156)

Units: 3

Course Typically Offered: Spring

CSB 185. Senior Honors Seminar I

Prerequisite: acceptance into the Craig Honors Program. Analysis of business research and its application to business problems. Current issues and methods for solving business problems. Business research methodology, ethical considerations in designing research. Literature review and written proposal required for honors thesis. Data collection and analysis, graduate school, and job searches. Fall of senior year. (Formerly MGT 186A)

Units: 3

CSB 186. Senior Honors Seminar II

Prerequisite: CSB 185. Analysis of business research and the application to business problems. Writing, editing and revising manuscripts, preparing professional presentations, preparing papers for publication, and designing conference posters. Spring of senior year. (Formerly MGT 186B)

Units: 3

COLLEGE OF SCIENCE AND MATHEMATICS (CSM)

CSM 10. The Scientific Method

Practice in the application of the scientific method to locally relevant problems and challenges. The evaluation of inductive and deductive arguments coupled with the evaluation of experimental data to develop and test scientific hypotheses. GE Area A3.

Units: 3

Course Typically Offered: Fall

GE Area: A3

CSM 15. Evidence based Decision Making

Practice in the evaluation and use of quantitative evidence in reasoned decision making. Topics include uncertainty, significance, trends, experimental design, and causality. GE Area E.

Units: 3

Course Typically Offered: Fall

GE Area: E1

COMPUTER SCIENCE (CSCI)

CSCI 1. Critical Thinking and Computer Science

Prerequisite: intermediate algebra. Overview of the field of computer science with an emphasis on critical thinking skills. Problem-solving strategies, algorithm design, and data abstraction. Introduction to hardware, theoretical limitations of computers, and issues arising from the growing role of computers in society. G.E. Foundation A3.

Units: 3

Course Typically Offered: Fall, Spring

GE Area: A3

CSCI 5. Computer and Applications

An introduction to the computer: tools, applications, and graphics. Overview of the components of computer systems; discussion on software systems, electronic mail, influence of computers on society and the future of computing; extensive hands-on experience with application tools and programming. PC (Windows) environment. CR/NC grading only. (2 lecture, 2 lab hours)

Units: 3

Course Typically Offered: Fall, Spring

CSCI 30. Introduction to the Internet

Topics include email, web browsers, searching, evaluation of web resources, HTML, web-page design, encryption, basic network communication. Special emphasis on the underlying technologies. (2 lecture (1 traditional/1 on-line), 2 lab hours)

Units: 3

CSCI 40. Introduction to Programming and Problem Solving

Prerequisite: MATH 75 (may be taken concurrently) or MATH 75A (may be taken concurrently) or permission from instructor. Introduction to problem solving, algorithm development, procedural and data abstraction; program design, coding, debugging, testing, and documentation; a high-level programming language. (3 lecture, 2 lab hours)

Units: 4

Course Typically Offered: Fall, Spring

CSCI 41. Introduction to Data Structures

Prerequisite: CSCI 40. Programming methodology, program correctness. Review of data types. Data structures: linear and nonlinear structures, files. Implementation of data structures. Recursion. Searching and sorting. (3 lecture, 2 lab hours)

Units: 4

Course Typically Offered: Fall, Spring

CSCI 60. Foundations of Computer Science

Prerequisites: CSCI 40 (may be taken concurrently). Abstraction, iteration, induction, recursion, complexity of programs, data models, and logic. (3 lecture 2 lab hours)

Units: 4

Course Typically Offered: Fall, Spring

CSCI 100. Introduction to Computational Science

Prerequisites: G.E. Foundation and Breadth Area B. Fundamental concepts of computational science, computational modeling, computer simulations, and scientific applications. Topics include system-dynamics models, cellular-automaton simulations, computational and modeling tools, scientific visualization, high-perfor-

mance computing. G.E. Integration IB.

Units: 3

GE Area: IB

CSCI 101. Computational Foundations for Bioinformatics

Prerequisites: CSCI 1, BIOL 102. Computational approaches to problems in molecular Biology. Algorithms, heuristics, strings, graphs. Sequence comparison, mulitple alignment. Selected topics such as scripting, visual programming, laboratory workflow, databases, and queries. (2 lecture, 2 lab hours). (Formerly computer applications in the sciences).

Units: 3

CSCI 105T. Intro Programming Workshop

To be taken in conjunction with CSCI 40. Develops computational thinking, supplements programming instruction.

Units: 1

CSCI 112. Introduction to Computer Systems

Prerequisite: CSCI 41, CSCI 60. Computer arithmetic. Von Neumann architecture. Instruction sets, data types, formats, addressing. Register and ALU organization. Memory hierarchy. I/O Bus organization. Study of one or more assembly languages. basics of implementation of higher-level languages. (3 lecture, 2 lab hours)

Units: 4

Course Typically Offered: Spring

CSCI 113. Introduction to Computer Organization

Prerequisite: CSCI 41. Fundamental issues of computer design at register-transfer level. Logical design of basic combinational and sequential modules. Organization and design of major functional blocks: ALU, CPU, memory, cache, input/output, hard-wired and microprogrammed control. Simulation of computer organization. INtroduction to high performance superscalar computer organization. (3 lecture, 2 lab hours)

Units: 4

Course Typically Offered: Fall

CSCI 115. Algorithms and Data Structures

Prerequisites: CSCI 41, CSCI 60, MATH 75. Review of basic data structures. Graph, search paths, and spanning trees. Algorithm design and analysis of sorting, merging, and searching. Memory management, hashing, dynamic storage allocation. Integration of data structures into system design. (3 lecture 2 lab hours)

Units: 4

Course Typically Offered: Spring

CSCI 117. Structures of Programming Languages

Prerequisites: CSCI 41, and CSCI 60. General concepts and paradigms of programming languages; scope and binding rules, applications and implementations of language concepts. Languages selected from: ADA, ICON, Miranda, ML, MODULA 2, OCCAM 2, PROLOG, LISP, Scheme, Smalltalk. (3 lecture, 2 lab hours)

Units: 4

Course Typically Offered: Fall

CSCI 119. Introduction to Finite Automata

Prerequisites: CSCI 41, CSCI 60. Strings, languages, and fundamental proof techniques. Regular expression, regular grammar, regular languages, finite automata, their interrelationship, and their properties. Introduction to context-free languages. (3 lecture 2 lab hours)

Units: 4

Course Typically Offered: Fall

CSCI 124. Introduction to File Processing

Prerequisite: CSCI 115. Definition of file components, access methods, and file operations. Algorithms for efficient implementation of data structures; characteristics of bulk storage media for mainframe and microcomputers. Introduction to database management systems.

Units: 3

CSCI 126. Database Systems

Prerequisite: CSCI 115 (can be taken concurrently). Database concepts; hierarchical and relational network models; object-oriented data models. Data normalization, data description languages, data manipulation languages, and query design.

Units: 3

Course Typically Offered: Spring

CSCI 130. Web Programming

Prerequisites: CSCI 115. Programming for the World Wide Web. Web servers and clients, Internet and Web protocols, and markup languages. Client side scripting, including both gateway and filter-based approaches. (2 lecture, 2 lab hours). (Formerly CSCI 191T).

Units: 3

Course Typically Offered: Spring

CSCI 134. Compiler Design

Prerequisites: CSCI 112, CSCI 115, CSCI 119. Syntax and semantics of programming languages. Lexical analysis, parsing techniques, parser generator, SLR and LALR parsing. Introduction to symbol table organization and semantic routines. Compiler generators.

Units: 3

CSCI 144. Introduction to Operating Systems

Prerequisites: CSCI 41, and CSCI 112 or ECE 118. Operating system history and services. File systems. Memory management. Process management - concurrent processes, communication, semaphores, monitors, deadlocks. Resource management - processor and disk scheduling. Security and protection mechanisms. (3 lecture hours)

Units: 3

Course Typically Offered: Fall

CSCI 146. Systems Architecture

Prerequisites: CSCI 113, CSCI 144. An in-depth analysis of one or more operating systems -- system data structures, hardware architecture, shell and kernel functions, I/O routines, interrupt handling. Other topics may include parallel hardware architectures, performance analysis.

Units: 3

CSCI 148. Systems Programming
Prerequisites: CSCI 113, CSCI 144. Topics include implementation of operating system components and modification of existing systems. Device drivers, memory management, communication networks, and file systems will be examined. Projects will be emphasized.

Units: 3

CSCI 150. Introduction to Software Engineering
Prerequisite: CSCI 41. History, goals, and motivation of software engineering. Study and use of software engineering methods. Requirements, specification, design, implementation, testing, verification, and maintenance of large software systems. Team programming. (2 lecture, 3 lab hours)

Units: 3

Course Typically Offered: Fall

CSCI 152. Software Engineering
Prerequisite: CSCI 150. In-depth examination of techniques for specification, design, implementation, testing, and verification of software. Human-computer interfaces. Formal methods of software development. Use of software engineering tools for the development of substantial software projects. (2 lecture, 2 lab hours)

Units: 3

Course Typically Offered: Spring

CSCI 154. Simulation
Prerequisites: CSCI 41, CSCI 60; MATH 75. Simulation as a tool for the study of complex systems in computer science, statistics and operations research. Generating random variables. Review of principles behind and examples of simulation languages.

Units: 3

Course Typically Offered: Fall

CSCI 156. Internetworking Systems and Protocols
Prerequisite: CSCI 144 or permission of instructor. Review of underlying network technologies. Application-level interconnections, network architectures, addressing, mapping abstract addresses to physical addresses, routing datagrams, error and control messages, protocal layering, gateways, subnets. Client-server interactions. Upper layers of protocol stacks. (2 lecture, 2 lab hours)

Units: 3

Course Typically Offered: Fall

CSCI 164. Artificial Intelligence Programming
Prerequisite: CSCI 117. Introduction to problem-solving methods from artificial intelligence. Production systems. Knowledge-based systems. Machine learning. Topics chosen from fuzzy logic, neural network models, genetic algorithms. Verification, validation, testing.

Units: 3

CSCI 166. Principles of Artificial Intelligence
Prerequisite: CSCI 164. Analysis of knowledge-based and neural models, including self-organization, sequential learning models, neurally inspired models of reasoning and perception. Integration of different paradigms.

Units: 3

CSCI 172. Computer Graphics
Prerequisites: MATH 76, CSCI 41, and (CSCI 112 or ECE 118). Hardware devices, raster graphics, device in dependence, graphic data structure and representations, interactive techniques, and algorithms for the display of two- and three-dimensional objects, graphic transformation, graphics standards, modeling ,animation, VRML, and scientific visualization. (3 lecture hours)

Units: 3

CSCI 173. Advanced Computer Graphics
Prerequisite: CSCI 172. Visible surface algorithms, lighting and shading, textures, curves and surfaces, computer-aided design, advanced modeling techniques, solid modeling, advanced raster graphics architecture, advanced geometric and raster algorithms, user interface, ray tracing, animation techniques, and fractals. (2 lecture, 2 lab hours)

Units: 3

CSCI 174. Design and Analysis of Algorithms
Prerequisites: CSCI 115, CSCI 119. Models of computation and measures of complexity, algorithms for sorting and searching, set representation and manipulation, branch and bound, integer and polynomial arithmetic, pattern-matching algorithms, parsing algorithm, graph algorithm, NP-complete problems.

Units: 3

CSCI 176. Parallel Processing
Prerequisites: CSCI 113, CSCI 144. Characteristics, and classification of computer systems. Notion and realization of parallelism. Pipeline design techniques. Vector processing. Array processing. Multiprocessing. Multiprocessing vs. multicomputers. Shared memory vs message-passing, problem solving and parallel programming. Architectural trends.

Units: 3

CSCI 177. Distributed Computer Systems
Prerequisites: CSCI 113, CSCI 144. Characteristics and design of distributed systems. Application and network interconnectivity. Enterprise computing. Distributed data and transaction management. Distributed operating systems. Distributed problem solving and programming.

Units: 3

CSCI 186. Formal Languages and Automata
Prerequisite: CSCI 119. Introduction to formal language theory. Context-free grammars, context-sensitive grammars, unrestricted grammars; properties of context-free languages, push-down automata.

Units: 3

CSCI 188. Introduction to Computability
Prerequisite: CSCI 119. Introduction to computability and complexity. Turing machines, recursive functions, reduction, undecidability, classes P and NP, and intractable problems.

Units: 3

CSCI 190. Independent Study
See Academic Placement - Independent Study. Approved for SP grading.

Units: 1-3, Repeatable up to 6 units

CSCI 191T. Information Security

Introduction to security issues in Computer Systems and Networks. Contents include cryptography access control, Internet Security, Systems Security, and Network Security. Prerequisite: CSCI 144 and CSCI 156.

Units: 3, Repeatable up to 15 units

CSCI 191T. Machine Learning

Prerequisite: CSCI 115. The introductory course on machine learning will give an overview of many concepts, techniques, and algorithms in machine learning ,covering topics such as Supervised Learning, Unsupervised Learning, Decision trees, Instance based Learning, bayesian Learning, Neural Networks, and Clustering. It will also provide understanding into how these techniques are being applied to critical industry problems in Data Mining and Data Analytics.

Units: 3, Repeatable up to 15 units

CSCI 194. Cooperative Education

Prerequisites: courses appropriate to the work experience; approval by major department cooperative education coordinator. Integration of work experience with academic program, individually planned through coordinator. CR/NC grading only.

Units: 1-4, Repeatable up to 8 units

CSCI 198. Project

Prerequisite: senior standing in computer science or permission of instructor and approved subject. See Criteria for Thesis and Project. Study of a problem under the supervision of a faculty member. Presentation by the student in a seminar setting and a final report are required. Satisfies the senior major requirement for the B.S. in Computer Science. Approved for RP grading.

Units: 3

Course Typically Offered: Fall, Spring

CSCI 200. Introduction to Research in Computer Science

Prerequisite: classified standing in computer science. Orientation to the graduate program, introduction to research methodology, and discussion of possible project and thesis topics.

Units: 1

CSCI 201. CSCI Colloquium

Prerequisite: CSCI 200 or permission by graduate coordinator. Colloquium in recent research in Computer Science. Students read, analyze, present, and discuss papers of recent research topics in Computer Science.

Units: 2

Course Typically Offered: Fall, Spring

CSCI 213. Computer Organization

Prerequisites: CSCI 112 and CSCI 113 or permission of instructor. Organization of memory, I/O, and processors. Computer busses. Microprogramming and instruction execution. Interrupts. Data communications.

Units: 3

CSCI 217. Programming Language Principles

Prerequisite: CSCI 117 or permission of instructor. Advanced topics in programming languages: concurrency, exceptions, types, procedures, execution models. Introduction to the formal specification of programming languages: syntax specification, semantic specification.

Units: 3

CSCI 226. Advanced Database Systems

Prerequisites: CSCI 126 and CSCI 144. Implementation of database systems on modern hardware systems. Operating system design issues, including buffering, page size, prefetching, etc. Query processing algorithms; design of crash recovery and concurrency contro

Units: 3

CSCI 230. Advanced Web Application Development

Prerequisite: CSCI 130 or permission of instructor. Application development for the World-Wide Web. Three-tier architecture; authentication, capability, and session management; versioning and open-source development. Case studies and project work. (Formerly CSCI 291T)

Units: 3

CSCI 244. Operating Systems

Prerequisite: CSCI 144. Operating system functions. Performance monitoring and fine-tuning. Network operating system design. Concurrency, analysis of deadlock. Selected topics from current research.

Units: 3

CSCI 246. Computer Architecture

Prerequisite: CSCI 144 or permission of instructor. Contemporary computer architectures. Pipelined, superscalar, shared and distributed memory, multicore and embedded systems. Memory hierarchy, computer arithmetic, interconnection networks. Selected topics from current research.

Units: 3

CSCI 250. Advanced Software Engineering

Prerequisite: CSCI 150 or permission of instructor. Theoretical and practical aspects of software engineering emphasizing requirements analysis, specification, design, coding, testing, correctness, maintenance, and management. Examination of reliability, performance, and software metrics.

Units: 3

CSCI 252. Software Development and Environments

Prerequisite: CSCI 150 or permission of instructor. Overview of advanced and state-of-the-practice software engineering methodologies and techniques for software development, software environments, software verification, software planning, or cost estimation. Selected topics from current research.

Units: 3

CSCI 253. Human-Computer Interaction

Prerequisite: CSCI 150 or permission of instructor. Software engineering approach to human-computer interaction. Design, evaluation, and implementation of user interfaces and experiences. Modeling, prototyping, inspection, and usability testing.

Relationship of user interface characteristics to attention, errors, and efficiency.

Units: 3

CSCI 256. Wireless Communications and Mobile Computing

Prerequisite: CSCI 156. Review of basic wireless communication concepts, protocols, and architectures. Study of IEEE 802.11 based wireless LANs, wireless mobile ad hoc networks, wireless sensor networks, and wireless mesh networks. Mobile IP and cellular networks. (Formerly CSCI 291T)

Units: 3

CSCI 264. Artificial Intelligence

Prerequisite: CSCI 164 or ability to program in Lisp and Prolog. Software technology for artificial intelligence systems, including expert systems. Knowledge- based and rule-based systems. Explanation and learning. User-oriented interfaces.

Units: 3

CSCI 272. Computer Graphics

Prerequisite: CSCI 172 or permission of instructor. 3-D transformations, visible surface algorithms, shading, textures, curves and surfaces, computer-aided design, advanced modeling techniques, solid modeling, advanced raster graphics architecture, advanced geometric and raster algorithms, user interface, ray tracing, animation techniques, and fractals.

Units: 3

CSCI 274. Combinatorial Algorithms

Prerequisite: CSCI 174. Design and analysis of efficient algorithms for combinatorial problems. Network flow theory, matching theory, augmenting-path algorithms, branch-and-bound algorithms, data structure techniques for efficient implementation of combinatorial algorithms, analysis of data structures, application of data structural techniques to sorting, searching, and geometric problems.

Units: 3

CSCI 282. Theory of Computation

Prerequisite: CSCI 188 or permission of instructor. General models of computation, recursive functions, undecidable problems, propositional calculus, predicate calculus, complexity classes, NP-complete problems.

Units: 3

CSCI 284. Automata Theory

Prerequisite: CSCI 186 or permission of instructor. Formal Languages, abstract machines, algebraic approach to automata, term rewriting systems, formal power series, cryptography, parallel computation.

Units: 3

CSCI 290. Independent Study

Prerequisite: approval of department. See Academic Placement - Independent Study. Approved for SP grading.

Units: 1-3, Repeatable up to 6 units

CSCI 291T. Seminar

Prerequisite: approval of instructor. Special topics in computer science of current interest and importance.

Units: 1-3, Repeatable up to 9 units

CSCI 297. Grad Synthesis

Prerequisite: Advancement to Candidacy and CSCI 201. A synthesis of selected areas in Computer Science, culminating in comprehensive exam covering these areas.

Units: 3

Course Typically Offered: Fall, Spring

CSCI 298. Research Project

Prerequisite: advancement to candidacy and CSCI 201 See Criteria of Thesis and Project. Independent investigation of an advanced topic as the culminating requirement for the master's degree. Approved for RP grading.

Units: 3

CSCI 298C. Project Continuation

Prerequisite: Project CSCI 298. For continuous enrollment while completing the project. May enroll twice with department approval. Additional enrollments must be approved by the Dean of Graduate Studies.

Units: 0

CSCI 299. Master's Thesis

Prerequisite: advancement to candidacy and CSCI 201. See. Criteria for Thesis and Project. Preparation, completion, and submission of an acceptable thesis for the master's degree. Approved for RP grading.

Units: 3-6

CSCI 299C. Thesis Continuation

Prerequisite: Thesis CSCI 299. For continuous enrollment while completing the thesis. May enroll twice with department approval. Additional enrollments must be approved by the Dean of Graduate Studies.

Units: 0

CONSUMER SCIENCE AND HOUSING (CSH)

CSH 116. Consumer Aspects of Home Ownership

Emphasis on benefits and obligations of home ownership. Analysis of the consumer processes of selecting, buying, and maintaining a home.

Units: 3

CALSTATE TEACH (CST)

CST 401. MSC Module 1: Curriculum, Instruction, and Intern Teaching in the Elementary School

Prerequisite: admission to CalStateTEACH program. Major emphasis on the foundations of education, teaching reading and mathematics, and assessment. ($500 course materials fee)

Units: 10

Course Typically Offered: Fall, Spring, Summer

CST 401A. Beginning Curriculum, Instruction, and Supervised Fieldwork in the Elementary School

Major emphasis on instructional planning and reading/language arts. Taken concurrently with CST 444; CSET preparation. ($500 course materials fee)

Units: 7

Course Typically Offered: Fall, Spring, Summer

CST 401B. Curriculum, Instruction and Supervised Fieldwork in the Elementary School

Continuation of CST 401A. Major emphasis on foundations of education, instructional planning, and reading and mathematics instruction and assessment. (No course materials fee)

Units: 3

Course Typically Offered: Fall, Spring, Summer

CST 401F. Multiple Subject Supervised Field Experience

Supervised field experience in elementary school classroom. Taken concurrently with CST 401B. CR/NC grading only.

Units: 3

Course Typically Offered: Fall, Spring, Summer

CST 402. MSC Module 2: Curriculum, Instruction, and Supervised Teaching in the Elementary School

Prerequisites: successful completion of CST 401 and subject matter competency (passage of CSET or subject matter equivalency verified by an academic adviser). Continued work in the foundations of education, teaching, reading, and mathematics. Major emphasis in teaching science, language arts, technology, and assessment. ($500 course materials fee)

Units: 10

Course Typically Offered: Fall, Spring, Summer

CST 403. MSC Module 2: Curriculum, Instruction, and Intern Teaching in the Elementary School

Prerequisite: successful completion of CST 402. Continued work in all curricular areas. Major emphasis in teaching social studies and mathematics, learning theory, and models of discipline. ($500 course materials fee)

Units: 10

Course Typically Offered: Fall, Spring, Summer

CST 404. MSC Module 4: Curriculum, Instruction, and Supervised Teaching in the Elementary School

Prerequisite: successful completion of CST 403. Continued work in all curricular areas. Major emphasis in reading diagnosis and remediation, integrated curriculum, technology, visual and performing arts, and physical education. ($500 course materials fee)

Units: 10

Course Typically Offered: Fall, Spring, Summer

CST 421. Multiple Subject Credential Module 1

Beginning Curriculum and Instruction in the Elementary School. Major emphases on Foundations of Education, Classroom Management, Instructional Planning, English Learners, Students with Special Needs, Reading & Mathematics Instruction, Educational Technology, and Assessment.

Units: 12

Course Typically Offered: Fall, Spring, Summer

CST 421A. Multiple Subject Credential Module 1A

Beginning Curriculum and Instruction in the Elementary School. Major emphases on Foundations of Education, Classroom Management, Instructional Planning, English Learners, Students with Special Needs, and Educational Technology.

Units: 6

Course Typically Offered: Fall, Spring, Summer

CST 421B. Multiple Subject Credential Module 1B

Beginning Curriculum and Instruction in the Elementary School. Major emphases on Instructional Planning, Reading & Mathematics Instruction, Educational Technology, and Assessment.

Units: 6

Course Typically Offered: Fall, Spring, Summer

CST 421S. Multiple Subject Supervised Fieldwork

Supervised early fieldwork participation in an assigned elementary school classroom.

Units: 3

CST 422. Multiple Subject Credential Module 2

Curriculum and Instruction in the Elementary School. Major emphases in Health, Classroom Management, Diversity, Science, Mathematics, Language Arts, Reading Diagnosis and Remediation, Educational Technology, Universal Design for Learning, and Assessment.

Units: 12

Course Typically Offered: Fall, Spring, Summer

CST 422A. Multiple Subject Credential Module 2A

Curriculum and Instruction in the Elementary School. Major emphases in Health, Classroom Management, Diversity, Science, Mathematics, Educational Technology, Universal Design for Learning, and Assessment.

Units: 6

Course Typically Offered: Fall, Spring, Summer

CST 422B. Multiple Subject Credential Module 2B

Curriculum and Instruction in the Elementary School. Major emphases in Language Arts, Reading Diagnosis and Remediation, Educational Technology, and Assessment.

Units: 6

Course Typically Offered: Fall, Spring, Summer

CST 422S. Multiple Subject Supervised Initial Student Teaching

Supervised initial student teaching in an assigned elementary school classroom.

Units: 3

Course Typically Offered: Fall, Spring, Summer

CST 423. Multiple Subject Credential Module 3

Curriculum and Instruction in the Elementary School. Major emphases in the Integrated Curriculum, Social Studies, Educational

Technology, Visual and Performing Arts, Physical Education and Assessment.

Units: 9

Course Typically Offered: Fall, Spring, Summer

CST 423S. Multiple Subject Supervised Student Teaching

Supervised full-day student teaching in an assigned elementary school classroom.

Units: 6

Course Typically Offered: Fall, Spring, Summer

CST 444. CSET Preparation

Prerequisite: admission to CalStateTEACH program. To be taken concurrently with CST 401A: CSET Track. Only for those students who have not passed the CSET and do not have subject matter equivalence. Designed to further basic skills in math, science, language arts, social studies, fine arts, and physical arts. CR/NC grading only.

Units: 3, Repeatable up to 6 units

Course Typically Offered: Fall, Spring, Summer

FOOD CULINARY SCIENCE (CULG)

CULG 50. Culinary Science I

Introduction to high quality food. Emphasis on principles of food safety, nutrition, food preparation, and sensory evaluation. (2 lecture, 2 lab hours) (Course fee, $25)

Units: 3

Course Typically Offered: Fall, Spring

CULG 55. Culinary Science II

Prerequisite: CULG 50. Advanced preparation of high quality food. Includes nouvelle cuisine, advanced plate presentation, advanced knife culinary skills and professional methods of production, including advanced cooking techniques. (2 lecture, 3 lab hours) (Course fee, $25)

Units: 3

Course Typically Offered: Spring

CULG 151. Food Product Development

Prerequisites: CULG 55, FSC 100, FSC 112. Experimental approach to development of new food products. Explores both scientific and marketing parameters of product development. Includes concepts of traditional wine and food pairings, food styling and presentation, and other culinary techniques. (2 lecture, 3 lab hours)

Units: 3

CULG 152. Techniques for Healthy Cooking

Prerequisites: CULG 50; NUTR 53 or NUTR 54 or permission of instructor; computer competency recommended. Planning a nutritious diet implementing the Dietary Guidelines for Americans. Cooking principles, recipe modification, and food selection at supermarkets and restaurants to increase dietary complex carbohydrates and decrease fat, sugar, and sodium. (2 lecture, 2 lab hours)(Course fee, $25)

Units: 3

Course Typically Offered: Spring

DANCE-THEATRE ARTS (DANCE)

DANCE 16. Introduction to Dance

Exploration of basic concepts, techniques and styles through study problems, video and critical readings. Dance concert attendance may be required. G.E. Breadth E1. (Formerly DANCE 116)

Units: 3

Course Typically Offered: Fall, Spring

GE Area: E1

DANCE 20. Physical Theatre

Incorporates the study of body awareness techniques, contact improvisation, commedia dell' arte, clown work, and other physical theatre traditions in an active exploration of actor training and expression.

Units: 3

Course Typically Offered: Spring

DANCE 70. balance BodyMind

Study of the alignment of the body and continuum between inner, cellular awareness of body through space. Promotes greater ease in movement; reduced emotional stress; knowledge of the body as process. Nondancers encouraged to enroll. G.E. Breadth E1. (Formerly DANCE 170)

Units: 3

GE Area: E1

DANCE 115. University Dance Theatre

A student organized course where the experiential, experimental, and exploratory nature of dance can be accessed. Focus is on achieving excellence through the preparation, performance, and production needs of completed works that are performed at the end of the semester. Not available for CR/NC grading.

Units: 1, Repeatable up to 9 units

Course Typically Offered: Fall, Spring

DANCE 117A. Modern Dance Technique

Basic aspect of modern dance technique. Emphasis on importance of breath, body alignment, and rhythmic coordination; total movement awareness.

Units: 1, Repeatable up to 2 units

DANCE 117B. Modern Dance Technique

Beginning-intermediate level study of movement fundamentals, locomotor activities, and expressive qualities; development of balance, strength, breath coordination, and technical ability.

Units: 1, Repeatable up to 2 units

DANCE 117C. Modern Dance Technique

Intermediate level of modern dance technique with emphasis on increasing skills in reading movement and expressing more complex patterns. This course further develops the core muscles supporting greater ease in sequencing body flow from center practice to sweeping locomotor phrases.

Units: 2, Repeatable up to 6 units

DANCE 117D. Modern Dance Technique

Advanced level in modern dance technique with elements of alignment, embodiment, flexibility, strength, and energy flow. Individual mastery as well as ensemble performance are stressed. Technique of Hawkins, Limon, Graham and developmental theories of bartenieff, Pilates, and bainbridge-Cohen are integrated.

Units: 2, Repeatable up to 12 units

DANCE 155A. Modern Jazz Dance

An in-depth study of jazz dance, using a modern dance foundation that emphasizes the fortification, stretching and reshaping of mind and body to help produce a more accomplished dancer.

Units: 1

DANCE 155B. Modern Jazz Technique

An in-depth intermediate/advanced level study of jazz dance using a modern dance foundation that will emphasize the fortification, stretching and reshaping of mind and body to help produce a more accomplished dancer.

Units: 1

DANCE 158A. ballet Technique

Elementary ballet technique. Emphasis on alignment, control and proper awareness of style and phrasing. Develops a foundation from which to build a dancer capable of a broad range of expression and demonstration to meet the demands placed on today's dancers.

Units: 1, Repeatable up to 2 units

DANCE 158B. ballet Technique

Intermediate study of elementary ballet technique combined with a more broad-based understanding of ballet as an art form through traditional exercises, with proper awareness of conditioning, style and phrasing.

Units: 1, Repeatable up to 2 units

DANCE 158C. ballet Technique

An intermediate/advanced level ballet class with emphasis on technique, artistry, and conditioning. Builds well-placed dancers capable of a broad range of expression and demonstration with skills that can readily adapt to the demands placed on today's dancers.

Units: 2, Repeatable up to 12 units

DANCE 158D. ballet Technique

Study of pre-professional advanced ballet technique with emphasis on performance preparation. Builds well-placed dancers capable of a broad range of expression and demonstration with impressive techical skills who can readily adapt to the demands placed on today's dancers.

Units: 2, Repeatable up to 12 units

DANCE 159. Music in Choreography

Study of Music Theory as it relates to modern and postmodern choreography. Development of the dancer's percussive and vocal abilities through the study of world music and rhythmic analysis.

Units: 3

DANCE 160. Creative Movement for Children

Introduction to the basic concepts, principles, and methodology needed to develop an awareness of the aesthetic experience through dance and creative movement. The aesthetic qualities of dance are stressed to develop the use of creative intelligence and imagination.

Units: 3

Course Typically Offered: Fall, Spring

DANCE 161. Musical Theatre

Training of actors for musical auditions through fundamental voice and movement techniques, study of how music and lyrics combine to suggest character, and study of relationship of song, scene, and choreography in various styles.

Units: 3

DANCE 163. Portable Dance Troupe Company Class

Prerequisite: permission of instructor. By audition only, held in fall semester and meets for two semesters. A repertory class consisting of rehearsing, understudying, and performing roles. This laboratory experience leads toward performances and touring.

Units: 2, Repeatable up to 8 units

Course Typically Offered: Fall, Spring

DANCE 164. Dance History

The historical development of dance from its origins to contemporary forms including diverse cultural perspectives.

Units: 3

DANCE 166. Dance Choreography

Investigation and practice of contemporary styles of choreography. Application of basic choreographic principles with emphasis on improvisation, form, content, current media and technology, group structures, movement invention and evaluative skills.

Units: 2, Repeatable up to 16 units

DANCE 170. Pilates Mat

Study and practice of Pilates Mat sequence incorporating principles of core strength and study of body masculature. Designed to give students an exercise program to supplement any type of physical activity. Emphasizes use of breath, leads to total body stengthening. (FOrmerly DANCE 174T)

Units: 3

Course Typically Offered: Fall, Spring

DANCE 171. Philosophical bases and Trends in Dance

Prerequisites: G.E. Foundation and Breadth Area C. The elements and principles common to all arts and their relationship to dance. G.E. Integration IC.

Units: 3

GE Area: IC

DANCE 174T. Topics in Dance

Selected topics may include philosophy, psychology, art, theatre, and music as related to dance.

Units: 1-3, Repeatable up to 12 units

DRAMA-THEATRE ARTS (DRAMA)

DRAMA 10. The Art of Theatre
Fundamental knowledge and skills required for study in the Theatre Arts Program which includes the literary basis, technique, visual impact, and presentation of drama.

Units: 3

Course Typically Offered: Fall

DRAMA 15. Dramatic Arts Laboratory
(Same as DRAMA 115.) Group laboratory experience in presentation of major productions for public performance. Not available for CR/NC grading.

Units: 1-2, Repeatable up to 9 units

Course Typically Offered: Fall, Spring

DRAMA 22. Oral Interpretation of Literature
Discovering and communicating intellectual and emotional meaning of the printed page through preparation and presentation of selected readings from prose, poetry, and drama. G.E. Breadth C1.

Units: 3

Course Typically Offered: Fall, Spring

GE Area: C1

DRAMA 30. Voice and Speech for Performance
Open to theatre arts majors and minors only. Principles of voice and speech for stage performance including the International Phonetics Alphabet, breathing, relaxation, resonance, enunciation, articulation, pronunciation, projection, expressiveness, and vocal characterization. (CAN DRAM 6)

Units: 3

Course Typically Offered: Fall

DRAMA 31. Stage Dialects
Prerequisite: DRAMA 30 or permission of instructor. A study of the distinctive vowel and consonant substitutions and shifts in resonance focus for select regional dialects. Includes a review and application of the International Phonetics Alphabet as an actor's tool for stage dialects. (Formerly, DRAMA 188T section)

Units: 3

DRAMA 32. Introduction to Acting
Not open to theatre arts majors except dance option. Open to theatre arts minors. A study of the physiological, sociological, and psychological components of acting. Includes role-paying in daily life; characterization; text analysis; diverse cultural and generational perspectives; and relaxation, voice, and body techniques. G.E. Breadth E1.

Units: 3

Course Typically Offered: Fall, Spring

GE Area: E1

DRAMA 33. Fundamentals of Acting
Open to theatre arts majors and minors only. Non-majors and minors, see DRAMA 32. Fundamental techniques and theories of acting; development of individual insight, skill, and discipline in the presentation of dramatic materials. (Can Dram 8)

Units: 3

Course Typically Offered: Fall

DRAMA 34. Theatre Crafts
Introduction to the crafts in technical theatre scene construction, scene painting, property selection, stage lighting, sound production; costume construction, and makeup; laboratory experience in preparing major plays for public performance.

Units: 3

Course Typically Offered: Fall, Spring

DRAMA 35. Intermediate Acting
Prerequisite: DRAMA 33. Intermediate studies in acting including text analysis, expansion of the actor's character range and audition techniques.

Units: 3

Course Typically Offered: Spring

DRAMA 41. Makeup for Theatre
Theory and practice of makeup for theatre; techniques for characterization, style, and technical processes. Emphasis on basic techniques; introduction to prosthetics. Preparing plays for major public performances. (Formerly DRAMA 135)

Units: 3, Repeatable up to 6 units

Course Typically Offered: Fall

DRAMA 62. Theatre Today
Not open to theatre arts majors. Perspectives on theatre, its origins, and contemporary forms. Explores theatre as an artistic medium for enhancing our understanding of human experience. Emphasis on the content, meaning, and entertainment value of drama in performance. G.E. Breadth C1.

Units: 3

Course Typically Offered: Fall, Spring

GE Area: C1

DRAMA 75H. Theatre in Contemporary American Culture
Open only to Smittcamp Honors College students. Introduction to the practice and scholarship of American theatre today. Application of critical methodology to four areas of theatrical production (1) Theatre architecture, (2) Acting, (3) Directing, (4) Design. Attendance at 2-3 theatre performance required.

Units: 3

GE Area: C1

DRAMA 77. Community Service - Theatre
Directed field experience developing skills in theatre or dance through a performance or design project; projects may include work with community service or other nonprofit organizations, public schools, special events, and other projects approved by the faculty supervisor.

Units: 1-3, Repeatable up to 6 units

Course Typically Offered: Fall, Spring

DRAMA 89. Projects in Production
(Same as DRAMA 189.) Prerequisite: permission of instructor.

Group projects in all phases of production in laboratory theatre.

Units: 1-3, Repeatable up to 9 units

Course Typically Offered: Fall, Spring

DRAMA 110. Design for the Theatre

Comprehensive study of design aesthetics and application of design to theatrical production, including scenery, costume, lighting, sound, and makeup. Laboratory application, material for major public performance.

Units: 3

Course Typically Offered: Fall, Spring

DRAMA 115. Dramatic Arts Laboratory

(See DRAMA 15 .) Not available for CR/NC grading.

Units: 1-2, Repeatable up to 15 units

Course Typically Offered: Fall, Spring

DRAMA 131. Fundamentals of Playwriting

Exercises in plotting, characterization, exposition, and stage business, critical analysis, and revision of manuscripts.

Units: 3, Repeatable up to 9 units

Course Typically Offered: Fall, Spring

DRAMA 132. Advanced Acting: Period Styles

Prerequisite: DRAMA 35. A study of styles of acting ranging from Greek Tragedy to Theatre of the Absurd with special emphasis on playing Shakespeare.

Units: 3, Repeatable up to 6 units

Course Typically Offered: Fall

DRAMA 133. Advanced Acting: Scene Study

Prerequisite: DRAMA 35. Advanced techniques including script analysis, characterization, physicalization, and emotional commitment, developed through improvisation and scene study.

Units: 3, Repeatable up to 6 units

Course Typically Offered: Spring

DRAMA 134A. Advanced Theatre Craft

Prerequisite: DRAMA 34. (A) Advanced training in scenic techniques and allied technology. Laboratory application to major public productions. (B) In-depth survey of each phase of the costume design and production process. Laboratory application to major public performances.

Units: 3

DRAMA 134B. Advanced Theatre Craft

Prerequisite: DRAMA 34. (A) Advanced training in scenic techniques and allied technology. Laboratory application to major public productions. (B) In-depth survey of each phase of the costume design and production process. Laboratory application to major public performances.

Units: 3

DRAMA 136S. Puppetry

Introduction to the art of puppetry: history, construction, manipulation, script writing, and basic concepts in art and theatre; use of puppets in educational and recreational settings. (S sections include a service-learning requirement (see Community Engagement and Service Learning in the General Catalog)

Units: 3

Course Typically Offered: Fall, Spring

DRAMA 137. Creative Dramatics

(DRAMA 137 same as CI 137.) Basic techniques for the use of dramatization in elementary education; sociodrama, dramatization of school subjects, creative dramatic play; simplified staging techniques.

Units: 3, Repeatable up to 6 units

Course Typically Offered: Fall, Spring

DRAMA 138A. Children's Theatre

(138B; max total 6) (A) Directing Theatre for Youth; theory, practice, and applications of theatre for children and adolescents; children's plays are examined through reading, discussion, and scene study. (B) Prerequisite: permission of instructor. Theatre for Young Audiences Tour; experience touring children's theatre productions for public performances.

Units: 3, Repeatable up to 6 units

Course Typically Offered: Fall, Spring

DRAMA 138B. Children's Theatre

(A) Theory, practice, and applications of theatre for children and adolescents; children's plays are examined through reading, discussion, and scene study. (B) Prerequisite: permission of instructor. Theatre for Young Audiences Tour; experience touring children's theatre productions for public performance.

Units: 3, Repeatable up to 6 units

Course Typically Offered: Fall, Spring

DRAMA 139. Fundamentals of Play Direction

Prerequisite: DRAMA 33. Fundamental techniques and theories of stage direction; function, responsibility, movement, analysis, style; practice in directing scenes.

Units: 3

Course Typically Offered: Fall

DRAMA 150. Acting for Film

Introduction to specific performance, terminology, working in studio and on location front-of-camera experience. Introduction to industry standards regarding resume/photo preparation, audition, union information, agency representation, and professional development. (Formerly DRAMA 188T)

Units: 3

DRAMA 151. Stage and Production Management

Principles and techniques of stage and production management as applied to professional, educational, and community theatre and applied media; production, audition, rehearsal process, and organization; technical and performance process and procedures; production personnel and cost management.

Units: 3

Course Typically Offered: Fall

DRAMA 155. Sound in the Theatre

Theory, techniques, and procedure necessary to develop and

integrate sound, music, and effects in theatre production; hearing, acoustics, environment, sources, transducers, control, systems, equipment; organization and planning. Laboratory experience in preparing plays for a major public performance.

Units: 3

Course Typically Offered: Spring

DRAMA 157. Theatre Graphics

Development of rendering technique and other graphic skills essential to design for the theatre.

Units: 3, Repeatable up to 6 units

DRAMA 163. Dramatic Literature

Prerequsite: G. E. Foundation and Breadth Area C. Critical analysis of various types and styles of plays with respect to their form, meaning, and theatricality. G.E. Integration IC.

Units: 3

Course Typically Offered: Fall, Spring

GE Area: IC

DRAMA 177. Community Service: Theatre Arts

Directed field experience developing skills in theatre or dance through a performance or design project; projects may include work with community service or other nonprofit organizations, public schools, special events, and other projects approved by the faculty supervisor.

Units: 1-3, Repeatable up to 6 units

DRAMA 179. Playwrights' Theatre

Prerequisite: permission of instructor. Presentation and readings of original and classical plays.

Units: 1-2, Repeatable up to 6 units

DRAMA 180A. Scene Design for Theatre

Prerequisite: DRAMA 34. (A) Styles, techniques, and methods of scene design; history. Laboratory application, material for major public performance. (B) Scenery design; design problems of a complicated play; experimental ideas; new materials. Laboratory application, material for major public performance.

Units: 3, Repeatable up to 6 units

Course Typically Offered: Fall

DRAMA 180B. Scene Design for Theatre

Prerequisite: DRAMA 34. (A) Styles, techniques, and methods of scene design; history. Laboratory application, material for major public performance. (B) Scenery design; design problems of a complicated play; experimental ideas; new materials. Laboratory application, material for major public performance.

Units: 3, Repeatable up to 6 units

Course Typically Offered: Spring

DRAMA 181A. Costume History for Theatre

A survey of historical periods of dress from early Egyptian civilizations to present day with an emphasis on application for stage usage. No prerequisites required..

Units: 3

Course Typically Offered: Spring - odd

DRAMA 181B. Costume Design for Theatre

Costume design for theatre and dance incorporating analysis of script, research of historical period, selection of fabric, preparation of budget, and rendering of plates. Emphasis on illustration and design elements.

Units: 3, Repeatable up to 6 units

DRAMA 182A. Stage and Television Lighting

Prerequisite: DRAMA 34 or DRAMA 134A-B. (A) Instruments, control, color, electromechanical factors and simplified design and planning lighting leading to and resulting in a major public performance. (B) Lighting as an art, design concepts; lighting plots, projections, sequential cue relationships. Laboratory application, material for major public performance.

Units: 3

Course Typically Offered: Fall

DRAMA 182B. Stage and Television Lighting

Prerequisite: DRAMA 34 or DRAMA 134A-B. (A) Instruments, control, color, electromechanical factors and simplified design and planning lighting leading to and resulting in a major public performance. (B) Lighting as an art, design concepts; lighting plots, projections, sequential cue relationships. Laboratory application, material for major public performance.

Units: 3

Course Typically Offered: Spring

DRAMA 185. History of the Theatre and Drama I

History of European theatre and component arts from ancient Greece through the mid-19th century; analysis of representative examples.

Units: 3

Course Typically Offered: Fall

DRAMA 186. History of the Theatre and Drama II

Prerequisite: DRAMA 163. From Ibsen to the present; analysis of representative examples.

Units: 3

Course Typically Offered: Spring

DRAMA 187. African-American Theatre

(DRAMA 187 same as AAIS 165.) Performance, scene development, and dramatic styles consistent with the African American experience. Exploration of cross-cultural aesthetics as they inform creative development. Development of self-written or published scenes and plays. (Formerly AFAM 165)

Units: 3, Repeatable up to 6 units

DRAMA 188T. Topics in Theatre Arts

Prerequisite: permission of instructor. Selected topics may include acting, children's theatre, creative dramatics, play direction, technical theatre, theatre history, dramatic literature, and theatre administration. (May include lab hours)

Units: 1-6, Repeatable up to 9 units

DRAMA 188T. Design: Focus in Film

Overview of Visual Design in film and design theory. Examines what qualities specific film genres share from a visual point-of-

view and analyzing how these qualities continue to effect design in modern film making and the stage. Developing a broader film reference by increasing the student's explosure to pivotal films covering a spectrum of historical and contemporary styles.

Units: 3, Repeatable up to 9 units

DRAMA 188TZ. British Theatre

Units: 3, Repeatable up to 9 units

GE Area: IC

DRAMA 189. Projects in Production

(See Drama 89 .)

Units: 1-3, Repeatable up to 9 units

Course Typically Offered: Fall, Spring

DRAMA 190. Independent Study

See Academic Placement - Independent Study. Approved for RP grading.

Units: 1-3, Repeatable up to 6 units

Course Typically Offered: Fall, Spring

DRAMA 194. Shakespeare

(ENGL 189 same as DRAMA 194.) Reading and writing analysis of major works of Shakespeare.

Units: 4

DECISION SCIENCES (DS)

DS 71. Quantitative Analysis

Prerequisite: students must take the ELM exam; students who do not pass the exam must record a grade of C or better in a college-taught intermediate algebra course. Quantitative formulation and solution of problems in various disciplines, including mathematics of finance, linear programming, probability, and differential calculus. G.E. Foundation B4.

Units: 3

Course Typically Offered: Fall, Spring

GE Area: B4

DS 71L. Quantitative Analysis Lab

Prerequisite: Concurrent enrollment in DS 71. DS 71L is not required for DS 71. Extends instruction in DS 71, providing three hours of additional support per week. One-on-one tutoring. Small group and technology-enhanced instruction relating to DS 71 curriculum. CR/NC grading only. (Does not apply to major.)

Units: 1

Course Typically Offered: Fall, Spring

DS 73. Statistical Analysis I

Prerequisites: ELM exam, DS 71 or equivalent; ECON 40, ECON 50 recommended. Introduction to descriptive statistical tools as applied to management decision making. Central tendency and dispersion measures; index numbers (CPI deflators); time series analysis (trends, seasonal variations)probability theory; probability and sampling distributions (normal, exponential, binomial, Poisson); central limit theorem.

Units: 3

Course Typically Offered: Fall, Spring

DS 73L. Statistical Analysis I Lab

Prerequisite: Concurrent enrollment in DS 73. DS 73L is not required for DS 73. Extends instruction in DS 73, providing three hours of additional support per week. One-on-one tutoring. Small group and technology-enhanced instruction relating to DS 73 curriculum. (Does not apply to major.) CR/NC grading only.

Units: 1

Course Typically Offered: Fall, Spring

DS 123. Statistical Analysis II

Prerequisites: DS 71, DS 73, IS 52, IS 52L. Statistical inference as applied to managerial problems and decision making. Emphasizes the inferential process; interval estimation, hypothesis testing, one- and two-way analysis of variance, regression, and correlation a

Units: 3

DS 123L. Statistical Analysis II Lab

Prerequisite: Concurrent enrollment in DS 123. DS 123L is not required for DS 123. Extends instruction in DS 123, providing three hours of additional instructional support per week. One-on-one tutoring, small group and technology enhanced instruction relating to DS 123 curriculum. CR/NC grading only. (Does not apply to major).

Units: 1

Course Typically Offered: Fall, Spring

DS 189T. Topics in Decision Sciences

Prerequisites: 12 units in decision sciences. Theory or application of statistics or operations research applied to current developments.

Units: 1-3, Repeatable up to 6 units

DS 189T. Data Analytics

Prerequisite: DS 123 or consent of instructor. Analysis of large datasets to discover relationships and improve prediction and decision making. Techniques include data visualization, online analytical processing, multiple regression, logistic regression, principal component recursive portioning, and neutral networks. Management applications and software tools.

Units: 3

DS 190. Independent Study

See Academic Placement - Independent Study. Approved for RP grading.

Units: 1-3, Repeatable up to 6 units

Course Typically Offered: Fall, Spring

DS 195. Internship

Prerequisite: permission of internship coordinator. Requires 150 hours of work at a prequalified, academically-related work station (business, government, or nonprofit agency.) Reflective journal, final report, and work station evaluation. CR/NC grading only. As a course substitution, prior department approval required. Only one internship may count towards option requirements.

Units: 3, Repeatable up to 6 units

Course Typically Offered: Fall, Spring

EDUCATIONAL ADMINISTRATION (EAD)

EAD 259. Conflict Resolution in Organizations

Highlights issues related to conflict resolution in organizations. Topics include defining and diagnosing conflict, communication, power as a variable of conflict, steps in resolving conflict, defining positions, interests and needs, negotiation, mediation and arbitration. (Formerly EAD 278T)

Units: 1

EAD 261. Introduction to Education Administration

Initial course in Education Administration sequence. Development of knowledge and skills central to managing educational organizations.

Units: 3

EAD 262. Education Leadership

Prerequisites: EAD 261. Initial course in education leadership. Development of knowledge and skills essential to organizational leadership.

Units: 3

EAD 263. Seminar in Instructional Supervision

Prerequisites: EAD 261, EAD 262. Seminar for clarification and application of modern concepts and techniques of supervision; practice in leadership roles, promoting productive human relationships, developing communication skills, and evaluation of teaching; ways of helping teachers in their credential fields.

Units: 4

EAD 264. Seminar in the Legal Aspects of Education

Prerequisites: teaching experience; EAD 261. A case study approach in reviewing important court decisions, both state and federal, that have directly affected the public schools. Legal relationships in public education applied to federal, state, and local levels.

Units: 2

EAD 265. Seminar in School-Community Relations

Prerequisite: EAD 261. Seminar on interaction with community forces, news media, political agencies, and minority groups in policy analysis and development; databased decision-making and analysis.

Units: 2

EAD 266. Seminar in School Finance and Business Administration

Prerequisite: EAD 261. Economic perspectives and practices of school finance and business admin istration; local, state, and federal responsibility for financial support of education. (2 seminar hours)

Units: 2

EAD 269. Site-based Leadership

Prerequisites: EAD 261, EAD 262, EAD 263, EAD 272. Includes essentials of site leadership: school law, finance, community relations, personnel, and support services. In-depth research into restructuring, teacher empowerment, and student achievement in culturally diverse schools.

Units: 4

EAD 271. Seminar in School Facilities

Prerequisite: preliminary credential or permission of instructor. Emphasis on planning, design, and function of educational facilities so they are consistent with the educational goals of the school and school district. (2 seminar, 2 lab hours)

Units: 3

EAD 272. Advanced Curriculum Design and Development

Prerequisites: EAD 261 or permission of instructor. Nature and scope of curriculum development; administrative determiners of curriculum; influence of governmental agencies and organizations, foundations, business and industry, and power structures as curriculum determiners; international influence on curriculum development and curriculum evaluation at various levels of govenmental operation.

Units: 4

EAD 273. Ethical and Professional Issues in Education Administration

Prerequisite: Preliminary Administrative Services Credential or permission of instructor. Seminar on the ethical and professional issues of administrative professionalism, examined in the context of the various roles the administrator is expected to perform as a practitioner.

Units: 3

EAD 274. Instructional Systems and Leadership for Equity

Equip students with the knowledge and skill to create systemic and systematic responses to adress the diverse levels of student need and use evidence of student learning to create and deeply embed a culture of equity and continuous improvement.

Units: 3

EAD 275. Seminar in Advanced Techniques of Personnel Administration in Education

Prerequisite: EAD 261. Advanced techniques of staff improvement in-service, staff participation in policy making, improvement of communication channels and methods of communication, economic and contractual relationships,and improvement of working condition; work and responsibility of nonteaching staff members.

Units: 2

EAD 277. Computer Applications in Education Administration

Prerequisite: preliminary credential or permission of instructor. Factors relating to assessment and implementation of computer applications to support educational programs and administrative operations in school districts, including computer assisted instruction, student personnel, fiscal and property controls, personnel, and related educational and business functions characteristic of school districts. (2 seminar, 2 lab hours)

Units: 3

EAD 278T. Topics in Advanced Education Administration

Prerequisite: preliminary credential or permission of instructor. Seminar covering special topics relating to education administration: new developments in education administration, special populations, and current research.

Units: 1-3, Repeatable up to 8 units

EAD 278T. Diversity in US Higher Education

The goal of this course is to provide campus leaders with timely, cutting-edge, and actionable information they can share with members of their campus community on a broad range of topics revolving around diversity and inclusion in the U.S. higher education.

Units: 3

EAD 278T. Student Affairs in Higher Education

This course is designed for current or prospective educational leaders who will lead in today's complex educational environment. The following issues will be addressed: student discipline, personnel issues, property issues, religious and cultural issues, and man unexpected issues and situations.

Units: 3, Repeatable up to 8 units

EAD 278T. School Accounting

Units: 3

EAD 279. Advanced Administration Fieldwork

Prerequisites: employment in a position requiring an Administrative Services Credential and permission of instructor. Supervision of Professional Administrative Services Credential candidates in their place of employment. The type of assignment will depend on requirements of the university and will be individually developed in corporation with candidate's employer. Includes seminar discussion of field experience and required research. CR/NC only. (40 hours required for 1 unit)

Units: 1-8

EAD 280T. Topics in Professional Development

Prerequisite: preliminary credential or adviser permission. Advanced-level studies in theory, procedures, and application of education administration principles. Includes such topics as: community advisory committees, marshalling resources, interventions for school improvements, technology utilization, and restructuring. CR/NC only.

Units: 1-3, Repeatable up to 4 units

EAD 280T. Assessment, Analysis and Information Systems

This course focuses on building students' knowledge and skill in (a) developing, deploying, and sustaining a quality information management and performance measurement system and (b) analyzing and using performance data and information to drive next best step decisions and continuous system improvement.

Units: 3, Repeatable up to 12 units

EAD 281. Transformational Leadership

Prerequisite: EAD 283 and permission of instructor. A course for experienced practitioners in organizational development. Interventions for restructuring, including site-based management, staff development, strategic planning, and team building, as well as individual and community iterventions aimed at transforming schools and other organizations into world class operations.

Units: 2

EAD 283. Professional Development Induction

Prerequisites: preliminary administrative services credential, full-time employment in an administrative position, and permission of instructor. A professional development course is required for the professional administrative services credential. First course among advanced credential requirements. RP or CR/NC grading only.

Units: 2

EAD 284. Professional Development Assessment

Prerequisites: completion of professional administrative services credential coursework and permission of instructor. A professional development course is required for the professional administrative services credential to verify satisfactory completion of the induction plan and individualized course of study to meet the advanced credential requirements. Final course among the advanced credential requirements. CR/NC only.

Units: 2

EAD 287. Internship I

Prerequisites: employment in a position requiring an administrative services credential, Concurrent enrollment in EAD 261, and permission of adviser. Supervised administrative practice with emphasis on leadership, school management, classroom supervision, and community relations, while employed in a full time position requiring an administrative services credential. Includes seminar discussion of internship experiences, professional development plan, and required research. CR/NC only. (CSU liability insurance fee, $8)

Units: 3

EAD 288. Internship II

Prerequisites: employment in a position requiring an administrative services credential, completion of EAD 261, EAD 262, EAD 272, and CI 285, taken concurrently with EAD 263 and EAD 269, and permission of adviser. Supervised administrative practice with emphasis on continuation of professional development plan, leadership, school management, classrooms supervision, and community relations. Student must be employed in a full time position requiring an administrative credential. Includes seminar discussions of internship experiences and required research. CR/NC only. (CSU liability insurance fee, $8)

Units: 3

EAD 290. Independent Study

See Academic Placement - Independent Study. Approved for SP grading.

Units: 1-3, Repeatable up to 6 units

EAD 298. Project

Prerequisites: advancement to candidacy for the master's degree; B average on 24 units of the master's program including ERE 220. See Criteria for Thesis and Project. A project consists of a

significant undertaking appropriate to graduate study in education. An approved proposal is required for enrollment. Approved for RP grading.

Units: 4

EAD 298C. Project Continuation

Prerequisite: Project EAD 298. For continuous enrollment while completing the project. May enroll twice with department approval. Additional enrollments must be approved by the Dean of Graduate Studies.

Units: 0

EAD 299. Thesis

Prerequisites: advancement to candidacy for the master's degree; B average on 24 units of the master's program including, ERE 220 and completion of an acceptable thesis proposal. See Criteria for Thesis and Project. Preparation, completion, and submission of an acceptable thesis for the master's degree. See Kremen School of Education and Human Development's graduate programs coordinator for school thesis guidelines. Approved for Rp grading.

Units: 4

EAD 299C. Thesis Continuation

Prerequisite: Thesis EAD 298. For continuous enrollment while completing the thesis. May enroll twice with department approval. Additional enrollments must be approved by the Dean of Graduate Studies.

Units: 0

ELECTRICAL AND COMPUTER ENGINEERING (ECE)

ECE 1. Introduction to Electrical and Computer Engineering

Orientation to electrical and computer engineering via hands-on exercises and projects; introduction to circuits, components, instrumentation, and electronic prototyping; computer productivity tools; hardware and software trouble shooting. (3 lab hours)

Units: 1

Course Typically Offered: Fall, Spring, Summer

ECE 70. Engineering Computations Using C

Prerequisites: Math 75 or Math 75A (may be taken concurrently); students who do not pass the exam must record a grade of C or better in a college-taught intermediate algebra course; trigonometry. Use of C computer languages in engineering analysis and design. A systematic development in program structure, specification, testing, and debugging.

Units: 3

ECE 71. Engineering Computations

Prerequisite: Math 75 or concurrently. Use of C programming language in engineering analysis and design. A systematic development in program structure, specification, documentation, testing, and debugging.

Units: 3

Course Typically Offered: Fall, Spring

ECE 72. Introduction to Electrical and Computer Engineering Tools

Prerequisites: ECE 71 or CSCI 40. Introduction to engineering applications; use of Matlab software in analysis and synthesis, basic commands, data arrays, plotting and data presentation, data transfer, computation with loops, iterative solutions, integration with C programming, and technical problem solving.

Units: 2

Course Typically Offered: Fall, Spring

ECE 85. Digital Logic Design

Prerequisites: ECE 1 and MATH 75 . Discrete mathematics, logic, and Boolean algebra. Number systems and binary arithmetic, combinatorial logic and minimization techniques. Analysis and design of combinatorial circuits using logic gates, multiplexers, decoders, and PLD's. Flipflops, multivibrators, registers, and counters. Introduction to synchronous sequential circuits and state machines.

Units: 3

Course Typically Offered: Fall, Spring

ECE 85L. Digital Logic Design Laboratory

Prerequisite: ECE 85 or concurrently. Usage, design, and implementation techniques for combinational and sequential circuits. Experiments utilizing logic gates, Karnaugh maps, multiplexers, decoders, programmable logic devices, latches, flipflops, counters and shift registers. Combinational and state machine design projects. Computer Assisted Engineering (CAE). (3 lab hours)

Units: 1

Course Typically Offered: Fall, Spring

ECE 90. Principles of Electrical Circuits

Prerequisites: MATH 77 or concurrently, PHYS 4B. Direct-current circuit analysis; circuit theorems; transient phenomena in RL and RC circuits, introduction to operational amplifiers, phasor concept; AC steady-state circuit analysis, sinusoidal steady-state response; power and RMS calculations in single-phase alternating-current circuits; principles of electrical instruments; computer solutions circuit simulation using Spice or other contemporary software tools. (CAN ENGR 12)

Units: 3

Course Typically Offered: Fall, Spring

ECE 90L. Principles of Electrical Circuits Laboratory

Prerequisite: ECE 90 or concurrently, Phys 4BL. Experiments on direct transient, and single phase alternating current circuits. Use of basic electrical instruments, development of laboratory techniques, and verification of basic circuit laws and principles. (3 lab hours)

Units: 1

Course Typically Offered: Fall, Spring

ECE 91. Introduction to Electrical Engineering

Prerequisites: PHYS 4B; MATH 76. (No credit given for ECE 91 if taken after ECE 90). Direct current circuit analysis, transient and AC steady state circuit analysis, basic electronics, diodes, transistors, digital systems, digital logic circuit, simple microprocessors, DC and AC machines.

Units: 3

Course Typically Offered: Fall, Spring

ECE 91L. Introduction to Electrical Engineering Laboratory

Prequisites: ECE 91 or concurrently. Experiments on direct and alternating current circuits, basic electronics, digital logic circuits, and electric machines.

Units: 1

Course Typically Offered: Fall, Spring

ECE 102. Advanced Circuit Analysis

Prerequisites: ECE 72, (or concurrently), ECE 90, MATH 81 or ENGR 101. Single and polyphase AC circuits, transfer functions, mutual inductance, transformers, two-port circuits, pole-zero analysis, Bode plots, stability concepts, circuit response to periodic inputs, Laplace solution techniques, frequency response, passive and active circuits, design and circuit simulation tools.

Units: 3

Course Typically Offered: Fall

ECE 103. Professional Development Skills

Contemporary issues in electrical and computer engineering; ethics in engineering; leadership and professional skills important for a successful career; problem formulation and solving; engineering and the society.

Units: 2

Course Typically Offered: Fall

ECE 106. Switching Theory and Logical Design

Prerequisites: ECE 85 or equivalent. Analysis and design of sequential digital circuits; State Machine analysis; and design, Mealy and Moore State Machine; state minimization and assignment techniques; one-hot state assignment; algorithmic state machine

Units: 3

Course Typically Offered: Spring

ECE 107. Digital Signal Processing

Prerequisites: ECE 124. Time and frequency domain analysis of discrete time signals and systems, digital processing of continuous time signals, FIR, IIR, lattice filter structures, filter design, hardware implementation issues, computer aided design and evaluation.

Units: 3

Course Typically Offered: Spring

ECE 114. Physical Electronics

Prerequisites: PHYS 4C, ECE 128 or concurrently. Semiconductor fundamentals, crystal structures and semiconductor materials, element quantum mechanics, energy bands and charge carriers, statistics. Integrated circuits and modern fabrication technology for discrete and intergrated devices. Operation principles of discrete devices; PN junction diode, BJT, MOS FET, and JFET, and opto-electronic devices.

Units: 3

ECE 115. Computer Organization

Prerequisites: ECE 85 and either CSCI 40 or ECE 70. Structural organization, hardware architecture and design of digital computer systems; binary representation of data; CPU, memory and I/O organization; register transfer, micro-operations and microprogramming; hardware/software design trade-offs. Introduction to RISC architecture and memory organization.

Units: 3

Course Typically Offered: Spring

ECE 118. Microprocessor Architecture and Programming

Prerequisite: ECE 85 and either CSCI 40 or ECE 71. Introduction to microprocessor software, hardware and interfacing. The emphasis is on learning assembly language programming, microprocessor architecture and its associated peripherals.

Units: 3

Course Typically Offered: Fall, Spring

ECE 118L. Microcontroller Laboratory

Prerequisite: ECE 118 and ECE 85L. Lab is intended to solidify and build upon ECE 118 class. Experiments on microcontroller and its associated peripheral I/O subsystems. Hands-on program controlled I/O, timer, parallel and serial I/O communications, A/D and subsystem interfacing. Design projects. (3 lab hours)

Units: 1

Course Typically Offered: Fall, Spring

ECE 119L. Programmable Logic Controllers

Prerequisite: ECE 118. Hands-on experience in topics in micro controllers and automation processes. (3 lab hours)

Units: 1

ECE 121. Electromechanical Systems and Energy Conversion

Prerequisites: ECE 72 or ME 2; ECE 90 or ECE 91. Principles and applications of direct- and alternating-current machinery and other energy-conversion apparatus; Introduction to power electronics and machine drives.

Units: 3

Course Typically Offered: Spring

ECE 121L. Electromechanical Systems and Energy Conversion Laboratory

Prerequisites: ECE 90L or ECE 91L, and ECE 121 or concurrently. Experiments and computations on direct- and alternating-current machinery and on other energy- conversion devices and associated apparatus. (3 lab hours)

Units: 1

Course Typically Offered: Spring

ECE 124. Signal and Systems

Prerequisites: ECE 2, ECE 90; MATH 81 or ENGR 101. Modeling and analysis of discrete and continuous linear systems and signals. Fourier transforms, and Fourier series, and differential equations, time and frequency response; system analysis via Laplace-and Z-transofrms; state-equations and linear algebra. Stability analysis. Engineering applications and simulation using Matlab.

Units: 4

Course Typically Offered: Fall, Spring

ECE 125. Probabilistic Engineering Systems Analysis

Prerequisites: ECE 124. Probability theory, single and multiple discrete and continuous random variables and their characterization, transformations of random variables, principles of random variables, principles of random sampling, estimation theory, engineering decision principles, data analysis, reliability theory, applications to quality control in manufacturing process systems.

Units: 3

Course Typically Offered: Spring

ECE 126. Electromagnetic Theory and Applications I

Prerequisite: Math 81 or concurrently, ECE 90. Electrostatics; boundary value problems; magnetostatics; time-varying fields; Maxwell's equations. Transmission of electromagnetic energy.

Units: 3

Course Typically Offered: Fall, Spring

ECE 128. Electronics I

Prerequisite: ECE 90. Characteristics and properties of solid state devices; theory and analysis of electronic circuits; power supply design; device and circuit models; single- and multi-stage amplifier analysis and design; analysis of digital circuits; circuit stimulation using Spice or other contemporary software tools.

Units: 3

Course Typically Offered: Fall, Spring

ECE 128L. Electronics I Laboratory

Prerequisites: ECE 90L and ECE 128 or concurrently. Experiments on static and dynamic characteristics of solid state devices in analog and digital electronic circuits; computer solutions as appropriate. (3 lab hours)

Units: 1

Course Typically Offered: Fall, Spring

ECE 132. Design of Digital Systems

Prerequisites: ECE 118. Design of Digital Systems utilizing microprocessors; application of assembly programming language to input/output programming, interrupts and traps, DMA and memory management.

Units: 3

ECE 134. Analog and Digital Communication Engineering

Prerequisite: ECE 124; and ECE 125 (may be taken concurrently).Mathematical modeling of signals and systems, linear and nonlinear modulation theory, demodulators, link analysis and design, phase-lock loops, sampling theory and signal reconstruction, digitization techniques, basic digital information transmission, noise models, effect of noise on communication systems, computer simulations

Units: 3

Course Typically Offered: Fall

ECE 134L. Communication Engineering Lab

Prerequisite: ECE 134 or concurrently; senior standing in ECE. Experiments on communication signals and systems including modulation and demodulation, receiver architectures, operation of phase-lock loops, and use of eye diagrams in digital modulation schemes. (3 lab hours).

Units: 1

ECE 135. Wireless Communication Systems

Prerequisite: ECE 125, ECE 134. Principles of digital signal transmission and reception; binary, M-ary, and hybrid digital modulation techniques; channel and receiver front-end noise effects; statistical performance receiver analysis; source coding; block and convulutional channel coding; block decoding and VDA, channel fading and multipath; equalizaion; cellular systems; Spread Spectrum and CDMA; computer simulations.

Units: 3

ECE 136. Electromagnetic Theory and Applications II

Prerequisite: ECE 126. Plane wave propagation and reflection; waveguides; strip-lines and microstrip impedance matching, microwave circuits and S-parameters; amplifier power gain and stability, amplifier design, antenna analysis and design; methods for computer solution.

Units: 3

ECE 136L. Electromagnetic Theory and Applications

Prerequisite: ECE 136 or concurrently. Experiments on the transmission of electromagnetic energy through wires, waveguides, and space; filters and antennas; impedance matching; cross-over networks; location of faults on lines. (3 lab hours)

Units: 1

ECE 138. Electronics II

Prerequisites: ECE 102, ECE 128. Analysis and design of high frequency amplifiers; high frequency models of transistors; operational amplifiers and applications; feedback amplifiers; oscillators, modulators, bandpass amplifiers, and demodulators for communications. Emphasis on modern design methods.

Units: 3

Course Typically Offered: Spring

ECE 138L. Electronics II Laboratory

ECE 128L and ECE 138 or concurrently. Design oriented experiments to study the characteristics, limitations, and design tradeoffs of circuits from ECE 138. Emphasis on circuit and system design to meet preestablished specifications. Design project included; computer solutions as appropriate. (3 lab hours)

Units: 1

Course Typically Offered: Spring

ECE 140. VLSI System Design

Prerequisites: ECE 118, ECE 128. Emphasis on the design of a full custom VLSI systemusing contemporary CAD tools. Digital circuit design, CMOS circuit and layout principles, fabrication principles, physical and electrical design rules, control and data path design techniques, system timing, design verification, simulation and testing.

Units: 3

ECE 146. Computer Networks

Prerequisites: ECE 118 or CSCI 113. Analysis, theory, and modeling of modern computer networks; layered architecture of computer network protocols; flow and error control; circuit and packet switching; routing and congestion control; local area networks;

Internet protocols; quantitative performance analysis: probability, random process, and queuing theory.

Units: 3

ECE 148. Analysis and Design of Digital Circuits

Prerequisites: ECE 85, ECE 128. Analysis and design of solid state digital circuits utilizing various logic families suitable for integration: TTL, ECL, NMOS, CMOS; logic gates; multivibrators; ROM, PROM, EPROM, and EEPROM; SRAM and DRAM.

Units: 3

ECE 151. Electrical Power Systems

Prerequisites: ECE 90. Power system networks and equipment, power flow, symmetrical components, short circuits analysis, introduction to economic dispatching and stability analysis, applications and use of software in power system analysis.

Units: 3

ECE 152. Power Systems Protection and Control

Prerequisites: ECE 151 and ECE 155 or concurrent. Transmission and distribution systems, protection and coordination, stability analysis, voltage and frequency control, system modeling and computer simulation.

Units: 3

ECE 153. Power Electronics

Prerequisites: ECE 124 and ECE 128. Analysis and design of power conversion devices; AC-DC converters (diode rectification and phase control devices); DC-DC converters (Buck/Boost); DC-AC inverters; continuous and discontinuous modes of operation; performance evaluation; power factor correction; signal distortion; efficiency analysis; applications; hands-on experiences.

Units: 3

ECE 155. Control Systems

Prerequisites: ECE 124. Analysis, design, and synthesis of linear feedback control systems. Mathematical modeling and performance evaluation; state variables; frequency domain analysis and design methodologies. Applications and utilization of Matlab in analysis and design.

Units: 3

Course Typically Offered: Spring

ECE 155L. Control Systems Lab

Prerequisites: ECE 155 or concurrently. Hands-on experience in topics in instrumentation and control systems. (3 lab hours)

Units: 1

ECE 162. Analog Integrated Circuits and Applications

Prerequisite: ECE 138. Analysis of monolithic operational amplifiers; case studies; Widlar and Wilson current sources; linear and non-linear applications; multipliers, phase-lock loops, phase detectors; higher order active filters; all-pass equalizers; D/A adm A/D converters; oscillators, function generators; mixers, modulators, regulators; system design.

Units: 3

ECE 166. Microwave Devices and Circuits Design

Prerequisite: ECE 102, ECE 128, ECE 136. Microwave theory and techniques: slow-wave structures, S parameters, and microwave devices, including solid-state devices such as Gunn, IMPATT, TRAPATT, and BARITT diodes, and vacuum tubes such as klystrons, reflex klystrons, traveleling-wave tubes, magnetrons, and gyrotrons.

Units: 3

ECE 168. Microwave Amplifier and Oscillator Design

Prerequisite: ECE 136. Small-signal and large-signal amplifier designs such as high-gain, high -power, low-noise, narrow-band and broadband amplifiers; microwave oscillator designs such as high-power, broadband, Gunndiode and IMPATT oscillator designs; power combining and dividing techniques; reflection amplifier design and microwave measurements.

Units: 3

ECE 171. Quantum Electronics

Prerequisite: ECE 128 and PHYS 4C. Review of wave properties; cavity mode theory; radiation laws; theory and morphology of lasers; laser and fiber-optic communications; designs of optical communication systems and components.

Units: 3

ECE 172. Sequential Machine and Automata Theory

Prerequisite: ECE 106. Structure of sequential machines with particular emphasis on asynchronous sequential machines; covers; partitions; decompositions and synthesis of multiple machines race conditions and hazards; state identification and fault detection experiments. Design techniques will be presented aimed at circuit performance that will function reliably with less than ideal components. Applications include the design of controllers for robots and automated machines.

Units: 3

ECE 173. Robotics Fundamentals

Prerequisites : ECE 72 or ME 2; ECE 90/90L; ECE 85/85L or ECE 91/91L Introduction to industrial and mobile robots; forward and inverse kinematics; trajectory planning; sensors; micro controllers; laboratory experiments

Units: 3

ECE 174. Advanced Computer Architecture

Prerequisites: ECE 115. Quantitative and evaluation of modern computing systems; advanced topics: Superscalar organization; multi-core and multi-threading; parallel algorithm; interconnection network; cache hierarchies and cache coherence protocol and benchmark; branch predication and trace cache mechanism; multiprocessor and multiprocessor software

Units: 3

Course Typically Offered: Fall

ECE 176. Computer-Aided Engineering in Digital Design

Prerequisites: ECE 106. Use of Computer-Aided Engineering tools in the design and implementation of digital systems utilizing Applications Specific Integrated Circuits. Design projects from specification through implementation using Field Programmable Logic Devices (CPLD's); simulation, timing, analysis, Hardware Definition Languages. Hands-on exposure to current tools.

Units: 3

Course Typically Offered: Fall

ECE 178. Embedded Systems

Prerequisites: ECE 118L, ECE 176. Principles of real-time computing embedded systems, hardware/software peripherals interface, design applications using RISC processors, real-time operating system and project activities.

Units: 4

Course Typically Offered: Spring

ECE 186A. Senior Design I

Prerequisites: 30 units of ECE (see advising notes) or permission of instructor; university writing requirement (or concurrently). Design projects in electrical and computer engineering.

Units: 1

Course Typically Offered: Fall, Spring

ECE 186B. Senior Design II

Prerequisite: ECE 186A and university writing requirement with a letter grade of C or better, or passing the Upper Division Writing Exam. Completion of approved design projects in Electrical and Computer Engineering. Project demonstration and documentation requires using problem solving, written communication and critical thinking skills and engaging in oral presentations.

Units: 3

Course Typically Offered: Fall, Spring

ECE 190. Independent Study

See Academic Placement - Independent Study. Approved for RP grading.

Units: 1-3, Repeatable up to 6 units

Course Typically Offered: Fall, Spring

ECE 191T. Topics in Electrical and Computer Engineering

Prerequisite: permission of instructor. Investigation of selected electrical engineering subjects not in current courses.

Units: 1-3, Repeatable up to 6 units

ECE 191T. Embedded System Design

Prerequisite: graduate standing. Embedded system design and development. High-level design tools, interface and real-time embedded system programming, and interface techniques.

Units: 3, Repeatable up to 6 units

ECE 191T. Mobile Applications

Mobile applications development: iPhone applications; swift programming language; iOS SDK and Xcode JDE; Model View Control (MVC). Lectures, discussions, and hands-on experiences.

Units: 1, Repeatable up to 6 units

ECE 191T. Power Electronics Design of Renewable Energy Systems

This course introduces power electronics applications of renewable and alternative energy sources. Design methods of power electronics converters for the energy applications will be covered using computer simulation tools: MATLAB and PSIM.

Units: 3, Repeatable up to 6 units

ECE 193. Electrical and Computer Engineering Cooperative Internship

Prerequisite: Permission of adviser. Engineering practice in an industrial or governmental installation. Each cooperative experience usually spans a summer-fall or spring-summer interval. One semester or summer interships are also possible. This course cannot be used to meet graduation requirements. CR/NC grading only.

Units: 1-6, Repeatable up to 12 units

Course Typically Offered: Fall, Spring

ECE 224. Advanced Signals and Systems

Prerequisites: ECE 124 or equivalent. Theory of continuous time (CT) and discrete time (DT) multidimensional systems; state variable representations; systems state equation solution; Lyapunov and input-output stability. controllability, observability, and realizability, feedback systems. System simulations using MATLAB.

Units: 3

ECE 230. Nonlinear Control Systems

Prerequisite: ECE 155 or permission of instructor. Dynamic systems modeling and analysis; stability; sliding mode control; fuzzy logic control; and introduction to relevant topics. (Formerly EE 291T)

Units: 3

ECE 231. Digital Control Systems

Prerequisite: ECE 155 or permission of instructor. Discrete Time Feedback systems modeling and analysis; stability; digitial controller design; digital transformation of analog controllers; implementation techniques, case studies. (Formerly EE 291T)

Units: 3

ECE 232. Optimal Control Systems

Prerequisite: ECE 155 or ENGR 210. Two-point boundary value problems; linear quadratic regulators; minimum-time design; output-feedback design; robust design; observers; filters and dynamic regulators; multivariable dynamic compensator design (3 hrs lecture)

Units: 3

ECE 240. VLSI Circuits and Systems

Review of CMOS logic circuits; CMOS circuit analysis; interconnect modeling; dynamic logic; timing and clocking strategies; datapath component design; test and verification strategies; ASIC Design Methodologies.

Units: 3

ECE 241. Applied Electromagnetics

Prerequisite: ECE 136. Maxwell's equations; plane wave propagation; inhomogeneous wave equation; Green's function; antenna analysis; Huygen's principle; induced current; waveguides; radar cross section.

Units: 3

ECE 242. Digital Systems Testing and Testable Design

Introduction to VLSI testing, VLSI test process and automatic test equipment, test economic, faults and fault modeling, logic and fault simulation, testability measures, delay test, design for test-

ability, built-in self-test, boundary scan, and JTAG.

Units: 3

ECE 243. Modern Methods in Synchronous Sequential Design

Prerequisite: ECE 172 or permission of coordinator. Synchronous machine design with PLDs and FPGAs; algorithmic state machines; incompletely specified machines; maximum compatibility classes; partitioning of sequential machines; state merging and state splitting.

Units: 3

ECE 245. Communications Engineering

Prerequisite: ECE 134 or equivalent; ENGR 206. Modulation theory; statistical properties of information signals and noise; binary and M-ary modulation schemes and receivers for digital and analog messages; performances in the presence of noise; transmission over bandlimited channels and intersymbol interference; vector space representations; communication design considerations.

Units: 3

ECE 247. Modern Semiconductor Devices

Prerequisite: ECE 114 or permission of coordinator. Crystal structures and elastic constants; lattice energy and vibrations; thermal and dielectric properties of solids; ferroelectric and magnetic properties of crystals; free electron model of metals; quantum statistics distributions; band theory; semi conductor crystals; super conductivity; photoconductivity and luminescence; dislocations.

Units: 3

ECE 249. Advanced Communications Engineering

Prerequisite: ECE 134 or equivalent; ENGR 206. Information theory; source coding; channel coding theorems; models for communication channels; theory of error control coding; block and convolutional codes; decoding algorithms; coding for bandlimited, noisy and distorting channels; performance improvements o coded communication systems; design applications to wireless systems.

Units: 3

ECE 251. Antennas and Propagation

Wave equation, plane waves, metallic boundary conditions; wave equation for the potentials Lorentz transformation; covariant formulation of electrodynamics; radiation from a moving charge; scattering and dispersion; Hamiltonian formulation of Maxwell's equations.

Units: 3

ECE 253. Power Systems Dynamics

Prerequisites: ECE 151, ECE 155. Electromechanical dynamics under small and large disturbances; voltage stability; frequency variations; stability analysis and enhancement; advanced power system modeling; model reduction techniques; steady state stability of multi-machine systems; computer simulation; voltage and frequency control; electric power systems quality. (3 lecture hours)

Units: 3

ECE 255. Digital Signal Processing

Prerequisite: ECE 107 and ENGR 206, or equivalent. Discrete time signals and systems in time and frequency domain; random sequences and inputs to linear systems; correlation and power spectral density; digital filter design; lattice filters; estimation of signal parameters; spectral estimation; adaptive and optimal systems; simulation using MATLAB.

Units: 3

ECE 257. Optical Communications and Lasers

Quantum measure of light, linear, elliptical, and circular polarization; optical waveguide equations, ray and mode theory; source and detector characteristics; attenuation, dispersion, and noise effects; correlation, spectral density, noise equivalent bandwidth, coding, modulation, multiplexing techniques; systems and link design.

Units: 3

ECE 259. Radar System Design

The nature and history of radar, the radar equation, PRF and range considerations, CW and FM radars. MTI and pulse-Doppler radars, tracking radars. Radar power generation, antenna types and design considerations, receivers, detection of signals in noise, extraction of information from radar signals, propagation of radar wave, the effects of clutter, weather and interference. Examples of radar system engineering and design.

Units: 3

ECE 274. High Performance Computer Architecture

Advanced hardware design features of modern high performance microprocessors and computer systems. Topics include: instruction level parallelism; superscalar and superpipelined data path design and performance; dynamic and static scheduling; VLIW; hardware software interface; memory hierarchies and cache coherence; multi processor structures and interconnection networks.

Units: 3

ECE 278. Embedded System Design

Prerequisite: Graduate standing. Embedded system design and development. High-level design tools, interface, and real-time embedded system programming and interface techniques.

Units: 3

ECE 290. Independent Study

Prerequisite: graduate status in engineering or permission of instructor. Approved for RP grading.

Units: 1-3, Repeatable up to 5 units

ECE 291T. Topics in Electrical Engineering

Prerequisite: graduate status in engineering or permission of instructor. Selected electrical engineering subjects not in current courses.

Units: 1-3, Repeatable up to 6 units

ECE 291T. Power Electronics Design of Renewable Energy Systems

This course introduces power electronics applications of renewable and alternative energy sources. Design methods of power electronics converters for the energy applications will be recovered using computer simulation tools: MATLAB and PSIM.

Units: 3, Repeatable up to 6 units

ECE 298. Project
Prerequisite: graduate status in engineering. See Criteria for Thesis and Project. Independent investigation of advanced character such as analysis and/or design of special engineering systems or projects; critical review of state-of-the-art special topics; as the culminating requirement of the master's degree. Abstract required. Approved for RP grading.

Units: 3

ECE 298C. Project Continuation
Prerequisite: Project ECE 298. For continuous enrollment while completing the project. May enroll twice with department approval. Additional enrollments must be approved by the Dean of Graduate Studies.

Units: 0

ECE 299. Thesis
Prerequisite: see Criteria for Thesis and Project. Preparation, completion, and submission of an acceptable thesis for master's degree. Approved for RP grading.

Units: 3-6

ECE 299C. Thesis Continuation
Prerequisite: Thesis ECE 299. For continuous enrollment while completing the project. May enroll twice with department approval. Additional enrollments must be approved by the Dean of Graduate Studies.

Units: 0

ECONOMICS (ECON)

ECON 25. Introduction to Economics
Survey of the development of economic ideas and theories in the context of economic history. Analysis of major economic thinkers. Introduction to contemporary economic issues and policy controversies. Does not count toward the major in economics. G.E. Breadth D3.

Units: 3

Course Typically Offered: Fall, Spring

GE Area: D3

ECON 40. Principles of Microeconomics
Introduction to microeconomic theories of demand, production, and income distribution; price determination and resource allocation, under alternative forms of market organization; government regulation of economic activity; applied economic analysis and policy formation in selected topic areas. G.E. Breadth D3. (CAN ECON 4)

Units: 3

Course Typically Offered: Fall, Spring

GE Area: D3

ECON 50. Principles of Macroeconomics
Economic theories of the determination of income, output, employment, and prices in the economy as a whole; business cycles, fiscal and monetary policies; economic growth and development; international trade; and comparative economic systems. G.E. Breadth D3. (CAN ECON 2)

Units: 3

Course Typically Offered: Fall, Spring

GE Area: D3

ECON 100A. Intermediate Microeconomics
Prerequisites: ECON 40, ECON 50. Price mechanism and resource allocation under conditions of pure competition, monopolistic competition, oligopoly; theories of consumer's choice, cost, production, income distribution; nature of economic generalizations.

Units: 3

Course Typically Offered: Spring

ECON 100B. Intermediate Macroeconomics
Prerequisites: ECON 40, ECON 50. An examination of classical, Keynesian and post- Keynesian theories of the determination of the levels of income, output, and employment; the scientific and ideological implications of Keynesian thought; and the theoretical foundations of contemporary monetary and fiscal policies.

Units: 3

Course Typically Offered: Fall

ECON 101. History of Economic Thought
Prerequisites: ECON 40 and ECON 50, or ECON 165 passed with C grade or better. Evolution of economics as a science; doctrines of different schools of thought -- Mercantilists, Physiocrats, Historical School, Classical Economists; contributions of outstanding economists.

Units: 3

Course Typically Offered: Fall

ECON 102W. Explorations in Economic Literature
Prerequisites: ECON 40, ECON 50; satisfactory completion (C or better) of the ENGL 5B or ENGL 10 graduation requirement; upper-division standing. An investigation into important economic ideas and issues through selected readings of either contemporary literature or classics in the history of economic thought or both. The class is conducted as a seminar with emphasis on student contributions. Meets the upper-division writing skills requirement for graduation.

Units: 3

Course Typically Offered: Spring

ECON 103. Economics of Inflation, Unemployment, and Growth
Prerequisite: ECON 40 and ECON 50 passed with C grade or better. Theoretical and empirical examination of the business cycle, including major economic variables such as Gross Domestic Product (GDP), inflation, unemployment, as well as other relevant economic indicators in the United States economy. The course emphasizes business cycle theories, economic indicators, and macroeconomic policies.

Units: 3

ECON 110. Economic History of the United States
Prerequisites: ECON 40 and ECON 50, or ECON 165 passed with C grade or better. Exploration and colonization to the present; economic factors in develop ment of the United States; relationships of economic forces to historical, political, and social change.

Units: 3

Course Typically Offered: Spring

ECON 111. European Economic History

Prerequisites: ECON 40 and ECON 50, or ECON 165 passed with C grade or better. An examination of the causes and consequences of economic development in Europe from 1650 to 1950. Survey of selected economic forces that shaped key social institutions.

Units: 3

ECON 114. Economic Development of Poor Nations

Prerequisites: ECON 40 and ECON 50 passed with C grade or better. Intensive study of the causes and consequences of underdevelopment which affect two-thirds of the world's people. Topics include theories of development, historical roots of underdevelopment, evaluation of aid programs, New International Economic Order, Asian export economies, managing external debt.

Units: 3

Course Typically Offered: Spring

ECON 115T. Topics in Historical and Political Economics

Prerequisites: ECON 40 and ECON 50 passed with C grade or better or ECON 165 with a C grade or better. Detailed investigation of developments in the United States economy. Topics vary with the needs and interests of students and faculty.

Units: 1-3, Repeatable up to 6 units

ECON 115T. Political Economy of Employment in the U.S.

The Political Economy of Employment in the U.S. explores the changing structure of U.S. labor markets and the political-economic implications of these changes. The course will introduce research on contemporary labor market trends and issues, as well as alternative theoretical perspectives, U.S. economic history, industry studies, descriptive statistics, and the stories and experiences of individual workers.

Units: 3, Repeatable up to 6 units

ECON 117. Environmental Economics

Prerequisites: ECON 40 and ECON 50 passed with C grade or better. Investigation into the economics of resource use. Development and creation of resources through the application of technology and the destruction of resources through misuse and pollution of the environment.

Units: 3

Course Typically Offered: Fall - even

ECON 119. Urban & Regional Economics

Prerequisites: ECON 40 and ECON 50 passed with C grade or better. Examination of the San Joaquin Valley from a policy-oriented perspective. Construction of economic models and theories regarding how urban and regional economic activity is located across spaces. Investigation of why cities form and why they locate where they do. Application of regional economic models to the local economy.

Units: 3

Course Typically Offered: Fall

ECON 120. Women in the Economy

Prerequisite: ECON 40 and ECON 50, or ECON 165 passed with C grade or better. An exploration of the social and economic forces shaping the economic status of women in the U.S. Topics include women's participation in paid employment and current labor market and family policy issues.

Units: 3

ECON 123. Introduction to Econometrics

Prerequisites: ECON 40, ECON 50 and MATH 11 or MATH 101 or DS 73 or AGBS 71 or PSYCH 42 passed with C grade or better. Statistical data analysis in economics. Use of multiple regression analysis, time series analysis, index numbers. Basic theory; computer applications using major economic data sources; interpretation of results. (2 lecture, 2 lab)

Units: 3

Course Typically Offered: Spring

ECON 125. Introduction to Mathematical Methods for Economics

Prerequisites: ECON 40, ECON 50; MATH 75. Introduction to mathematical methods useful for economic analysis. Mathematical concepts are developed in the context of economic examples and applications. Knowledge of fundamental economic concepts is required. Strongly recommended for students considering graduate school in economics or business.

Units: 3

ECON 131. Public Economics

Prerequisite: ECON 40 and ECON 50 passed with C grade or better. Impact of government expenditures and taxes on the allocation of resources and the distribution of income. Evaluation of government expenditure programs and tax policies. Analysis of existing government policies and proposed reforms.

Units: 3

Course Typically Offered: Fall - even

ECON 135. Money and Banking

Prerequisites: ECON 40, ECON 50. Survey of the monetary and banking system of the United States and analysis of its role in economic growth and stabilization.

Units: 3

Course Typically Offered: Spring

ECON 144. Economics of Sports

Prerequisites: ECON 40 and ECON 50 passed with C grade or better. Issues surrounding the monopolistic nature of professional leagues, tax incentives used to attract/maintain a professional franchise, and collective bargaining agreements will be analyzed through Industrial-Organization, Public Finance, and Labor Economics respectively.

Units: 3

ECON 146. Economics of Crime

Prerequisites: G.E. Foundation and Breadth Aread D. Economic theory of choice and rationality applied to analysis of crime, focusing on white-collar and corporate crime. Examines costs and benefits of crime control policies. Economics of participation in crime, law enforcement, prosecution, and punishment. G.E.

Integration ID.

Units: 3

Course Typically Offered: Fall

GE Area: ID

ECON 150. Labor Economics

Prerequisites: ECON 40 and ECON 50 passed with C grade or better. Alternative theories of wages, employment, and structure of labor market; impact of collective bargaining on level of wages, employment, and labor's share of national income; history and philosophies of labor movement; structure and functioning of labor unions.

Units: 3

Course Typically Offered: Fall - even

ECON 152. Economics of Human Resources

Prerequisites: ECON 40 and ECON 50 passed with C grade or better. Economic theory of investment in education and job training; economic theories of discrimination; analysis of earnings differentials for women and ethnic minorities. Issues discussed include educational choices, affirmative action, comparable worth, and human resource planning policies.

Units: 3

Course Typically Offered: Spring - odd

ECON 162. Health Economics

Prerequisite: ECON 40 and ECON 50 passed with C grade. Economic issues associated with the provision of health care in the U.S. Role of competitive market forces, non-profits, and government. Separate consideration of physicians, hospitals, insurance, and drug companies. Comparison to other countries.

Units: 3

Course Typically Offered: Spring - even

ECON 165. The Modern American Economy

No prerequisites. Not open to economics majors. Provides an overview of the major economic forces that shape our everyday experiences by introducing fundamental economic principles and applying them to the American economy. Audio-visual materials and computer simulations are presented.

Units: 3

Course Typically Offered: Fall, Spring

ECON 167. Contemporary Socioeconomic Challenges

Prerequisites: G.E. Foundation and Breadth Area D. In-depth analysis and discussion of major socio-economic challenges currently facing the U.S. Emphasis on understanding basic economic underpinnings of contemporary policy issues. Analysis of conflicting economic, social, political, and historical forces which condition and constrain policy implementation. G.E. Integration ID.

Units: 3

GE Area: ID

ECON 176. Economics Themes in Film

Prerequisites: G.E. Foundation and Breadth Area D. Emphasizes economic concepts, issues, and institutions through an integrated series of classic films, lectures, and discussions. Students will apply the economic way of thinking to social problems involving such topics as economic growth, unemployment, income distribution, discrimination, and the global economy. G.E. Integration ID. (2 lecture, 2 lab hours)

Units: 3

Course Typically Offered: Fall

GE Area: ID

ECON 178. International Economics

Prerequisites: ECON 40, ECON 50. International economic relations; problems and policies in the light of fundamental economic theory.

Units: 3

Course Typically Offered: Fall

ECON 179. International Political Economy

Analysis of greater internationalization of national economies. Policies of states and transnational corporations in the context of globalization. Trade, finance, and production in the international context. Regional economic integration. Global assembly and labor issues. Evolution of multilateral institutions. (3 lecture/recitation hours)

Units: 3

Course Typically Offered: Spring - even

ECON 181. Political Economy of Latin America

Prerequisites: G.E. Foundation and Breadth Area D. Latin America's principal economic problems examined within a historical and contemporary context. Topics may include Colonialism, Neo-Colonialism, foreign corporations, debt crises, problems of industrialization, women and labor, agricultural backwardness, and free trade agreements. Intensive examination of major nations (particularly Mexico) and of dominant theoretical interpretations. Theories of development (structuralism, dependency, dualism, modernization) are integrated into case studies. G.E. Multicultural/International MI.

Units: 3

Course Typically Offered: Spring - even

GE Area: M/I

ECON 183. Political Economy of the Middle East

Prerequisites: G.E. Foundation and Breadth Area D. A survey of historical, social, cultural, political, and economic development, economic development in the Middle East. An examination of Western colonial policies, the creation of modern states and their political and economic policies, the role of religion, and cultural heritage. G.E. Integration ID.

Units: 3

Course Typically Offered: Spring

GE Area: ID

ECON 185. Directed Readings

Prerequisites: ECON 40, ECON 50, and permission of instructor. Directed readings in the literature of economics. Intensive reading of economic literature on special topics under faculty supervision.

Units: 1-3, Repeatable up to 6 units

Course Typically Offered: Fall, Spring

ECON 188T. Special Topics
Prerequisites: ECON 40, ECON 50. Consideration of in-depth, special topics in political economy; systematic, detailed study into issues not possible in survey courses. Topics vary with the needs and interest of students and faculty.

Units: 1-3, Repeatable up to 6 units

ECON 189T. Topics in Public Policy
Prerequisites: ECON 40, ECON 50. Detailed analysis of questions of economic policy. Areas of investigation include social welfare policy, farm policy, environmental quality policy, and others. Topics to be varied with the interests and needs of students and faculty.

Units: 1-3, Repeatable up to 6 units

ECON 190. Independent Study
See Academic Placement - Independent Study. Approved for SP grading.

Units: 1-3, Repeatable up to 6 units

Course Typically Offered: Fall, Spring

ECON 191. Internship in Applied Economics
Prerequisite: senior standing, economics major. Supervised experience in either the private or public sector to provide students an opportunity to professionally apply economic theory and analysis. CR/NC grading only.

Units: 1-3

Course Typically Offered: Fall, Spring

ECON 192. Senior Project
Prerequisite: ECON 40, ECON 50 passed with C grade or better, senior status as economics major. Course consists of a field trip, lectures and research. Designed to give students concrete experience on how economics is applied and how economists think, do research and present the results of their investigations.

Units: 3

Course Typically Offered: Fall, Spring

EDUCATIONAL LEADERSHIP (EDL)

EDL 501. Organizational Theory in Complex Organizations
Prerequisites: admission to the program. Seminar. Combines alternatives views or organizational theory with application to the structure of the school; to critical roles played by teachers, principals and other school personnel; and to examine the relationships among strutural elements of schools.

Units: 3

EDL 502. Educational Reform
Prerequisite: admission to the program. Seminar. Examines change in education settings in the context of organizational theory, structure, and culture; change processes; and change leadership strategies and styles. K-12 educational settings and higher education settings are used to test theories and change strategies.

Units: 3

EDL 503. Educational Policy Environments
Prerequisite: admisssion to the program. Seminar. Determinants of policy in educational organizations and leadership. Analysis of structures used for legal, fiscal and political decisions and conflict management. Role of the educational leader in relation to intergovernmental activities aimed at educational reform.

Units: 3

EDL 504. Advanced Applied Quantitative Methods
Prerequisites: admission to the program or permission of instructor. Seminar. Examines advanced research methodologies and data analysis techniques applicable to education and social science settings.Topics include experimental and quasi-experimental design, advanced statistical techniques, sampling distributions, nonparametric statistics, inference and hypothesis testing. Specific applications to the work of the education leader.

Units: 3

EDL 506. Conceptual Curriculum Perspectives for Educational Leadership
Prerequisites: admission to the program and EDL 201, EDL 202. Seminar. Students will develop the philosophical and analytical skills to examine curriculum theory and practice, including the conceptualization of purposes of the organiztaion of subjects matters, and of the instructional methods.

Units: 3

EDL 507. Applied Qualitative Research Methods
Prerequisite: admission to the program. Seminar. Examines the purpose and nature of qualitative research including current applications in educational settings. Emphasis is directed toward critical analysis of current qualitative studies and will include field-based application.

Units: 3

EDL 508. Theorie of Cross-Cultural Education
Prerequisite: admission to the program. Seminar. Designed to explain and discuss the most relevant theoretical approaches dealing with cross-cultural, multicultural education. As diverse and conflicting perspectives are examined, students will experience the complexity of views and perceptions dealing leaders with multicultural populations coexisting in a pluralistic society.

Units: 3

EDL 509. Advanced Applied Educational Research and Measurement
Prerequisite: Admission to the program. Review of approaches to designing and conducting educational research, including ethical issues. Emphasis on reading and evaluating research literature, and designing research projects. Psychometric theory, validity and reliability of tests, professional testing standards, hands-on experience with test evaluation are included.

Units: 3

EDL 510. Field-based Research Practicum in Organizational Settings
Prerequisites: admission to the program, EDL 201, EDL 202, EDL 203, EDL 204, EDL 205, EDL 206, EDL 207, EDL 208, and EDL 211, and permission of the director. Engages students in studies relevant to field settings. Includes collecting and analyzing both qualitative and quantitative data related to improving educational

practice and/or solving school problems. Expected to relate to prospective dissertation topic and proposal possibilities.

Units: 1-3

EDL 511. Educational Evaluation, Assessment, and Planning

Prerequisite: admission to the program. Examines assessment practices, planning strategies, and evaluation processes in K-12 and higher education settings. Addresses current issues and trends in the field of education related to school accountability. (Formerly EDL 280T)

Units: 3

EDL 520. School Leadership for Reading Instruction

Students analyze forces driving reading/language arts mandates and their impact on the implementation of reading curricula. Using philosophical and corporate underpinnings of the "Reading Wars" students discover the praxis between theory, research, and practice.

Units: 3

EDL 521. Human Resource Leadership in Schools

Application of Human Resource Management Theory, empirical findings, and best practices to school leadership. HR theories and practices including recruitment, staffing, motivation, performance management, and development are examined emphasizing the strategic role of HR in enhancing organizational effectiveness.

Units: 3

EDL 523. School Resource Management and Fiscal Planning

Develops advanced skills to effectively manage internal and external resources within the school setting. The course provides an overview for leveraging external resources, obtaining grants, developing external partners, and examining issues and studies related to financing public education.

Units: 3

EDL 524. School Law

Examination of Federal Law, California Ed. Code, California Code of Regulation, and program implementation. Freedom of expression, separation of church and state, personnel law, liability, governance requirements, and special education are covered.

Units: 3

EDL 540. Resources and Fiscal Planning for Higher Education

Covers how resource allocation is determined in a Higher Education system structure. Approaches to budget development are examined using knowledge of traditional and nontraditional financial resources available to colleges, which are a major strategic aspect of higher educational financial planning.

Units: 3

EDL 551. Organizational Theory and Leadership in Comp

Students develop skills to create action plans for organizational change, reform, and renewal by analyzing educational organizations, diagnosing organizational needs, and identifying institutional challenges and contexts.

Units: 3

EDL 552. Educational Reform

Examines changes in educational settings in the context of: organization theory, structure and culture; change processes; and change leadership strategies and styles, K-12 educational settings and higher education settings are used to test theories and change strategies.

Units: 3

EDL 553. Educational Policy Environments

Determinants of policy in educational organizations and leadership. Analysis of structures used for legal, fiscal and political decisions and conflict management. Role of the educational leader in relation to intergovernmental activities aimed at educational reform.

Units: 3

EDL 554. Applied Quantitive Research Methods

Examines advanced research methodologies and data analysis techniques applicable to education and social science settings. Topics include experimental and quasi-experimental design, statistical techniques, sampling distributions, nonparametric statistics, inference and hypothesis testing with applications to the work of the education teacher.

Units: 3

EDL 556. Conceptual Curriculum Perspectives for Education

Examines the socio-political context of curriculum and its historical development. Focuses on educational theories and philosophies, instructional theories and practices, the influences of technology on curriculum, and the assessment of teaching and learning.

Units: 3

EDL 557. Applied Qualitative Research Methods

Examines the purpose and nature of qualitative research including current applications in educational settings. Emphasis is directed toward critical analysis of current qualitative studies and will include field-based and online applications. Fieldwork component is included in this course.

Units: 3

EDL 558. Theories of Cross-Cultural Education

Students develop skills to create action plans for organizational change, reform, and renewal by analyzing educational organizations, diagnosing organizational needs, and identifying institutional challenges and contexts.

Units: 3

EDL 559. Applied Research and Measurement in Education

Review of approaches to designing and conducting educational research, including ethical issues. Emphasis on reading and evaluating research literature and designing research projects. Includes psychometric theory, validity and reliability tests, professional testing standards, and hands-on experience with test evaluation.

Units: 3

EDL 561. Educational Assessment, Evaluation and Planning

Examines assessment practices, planning strategies, and evaluation processes in P-12 and higher education settings. Addresses current issues and trends in the field of education related to school accountability. Contains fieldwork/application component.

Units: 3

EDL 580T. Topics in Educational Leadership

Prerequisites: admission to the program, EDL 201, EDL 202, EDL 203, EDL 204, EDL 205, EDL 206, EDL 207, EDL 208, and EDL 211, and permission of the director. Topics and issues in educational leadership in the areas of organizational studies, curriculum, instruction and supervision, assessment and evaluation, and sociocultural studies. Analysis of research findings and an emphasis on the relationship of theory to practice.

Units: 1-3, Repeatable up to 15 units

EDL 580T. Technology Planning in Education

This course is designed to explore critical issues, research findings, predictions for the future, and exemplary practice for Educational Technology Planning and teaching with technology including the use of video, computers, mobile devices and online programs. Students will participate in a variety of activities including hands-on explorations, small and large group collaboration, discussions, synthesizing through discussion boards, and short group presentations.

Units: 3, Repeatable up to 9 units

EDL 580T. Professional Ethics

Course aim is to promote doctoral students? knowledge and leadership of professional ethics that promote equity for student learning at all levels. Students will gain expertise in identifying and rectifying ethical inequities and craft plans for effective implementation and improvement.

Units: 3, Repeatable up to 9 units

EDL 580T. Equity and Access for English Learners - Common Core Standards

The course will begin by exploring and re-examining the various terms used to identify and describe the population. Then transition into effective practice and pedagogy in providing access and equity in the context of new ELD Standards, EL descriptors and Common Core Standards. As a doctoral level course, students are expected to expand their knowledge in the field of second language acquisition by engaging in scholarly text in the field of study

Units: 3, Repeatable up to 9 units

EDL 580T. Program Evaluation

This course is an advanced application of program evaluation methods and practices. You will need to identify an actual, real-world program willing to engage your services (fieldwork). The work in the course is intended to build off of that presented in EDL 511 by taking your knowledge of program evaluation approaches and guiding you through the program evaluation process.

Units: 3, Repeatable up to 9 units

EDL 580T. Contemporary Issues in Higher Education

This course is intended to present a broad exploration and generate greater understanding of contemporary issues influencing higher education that will involve discussion, written and oral reports and the integration of knowledge across the spectrum of issues relating to higher education.

Units: 3, Repeatable up to 15 units

EDL 580T. Human Resources

This course focuses on the application of human resource management theory, empirical findings, and best practices to school administration. The theories and practices associated with the major functions of human resources including recruiting, staffing, motivation, performance management and development will be examined. There will be an emphasis on the critical, strategic role of human resources in enhancing organizational effectiveness.

Units: 3, Repeatable up to 15 units

EDL 580T. Closing the Achievement Gap: Effective Instructional Practices

Course aim is to promote doctoral students' knowledge of leadership of instructional practices that promote equity and the acceleration of student learning at all levels, K-12. Students will gain expertise in identifying and rectifying educational inequities, develop understanding of effective pedagogical practices that accelerate learning, and write plans for effective implementation of instructional practices. Analysis of research findings and an emphasis on the relationship of theory to practice will be emphasized.

Units: 3

EDL 580T. Conflict Resolution Theory and Application

This course is a doctoral level course designed to engage the P-12 and higher education leader in inquiry (conflict resolution research and best practice), analysis (conflict theory frameworks) and skill building (implementation of effective conflict resolution strategies-including school-wide program development). The course closely follows the US Department of Education's model curriculum designed to train educators in principles and practices of conflict management.

Units: 3, Repeatable up to 15 units

EDL 590. Individual Study

Prerequistes: admission to the program, EDL 201, EDL 202, EDL 203, EDL 204, EDL 205, EDL 206, EDL 207, EDL 208, and EDL 211, and permission of the director. Research for individual doctoral graduate students. CR/NC grading only.

Units: 1-18

EDL 599. Dissertation

Prerequisites: advancement to candidacy for the Doctorate in Education and a minimum GPA of 3.0. Submission of approved dissertation. See Criteria for Dissertation. CR/NC grading only.

Units: 0-12

EDL 599C. Dissertation Contiunation

Prerequisite: Thesis EDL 298. For continuous enrollment while completing the thesis. May enroll twice with department approval. Additional enrollments must be approved by the Dean of Graduate Studies.

Units: 0

EARTH & ENVIRONMENTAL SCIENCES (EES)

EES 1. Natural Disasters and Earth Resources

Prerequisite: G. E. Foundation B4 (except for those with declared major in the College of Science and Mathematics). Recommended: MATH 4R or second-year high school algebra. Processes and materials that produce the different geologic resources and hazards (earthquakes, volcanoes, floods, landslides). Plate tectonic theory (including continental drift) as the unifying model to explain geologiv phenomena. Emphasizes the relationship between geology and humans. G. E. Breadth B1. (3 lecture, 2 lab hours; optional field trips (Course fee, $10) (CAN GEOL 2)

Units: 4

Course Typically Offered: Fall, Spring

GE Area: B1

EES 1V. Natural Disasters and Earth Resources - Virtual Labs

Prerequisite: G. E. Foundation B4 (except for those with declared major in the College of Science and Mathematics). Recommended: MATH 4R or second-year high school algebra. Processes and materials that produce the different geologic resources and hazards (earthquakes, volcanoes, floods, landslides). Plate tectonic theory (including continental drift) as the unifying model to explain geologic phenomena. Emphasizes the relationship between geology and humans. G. E. Breadth B1. (3 lecture, 2 lab hours; optional field trips (Course fee, $10) This course offers virtual labs with alternating in-class and self-paced lab options

Units: 4

Course Typically Offered: Fall, Spring

GE Area: B1

EES 2. Historical Geology

Prerequisites: EES 1. Origins & evolution of solid earth, life, oceans, and atmosphere as revealed by the rock record's fossil remains with emphasis on the evolution of life and the physical environment (2 lecture, 2 lab hours) (Course fee, $10)

Units: 3

Course Typically Offered: Spring

EES 3. Geology Field Trip

Extended weekend field trip to areas of geologic interest including Yosemite National Park, Death Valley, or coastal California. May be repeated. Nonmajors encouraged. CR/NC grading only. (Weekend field trips required; Field trip fee, $60)

Units: 1, Repeatable up to 3 units

Course Typically Offered: Fall

EES 4. Environmental Science

Prerequisite G.E. Foundation B4. Introduction to environmental science, focusing on environmental principles and processes. Topics include human population and consumption, ecosystems and biodiversity, resource management and conservation, energy sources and technology use, dynamics, ecosystems, pollution and wastes, environmental economics and ethics, global changes, and tomorrow's world. (3 lecture, 2 lab hours) (Course fee, $10)

Units: 4

Course Typically Offered: Fall, Spring

GE Area: B1

EES 8H. Natural Disasters and Earth Resources

Prerequisite: G.E. Foundation B4. Processes and materials that produce the different geologic resourcses and hazards (earthquakes, volcanoes, floods, landslides). Plate tectonic theory (including continental drift) as the unifying model to explain geologic phenomena. Emphasizes the relationship between geology and humans. (3 lecture, 2 lab hours: required field trip(s)). Open to Honor Students Only.

Units: 4

GE Area: B1

EES 9. Introduction to Earth Science

Introduction to earth science emphasizing K-6 teacher preparation. Addresses topics in earthquakes, volcanoes, rock and mineral formation, oceanography, astronomy, and meteorology. For liberal studies majors only (Course fee, $10)

Units: 3

Course Typically Offered: Fall, Spring

EES 12. Mineralogy

Prerequisite: EES 1; CHEM 1A (or concurrently). Properties, relationships, uses origin of minerals; determination of common minerals by physical and other tests. Field trips may be required. (2 lecture, 3 lab hours) (Course fee, $35)

Units: 3

Course Typically Offered: Fall

EES 30. Introductory Field Methods

Pre- or co-requisites: EES 1, EES 2 or instructor's permission. Introduction to geologic fieldwork methods, including use of Brunton pocket transit and stereo aerial photographs, preparation/interpretation of maps and geologic cross-sections. Graded for EES majors/minors. (1 lecture, 6 lab/field hours) (Weekend field trips required) (Course fee, $35.00)

Units: 3

Course Typically Offered: Spring

EES 50. National Parks of the Sierra Nevada

Geology, ecology, and history (human and natural) of Yosemite, Kings Canyon, and Sequoia National Parks and issues facing these Parks. (3 lecture hours, Field Exercises required; Field trip fee, $25).

Units: 3

Course Typically Offered: Fall

EES 100. Analytical Methods in the Earth Sciences

Prerequisites: EES 12 (Concurrent enrollment recommended). The course covers various methods for identifying and characterizing crystalline substances. Topics include Crystallography, Optical methods for mineral identification, and powder X-ray diffraction methods for mineral identification structure characterization. (1 lecture, 3 lab hours) (Course fee, $10)

Units: 2

Course Typically Offered: Fall

EES 101. Igneous and Metamorphic Petrology

Prerequisites: EES 30, EES 100; CHEM 1B (or concurrently). Origin classification, textures, structures, and geologic setting of igneous and metamorphic rocks; examination of samples in outcrop, hand specimen, and thin section. Weekend field trips required. (3 lecture, 3 lab hours) (Course fee, $35)

Units: 4

Course Typically Offered: Spring

EES 102. Sedimentology

Prerequisites: EES 30, EES 100,. Origin, classifications, textures, and structures of sedimentary rocks; examination of samples in hand specimen and thin section. Required field component for field stratigraphy and sedimentology, and producing a formal field report. (2 lecture, 3 lab hours plus field project) (Course fee, $35)

Units: 3

Course Typically Offered: Spring

EES 104. Scientific Writing and Research Techniques

Prerequisite: EES 1, or EES 4. A passing grade on the Upper-Division Writing Exam, or completion of an upper-division writing course with a C or higher (or concurrently). Organizing and writing the scientific report. Topics include: techniques and conventions in research methods, evaluation approaches, and presentation of results. Peer reviews. Oral presentation and term paper required. (1 lecture, 3 lab hours).

Units: 2

Course Typically Offered: Fall

EES 105. Geomorphology

Prerequisite: EES 1; EES 30 (or concurrently). Landforms, climates, geologic processes, and their interrelation in shaping the earth's surface today and in the geologic past. Interpretation of topographic maps and aerial photographs. Field trips required. (2 lecture, 3 lab hours) (Course fee, $35)

Units: 3

Course Typically Offered: Spring

EES 106. Structural Geology

Prerequisites: EES 30, EES 101; MATH 75 (or concurrently), PHYS 2A. Recognition, representation, and interpretation of structural features of the earth's crust. Includes theoretical and mechanical principles. Study of regional tectonics and major structural provinces of the Cordillera. Required field component for field mapping, collectiing and producing formal field report. (2 lecture, 3 lab hours plus field project) (Course fee, $35)

Units: 4

Course Typically Offered: Fall

EES 107. Advanced Field Methods

Prerequisites: EES 102, EES 104, EES 106. Field trips to areas of diverse geology; observation, description, and mapping of geologic phenomena. Includes written reports of areas selected for study. Students should contact the department for details. (9 lab hours usually including fieldwork on weekends or during January intercession and spring vacation) (Course fee, $35)

Units: 3

Course Typically Offered: Spring

EES 108. Soil and Water Sciences

Prerequisites: BIOL 1A, CHEM 1B or CHEM 150, EES 1 or EES 4, PHYS 4B or PHYS 2B, MATH 75. Introduction to the physical, chemical, and biological properties of soil and water in relation to environmental sustainability. Introduction to the hydrologic cycle, distribution of soil and water sources. Discussion of soil and water resources management and policy issues. (3 lecture, 3 lab hours; optional field trips) (Formerly EES 103A) (Course fee, $10)

Units: 4

Course Typically Offered: Fall

EES 109. Atmospheric Science

Prerequisites: BIOL 1A, CHEM 1B or CHEM 150, EES 1 or EES 4, PHYS 4B or PHYS 2B, MATH 75. The structure of the atmosphere and man's impact upon it. The causes and consequences of air pollution. Air quality standards. Stratospheric and tropospheric ozone. Introduction to the chemistry of air pollution and air pollution control strategies. (2 lecture, 3 lab hours; optional field trips) (Formerly EES 103B) (Course fee, $10)

Units: 3

EES 110. Invertebrate Paleontology

Prerequisites: EES 1 or BIOL 1A and BIOL 1B, or BIOL 12, or BIOL 11. Invertebrate structures and development of prehistoric animals; introduction to stratigraphic importance of fossils. Field trips may be required. (2 lecture, 3 lab hours) (Course fee, $10)

Units: 3

EES 112. Planet Earth through Time

Credit not allowed after completion of EES 2. Prerequisite: G.E. Foundation and Breadth Area B. Principles of geology used in the interpretation of the history of Earth as revealed in rocks and their fossils. Includes origin of the solar system, evolution of atmosphere and oceans, origin of life, rise and fall of the dinosaurs, plate tectonics,and ice ages. G. E. Integration IB. Does not satisfy Division 1 pre-1999 G. E. curriculum.

Units: 3

Course Typically Offered: Fall, Spring

GE Area: IB

EES 113. Stream Habitat Restoration

Prerequisites: EES 1 or BIOL 10 or BIOL 1A or instructor's consent. Investigation of stream geology, hydrology, and biology relevant to restoring stream habitat. Includes collecting and interpreting lab and field data. Field trips required. (2 lecture, 3 lab hours) (Formerly GEOL 150T)

Units: 3

EES 114. Engineering Geology

Prerequisites: EES 1 and MATH 5 or MATH 72 or MATH 75. Introduction to techniques and theory of geotechnical investigations. Includes field and lab techniques in soil and rock mechanics, rock logging, geophysics, slope stability, engineering hydrogeology, stereo analysis, seismic engineering. Recommended for students in geology or civil engineering. Field trips required. (2 lecture, 3 lab hours) (Course fee, $35)

Units: 3

Course Typically Offered: Fall

EES 117. Hydrogeology
Prerequisites: EES 1 or EES 15; MATH 72 or MATH 75; and EES 124 and MATH 76 recommended. The hydrologic cycle; surface water processes; stream flow and hydrograph; properties of porous geologic materials; principles of groundwater flow; water wells; geology of groundwater occurrence; water quality and pollution. Field trip required. (2 lecture, 3 lab hours) (Course fee, $35)

Units: 3

Course Typically Offered: Fall

EES 118. Applied Geophysics
Prerequisites: EES 1, PHYS 2A and completion of or Concurrent enrollment in PHYS 2B. Presents an overview of geophysics as applied to problems in exploration, engineering, and environmental geology. Emphasizes hands-on methods of data acquisition and interpretation that entry-level geologists will most likely encounter including gravity, magnetics, seismic refraction, ground penetrating radar, down-hole surveys, andelectrical resistivity. Field in strumentation is used throughout. (2 lecture, 3 lab hours) (Course fee, $35) (Formerly GEOL 130T)

Units: 3

EES 122. Stratigraphy
Prerequisites: EES 2, EES 30, EES 102 (may be taken concurrently). Stratigraphic principles and recognition of stratigraphic units. Emphasis on tectonostratigraphic concepts. (2 lecture, 3 lab/field hours) (Course fee, $35)

Units: 3

EES 124. Geochemistry
Prerequisites: CHEM 1A and CHEM 1B and EES 1 or EES 15; EES 12 and EES 101 recommended. Chemistry applied to earth processes and evolution. Reactions involved in origin and transformations of natural waters, rocks, and minerals. Crystal chemistry and behavior of elements and isotopes. (3 lecture hours) (Formerly GEOL 124)

Units: 3

EES 125. Global Paleoclimates
Prerequisites: EES 1 and either MATH 2, MATH 5, or MATH 75. Introduction to processes and mechanisms behind gradual and abrupt climate change over the last 500 million years. Discussion of investigation methods in paleobiology, paleogeography, and paleoceanography. Proxies interpretation for building age models and correlation of marine and terrestrial records.

Units: 3

EES 130T. Advanced Problems in Geology
Prerequisite: senior standing in geology. Topics or problems in the following fields: engineering geology, geology of North America, field geology, micropaleontology, advanced ground water geology, sedimentation and sedimentary rocks, geochemistry, geophysics, volcanic geology and marine geology. Some topics may have labs. (Formerly GEOL 130T)

Units: 1-3; max total 6 units if no topic repeated

EES 135W. Dinosaurs
Prerequisite: satisfactory completion (C or better) of the ENGL 5B or ENGL 10 graduation requirement, to be taken no sooner than the term in which 60 units are completed. Introduction to the dinosaurs as revealed from sedimentary rocks and fossils, including their evolution, diversity, habitats, extinction, and fossilization. Develops skills for scientific writing of proposals, abstracts, journal articles, and reviews. Meets the upper-division writing skills requirement for graduation (3 lecture hours)

Units: 3

Course Typically Offered: Fall, Spring

EES 150T. Introduction to Geoscientific Computing
In this course, you will learn the basics of programming in an Earth-science setting. We will use Matlab/Octave as programming language and will, among other things, learn how to program reading, processing, and writing of a range of geoscientific data files.

Units: 3, Repeatable up to 6 units

EES 154. Introductory Earth Science
Not applicable to the B.S. in Geology. Appropriate for liberal studies majors and K-6 teachers. Earth systems interactions demonstrated through hands-on activities, experiments, and field work. Topics include recognition, origin, and use of rocks and minerals; geologic timeand fossils; interpretation of landscapes and the rock record; and plate tectonics. (2 lecture, 2 lab hours, 1 hour arranged) (Course fee, $10) (Formerly GEOL 151)

Units: 3

Course Typically Offered: Spring

EES 155. Discovering Earth Science
Not applicable to the B.S. in Geology. Prerequisites: EES 1, or EES 112, or instructor's permission. Appropriate for students and 7-12 teachers seeking a secondary school science credential. Activity-based discovery of earth science and its integration with other sciences. Topics include energy in the earth system, geochemical cycles, dynamic interactions between the lithosphere, atmosphere, and hydrosphere, and origin/evolution of the earth. (2 lecture, 2 lab hours, 1 hour arranged) (Course fee, $10)

Units: 3

Course Typically Offered: Spring

EES 160. Field Studies
Prerequisite may be specified by instructor. Field trips during weekends or winter/spring recess to geologically important and significant areas such as the Grand Canyon, Baja California, the Sierra Nevada, Death Valley.

Units: 1-4

EES 167. Oceans and Atmosphere and Climate
Prerequisite: G. E. Foundation and Breadth Area B. Integrated introduction to oceans, and atmosphere, and climate changes: their origin and evolution; plate tectonics; ocean currents, waves, and tides; atmospheric circulation and El Nino; production and life; and environmental issues and concerns. G.E. Integration IB.

Units: 3

Course Typically Offered: Fall, Spring

GE Area: IB

EES 168. California's Earth System
Prerequisites: G. E. Foundation and Breadth Area B. Not applicable to B.S. in Geology. Interaction of earth, water, air, and life in

California's earth system over geologic time. Human interaction with the environment. G.E. Integration IB.

Units: 3

Course Typically Offered: Fall, Spring

GE Area: IB

EES 177. Quantitative Methods for Earth Science

Prerequisites: EES 1; MATH 75. Applications of mathematical techniques and quantitative methods in earth science; introduction to basic skills, including statistical methods, numerical techniques, matrix operations, and spatial analysis. (2 lecture, 3 lab hours) (Formerly GEOL 150T section)

Units: 3

EES 178. Geostatistics

Prerequisites: EES 1 or EES 4; Math 75 recommended. Principles and application of geostatistics and visualization techniques in Geo-environmental sciences. Topics include spatial and temporal correlation, variograms, kriging, and factor analysis, etc. Techniques are used for evaluation of mineral deposits and characterization of an environment with limited sampling data. (2 lecture, 3 lab hours, 1 day required field tests).

Units: 3

Course Typically Offered: Fall

EES 180. Computer Applications in Geology

Use of computers in geology, focusing on such applications as multi-dimensional graphics, desktop mapping, communications, on-line resources, modeling. (2 lecture, 3 lab hours) (Formerly GEOL 130T section)

Units: 3

EES 185. Remote Sensing for the Natural Sciences

Prerequisite: General Education Breadth, Area B; GEOG 105 recommended. Introduction to remote sensing techniques, including ultraviolet, visible, and infrared electromagnetic sensors, both space and aircraft based, and acoustic methods. Laboratory exercises will use examples from geology, agriculture, and society. familiarity with computers required. (2 lecture, 3 lab hours)

Units: 3

EES 186. Environmental GIS

Prerequisite: GEOG 107 recommended. Spatial information management, analysis, interpretation, and display using computer methods. Map concepts, spatial relationships, database design, and spatial analysis of data. Laboratory exercises using geologic map data, faults, earthquake epicenters, stream habitats adn restoration, and endangered species. Familiarity with computers required. (2 lecture, 3 lab hours)

Units: 3

EES 190. Independent Study

See Academic Placement - Independent Study. Approved for RP grading.

Units: 1-3, Repeatable up to 6 units

Course Typically Offered: Fall, Spring

EES 199. Undergraduate Thesis

Prerequisites: EES 102; EES 104; EES 106; senior standing. independent research project in any geologic topic supervised by a faculty member, and leading to completion of baccalaureate degree.

Units: 3

Course Typically Offered: Fall, Spring

EES 201. Seminar in Geology

Prerequisite: graduate standing. Seminar covering advanced and evolving topics in the earth sciences. Requirements include active discussion participation, frequent oral presentation, and written research papers. Satisfies Graduate Writing Skills requirement. (3 seminar hours)

Units: 3

EES 202. Geology Laboratory Teaching Techniques

Laboratory safety, lab lecture techniques, earth and environmental science activity design, equipment setups, student evaluation methods and grading, peer teaching assessment, leading field trips, etc. Primarily for teaching associates in geology. CR/NC grading only. (one 2-hour lab)

Units: 1

EES 210. Analysis of Faults and Earthquakes

Prerequisites: EES 106 and EES 107. Includes plate tectonic theory; kinematics and dynamics of fracturing and faulting; formation and propagation of seismic waves; recognizing and quantifying seismic potential; remote sensing and geophysics in applied fault studies. Field projects and oral presentations required. (2 lecture, 3 lab hours) (Course fee, $35)

Units: 3

EES 211. Fundamentals of GIS

Fundamental concepts and techniques of GIS; hands-on labs on data exploration and analysis; advanced skills in spatial and 3-D analysis on terrain and watershed delineation; midterm and final term projects. Asynchronous online.

Units: 3

EES 212. Geospatial Technologies

The course introduces global positioning systems, remote sensing, and light detection and ranging technology and their integration with Geographic Information Systems. Asynchronous online.

Units: 3

EES 214. Advanced Spatial Analysis

Prerequisites: EES 211. Spatial analysis is an advanced course in GIS that exposes students to an array of spatial analysis theories, techniques, and practices. Reading, demonstrations, applied assignments. Primarily asynchronous online.

Units: 3

EES 216. GIS Practicum

Prerequisites: EES 211; EES 212; EES 214 co-requisite. Culminating experience for Advanced Certificate in GIS designed to demonstrate advanced working knowledge of GIS. Proposal; data privacy and management; GIS project; documentation; write-up;

and presentation. Primarily asynchronous online.

Units: 3

EES 217T. Topics in Hydrogeology and Environmental Geology

Prerequisite: major in geology and/or permission of instructor. Studies of current issues and recent research topics which may include groundwater contamination, environmental pollution, and hazardous and nuclear waste management. Readings from books, journals, and government publications. Independent research and oral presentation required. Laboratory activities may be required. (FOrmerly GEOL 217)

Units: 2-3, Repeatable up to 6 units

EES 220. Groundwater Hydrology

Prerequisites: EES 117. MATH 77 recommended. Principles of flow through porous and fractured media; groundwater hydraulics in the saturated and unsaturated zones; contaminant transport; introduction to groundwater models. (2 lecture, 3 lab hours) (Course fee, $35)

Units: 3

EES 230. Contaminant Transport

Prerequisites: EES 117 or permission of instructor, MATH 76 and EES 178 recommended. A study of analytical methods to predict and draw maps of contaminant transport in water, air, and soil. MathCAD program will be used to solve the governing equations of chemical diffusion, advection and dispersion in the environment.

Units: 3

EES 231. Depositional Systems

Prerequisites: EES 102 and EES 105. Investigation of modern and ancient depositional systems. Field trip required. (2 lecture, 3 lab hours) (Course fee, $35) (Formerly GEOL 206)

Units: 3

EES 232. Basin Analysis Seminar

Prerequisites: EES 102 and EES 106. Topics may include: basin styles, tectonics and sedimentation, seismic stratigraphy, subsidence and thermal history, and petroleum plays. Research paper and oral presentation required. (Course fee, $35) (Formerly GEOL 250T)

Units: 3

EES 250T. Topics in Geology

Prerequisite: major in geology and/or permission of instructor. Advanced studies of such areas as petrology, marine geology, and regional stratigraphy. Some topics may have labs and field trips.

Units: 1-3

EES 250T. Subduction Zone Geology and Tectonics

This course will explore research on subduction zone geology and tectonics with particular emphasis on the rock record of processes along the subduction interface. The class will be a seminar style class in which students read papers from published literature, make short presentations summarizing these papers, and discuss them. There will be a field trip to California Coast Ranges to view some of the sorts of geologic features explored in the various research papers.

Units: 3, Repeatable up to 6 units

EES 251T. Topics in Engineering Geology

Prerequisites: major or minor in geology; permission of instructor. Advanced studies in areas such as slope stability, ground water monitoring, drilling and core logging, water sampling, hazardous waste site investigations, and geophysical instrumentation.

Units: 1-3

EES 263. Water Resource Management Internship

Course is taken with permission from the internship coordinator and program director. The internship requires at least 150 hours of work at pre-qualified, academically related site. Final report and presentation required. Report and presentation judged and graded by the faculty.

Units: 3

EES 264. Climatology

This course provides an understanding of weather phenomenon as the foundation of climate. Climate data from the National Climate Data Center will be manipulated to integrate spatial and temporal changes along with future forecast changes to understand natural water systems.

Units: 3

EES 265. Hyrdological System

Mechanisms of water and sediment transport in the hydrologic cycle. Advanced tools such as GIS will be used to quantify the storage and movement of water in the atmosphere, land surface, soil and underground aquifers.

Units: 3

EES 266. Natural and Agricultural Uses of Water

This course reviews natural and agricultural water use. The course identifies stakeholders and addresses natural water quality protection. Agricultural issues include soil properties, irrigation, water quality, and water reuse. Students will focus on water supply and quality management issues.

Units: 3

EES 267. Urban and Industrialized Water Use

This course introduces water management systems in urban and industrial settings. The basics of water occurrence, use, transport, treatment, and disposal are included.

Units: 3

EES 268. Water and Politics

This course explores the role of politics and public policy in developing water resources for California and the Central Valley. It provides background for understanding today's battles over the control and use of water and the future of water policy.

Units: 3

EES 269. Environmental Policy for Water Management

This course provides an overview of environmental law and policy including environmental impact assessment. Students prepare decision-making documents under the auspices of the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA) for water specific projects.

Units: 3

EES 270. Water Economics
This course will analyze water availability in light of water resource economics. Analytical tools will be used for policy and project assessment. Access points will be established for key material, providing for problem comprehension and the initiation of contemporary solutions.

Units: 3

EES 271. Volcanology
Prerequisite: EES 101. A study of volcanic activity, including classification, characteristics, products of eruptions, human interactions with volcanoes and related phenomena. Field trips required. (1 lecture, 6 lab hours)

Units: 3

EES 290. Independent Study
See Academic Placement - Independent Study. Approved for RP grading.

Units: 1-3, Repeatable up to 6 units

EES 298. Water Resource Management Project
Students receive data-sets and lists of deliverables and due dates. Student use course skills to analyze, synthesize, and produce professional quality documents and presentations within a time frame. A passing grade must be achieved for PSM in WRM completion.

Units: 3

EES 298C. Project Continuation
Prerequisite: Project 298. For continuous enrollment while completing the project. May enroll twice with department approval. Additional enrollments must be approved by the Dean of Graduate Studies.

Units: 0

EES 299. Thesis
Prerequisite: See Criteria for Thesis and Project. Preparation, completion, and submission of an acceptable thesis for the master's degree. Approved for RP grading.

Units: 2-6

EES 299C. Thesis Continuation
Prerequisite: Thesis EES 299. For continuous enrollment while completing the thesis. May enroll twice with department approval. Additional enrollments must be approved by the Dean of Graduate Studies.

Units: 0

EDUCATION AND HUMAN DEVELOPMENT (EHD)

EHD 40. Careers in Education
Provides students with an overview of opportunities in the field of teaching and other related educational professions. Active class participation is enhanced by fieldwork at school sites under the guidance of a host teacher. Students are required to observe and/or participate in a variety of settings and classrooms at the primary, middle, and secondary levels; two hour seminars weekly, plus 2-hour site observation weekly, not including travel.

Units: 2

EHD 50. Introduction to Teaching
Orientation to role of teacher in public schools; 45 observation hours of teacher-pupil interaction, instructional approaches, classroom management in elementary, secondary, and/or middle schools; two-hour lecture weekly, plus two-hour school site observation weekly, not including travel. (CSU liability insurance fee, $8)

Units: 3

Course Typically Offered: Fall, Spring, Summer

EHD 50UNITRK. Introduction to Teaching (Unitrack)
Orientation to role of teacher in public schools; observation of teacher-pupil in teraction, instructional approaches, classroom management in elementary, secondary, and/or middle schools; two-hour lecture weekly, plus two-hour school site observation weekly, not including travel. CR/NC grading only. (Unitack Only)

Units: 3

EHD 107. Child Abuse
Develops perspectives on child abuse and child victimization. Assessment, treatment, and prevention of child abuse/neglect are covered. Other areas include: effects of divorce, media, and war on the lives of children and children's rights. Course meets licensure renewal requirements for many professional groups.

Units: 3

Course Typically Offered: Fall, Spring

EHD 110D. Intial Student Teaching: Dual
Prerequisites: Admission to Multiple Subjects program; SPED 120. Supervised activities and teaching in public school classrooms including general and special education settings. CR/NC grading only. (Instructional materials fee, $7) (CSU liability insurance fee, $8)

Units: 4

Course Typically Offered: Fall, Spring, Summer

EHD 154A. Initial Student Teaching Seminar
Seminar to accompany initial student teaching that provides opportunities for candidates to investigate and discuss variety of topics and strategies and to reflect on issues that surface during their student teaching experience.

Units: 1

Course Typically Offered: Fall, Spring

EHD 154B. Final Student Teaching Seminar
Prerequisites: Concurrent enrollment in EHD 155B. Seminar to accompany final student teaching that provides opportunities for candidates to investigate and discuss variety of topics and strategies and to reflect on issues that surface during their student teaching experience.

Units: 1

EHD 154B. Final Student Teaching Seminar - Spanish

Prerequisites: Concurrent enrollment in EHD 155B. Seminar to accompany final student teaching that provides opportunities for candidates to investigate and discuss variety of topics and strategies and to reflect on issues that surface during their student teaching experience.

Units: 1

EHD 154B. Final Student Teaching Seminar - Social Sciences

Prerequisites: Concurrent enrollment in EHD 155B. Seminar to accompany final student teaching that provides opportunities for candidates to investigate and discuss variety of topics and strategies and to reflect on issues that surface during their student teaching experience.

Units: 1

EHD 154B. Final Student Teaching Seminar - Physical Science

Prerequisites: Concurrent enrollment in EHD 155B. Seminar to accompany final student teaching that provides opportunities for candidates to investigate and discuss variety of topics and strategies and to reflect on issues that surface during their student teaching experience.

Units: 1

EHD 154B. Final Student Teaching Seminar - Music

Prerequisites: Concurrent enrollment in EHD 155B. Seminar to accompany final student teaching that provides opportunities for candidates to investigate and discuss variety of topics and strategies and to reflect on issues that surface during their student teaching experience.

Units: 1

EHD 154B. Final Student Teaching Seminar - Mathematics

Prerequisites: Concurrent enrollment in EHD 155B. Seminar to accompany final student teaching that provides opportunities for candidates to investigate and discuss variety of topics and strategies and to reflect on issues that surface during their student teaching experience.

Units: 1

EHD 154B. Final Student Teaching Seminar - Kinesiology

Prerequisites: Concurrent enrollment in EHD 155B. Seminar to accompany final student teaching that provides opportunities for candidates to investigate and discuss variety of topics and strategies and to reflect on issues that surface during their student teaching experience.

Units: 1

EHD 154B. Final Student Teaching Seminar - Industrial Technology

Prerequisites: Concurrent enrollment in EHD 155B. Seminar to accompany final student teaching that provides opportunities for candidates to investigate and discuss variety of topics and strategies and to reflect on issues that surface during their student teaching experience.

Units: 1

EHD 154B. Final Student Teaching Seminar - H Ec

Prerequisites: Concurrent enrollment in EHD 155B. Seminar to accompany final student teaching that provides opportunities for candidates to investigate and discuss variety of topics and strategies and to reflect on issues that surface during their student teaching experience.

Units: 1

EHD 154B. Final Student Teaching Seminar - German

Prerequisites: Concurrent enrollment in EHD 155B. Seminar to accompany final student teaching that provides opportunities for candidates to investigate and discuss variety of topics and strategies and to reflect on issues that surface during their student teaching experience.

Units: 1

EHD 154B. Final Student Teaching Seminar - French

Prerequisites: Concurrent enrollment in EHD 155B. Seminar to accompany final student teaching that provides opportunities for candidates to investigate and discuss variety of topics and strategies and to reflect on issues that surface during their student teaching experience.

Units: 1

EHD 154B. Final Student Teaching Seminar - English

Prerequisites: Concurrent enrollment in EHD 155B. Seminar to accompany final student teaching that provides opportunities for candidates to investigate and discuss variety of topics and strategies and to reflect on issues that surface during their student teaching experience.

Units: 1

EHD 154B. Final Student Teaching Seminar - ESL

Prerequisites: Concurrent enrollment in EHD 155B. Seminar to accompany final student teaching that provides opportunities for candidates to investigate and discuss variety of topics and strategies and to reflect on issues that surface during their student teaching experience.

Units: 1

EHD 154B. Final Student Teaching Seminar - Drama

Prerequisites: Concurrent enrollment in EHD 155B. Seminar to accompany final student teaching that provides opportunities for candidates to investigate and discuss variety of topics and strategies and to reflect on issues that surface during their student teaching experience.

Units: 1

EHD 154B. Final Student Teaching Seminar - Chemistry

Prerequisites: Concurrent enrollment in EHD 155B. Seminar to accompany final student teaching that provides opportunities for candidates to investigate and discuss variety of topics and strategies and to reflect on issues that surface during their student teaching experience.

Units: 1

EHD 154B. Final Student Teaching Seminar - Business

Prerequisites: Concurrent enrollment in EHD 155B. Seminar to accompany final student teaching that provides opportunities for candidates to investigate and discuss variety of topics and

strategies and to reflect on issues that surface during their student teaching experience.

Units: 1

EHD 154B. Final Student Teaching Seminar - Biology

Prerequisites: Concurrent enrollment in EHD 155B. Seminar to accompany final student teaching that provides opportunities for candidates to investigate and discuss variety of topics and strategies and to reflect on issues that surface during their student teaching experience.

Units: 1

EHD 154B. Final Student Teaching Seminar - Art

Prerequisites: Concurrent enrollment in EHD 155B. Seminar to accompany final student teaching that provides opportunities for candidates to investigate and discuss variety of topics and strategies and to reflect on issues that surface during their student teaching experience.

Units: 1

EHD 154B. Final Student Teaching Seminar - Agricultural

Prerequisites: Concurrent enrollment in EHD 155B. Seminar to accompany final student teaching that provides opportunities for candidates to investigate and discuss variety of topics and strategies and to reflect on issues that surface during their student teaching experience.

Units: 1

EHD 155A. Student Teaching in Secondary School

Prerequisites: Admission to the Single Subject Credential Program; CI 151, CI 152, CI 159 must be taken prior to or concurrently with EDH 155A. Concurrent enrollment with SPED 121. Student teaching in middle school under clinical supervision; assignment requires 3 hours per day, Monday through Friday. CR/NC grading only. (Instructional materials fee, $15).

Units: 4, Repeatable up to 10 units

EHD 155A. Student Teaching in Secondary School

Prerequisites: admission to the Single Subject Credential Program; CI 151, 152, and CI 159 must be taken prior to or concurrently with EHD 155A. SPED 121 Special Needs Secondary Education must be taken concurrently. Student teaching in middle school under clinical supervision; assignment requires 3 hours per day, Monday through Friday. CR/NC grading only. (Instructional materials fee, $15).

Units: 4, Repeatable up to 10 units

Course Typically Offered: Fall, Spring

EHD 155B. Student Teaching in Secondary School - Math

Prerequisites: admission to student teaching, EHD 155A, CI 161 (or concurrently, depending on major departmental policy); senior or post baccalaureate standing; approval of major department including subject matter competency approval; completion of the subject matter preparation program or passing the subject matter examination(s) designated by the California Commission on Teacher Credentialing. Supervised teaching in single subject classroom; assignment is for the full day; five days per week. CR/NC grading only.

Units: 5-10

Course Typically Offered: Fall, Spring

EHD 155B. Studt Tchg Chem

Prerequisites: admission to student teaching, EHD 155A, CI 161 (or concurrently, depending on major departmental policy); senior or post baccalaureate standing; approval of major department including subject matter competency approval; completion of the subject matter preparation program or passing the subject matter examination(s) designated by the California Commission on Teacher Credentialing. Supervised teaching in single subject classroom; assignment is for the full day; five days per week. CR/NC grading only.

Units: 5-10

Course Typically Offered: Fall, Spring

EHD 155B. Studt Tchg Kines

Prerequisites: admission to student teaching, EHD 155A, CI 161 (or concurrently, depending on major departmental policy); senior or post baccalaureate standing; approval of major department including subject matter competency approval; completion of the subject matter preparation program or passing the subject matter examination(s) designated by the California Commission on Teacher Credentialing. Supervised teaching in single subject classroom; assignment is for the full day; five days per week. CR/NC grading only.

Units: 5-10, Repeatable up to 10 units

Course Typically Offered: Fall, Spring

EHD 155B. Studt Tchg ESL

Prerequisites: admission to student teaching, EHD 155A, CI 161 (or concurrently, depending on major departmental policy); senior or post baccalaureate standing; approval of major department including subject matter competency approval; completion of the subject matter preparation program or passing the subject matter examination(s) designated by the California Commission on Teacher Credentialing. Supervised teaching in single subject classroom; assignment is for the full day; five days per week. CR/NC grading only.

Units: 5-10, Repeatable up to 10 units

Course Typically Offered: Fall, Spring

EHD 155B. Studt Tchg Spch

Prerequisites: admission to student teaching, EHD 155A, CI 161 (or concurrently, depending on major departmental policy); senior or post baccalaureate standing; approval of major department including subject matter competency approval; completion of the subject matter preparation program or passing the subject matter examination(s) designated by the California Commission on Teacher Credentialing. Supervised teaching in single subject classroom; assignment is for the full day; five days per week. CR/NC grading only.

Units: 5-10, Repeatable up to 10 units

Course Typically Offered: Fall, Spring

EHD 155B. Studt Tchg P Sci

Prerequisites: admission to student teaching, EHD 155A, CI 161 (or concurrently, depending on major departmental policy); senior or post baccalaureate standing; approval of major department including subject matter competency approval; completion of

the subject matter preparation program or passing the subject matter examination(s) designated by the California Commission on Teacher Credentialing. Supervised teaching in single subject classroom; assignment is for the full day; five days per week. CR/NC grading only.

Units: 5-10, Repeatable up to 10 units

Course Typically Offered: Fall, Spring

EHD 155B. Studt Tchg I T

Prerequisites: admission to student teaching, EHD 155A, CI 161 (or concurrently, depending on major departmental policy); senior or post baccalaureate standing; approval of major department including subject matter competency approval; completion of the subject matter preparation program or passing the subject matter examination(s) designated by the California Commission on Teacher Credentialing. Supervised teaching in single subject classroom; assignment is for the full day; five days per week. CR/NC grading only.

Units: 5-10, Repeatable up to 10 units

Course Typically Offered: Fall, Spring

EHD 155B. Studt Tchg S Sci

Prerequisites: admission to student teaching, EHD 155A, CI 161 (or concurrently, depending on major departmental policy); senior or post baccalaureate standing; approval of major department including subject matter competency approval; completion of the subject matter preparation program or passing the subject matter examination(s) designated by the California Commission on Teacher Credentialing. Supervised teaching in single subject classroom; assignment is for the full day; five days per week. CR/NC grading only.

Units: 5-10, Repeatable up to 10 units

Course Typically Offered: Fall, Spring

EHD 155B. Studt Tchg Music

Prerequisites: admission to student teaching, EHD 155A, CI 161 (or concurrently, depending on major departmental policy); senior or post baccalaureate standing; approval of major department including subject matter competency approval; completion of the subject matter preparation program or passing the subject matter examination(s) designated by the California Commission on Teacher Credentialing. Supervised teaching in single subject classroom; assignment is for the full day; five days per week. CR/NC grading only.

Units: 5-10, Repeatable up to 10 units

Course Typically Offered: Fall, Spring

EHD 155B. Studt Tchg H Ec

Prerequisites: admission to student teaching, EHD 155A, CI 161 (or concurrently, depending on major departmental policy); senior or post baccalaureate standing; approval of major department including subject matter competency approval; completion of the subject matter preparation program or passing the subject matter examination(s) designated by the California Commission on Teacher Credentialing. Supervised teaching in single subject classroom; assignment is for the full day; five days per week. CR/NC grading only.

Units: 5-10, Repeatable up to 10 units

Course Typically Offered: Fall, Spring

EHD 155B. Studt Tchg Span

Prerequisites: admission to student teaching, EHD 155A, CI 161 (or concurrently, depending on major departmental policy); senior or post baccalaureate standing; approval of major department including subject matter competency approval; completion of the subject matter preparation program or passing the subject matter examination(s) designated by the California Commission on Teacher Credentialing. Supervised teaching in single subject classroom; assignment is for the full day; five days per week. CR/NC grading only.

Units: 5-10, Repeatable up to 10 units

Course Typically Offered: Fall, Spring

EHD 155B. Studt Tchg Germ

Prerequisites: admission to student teaching, EHD 155A, CI 161 (or concurrently, depending on major departmental policy); senior or post baccalaureate standing; approval of major department including subject matter competency approval; completion of the subject matter preparation program or passing the subject matter examination(s) designated by the California Commission on Teacher Credentialing. Supervised teaching in single subject classroom; assignment is for the full day; five days per week. CR/NC grading only.

Units: 5-10, Repeatable up to 10 units

Course Typically Offered: Fall, Spring

EHD 155B. Studt Tchg Fren

Prerequisites: admission to student teaching, EHD 155A, CI 161 (or concurrently, depending on major departmental policy); senior or post baccalaureate standing; approval of major department including subject matter competency approval; completion of the subject matter preparation program or passing the subject matter examination(s) designated by the California Commission on Teacher Credentialing. Supervised teaching in single subject classroom; assignment is for the full day; five days per week. CR/NC grading only.

Units: 5-10, Repeatable up to 10 units

Course Typically Offered: Fall, Spring

EHD 155B. Studt Tchg Engl

Prerequisites: admission to student teaching, EHD 155A, CI 161 (or concurrently, depending on major departmental policy); senior or post baccalaureate standing; approval of major department including subject matter competency approval; completion of the subject matter preparation program or passing the subject matter examination(s) designated by the California Commission on Teacher Credentialing. Supervised teaching in single subject classroom; assignment is for the full day; five days per week. CR/NC grading only.

Units: 5-10, Repeatable up to 10 units

Course Typically Offered: Fall, Spring

EHD 155B. Studt Tchg Drama

Prerequisites: admission to student teaching, EHD 155A, CI 161 (or concurrently, depending on major departmental policy); senior or post baccalaureate standing; approval of major department including subject matter competency approval; completion of the subject matter preparation program or passing the subject matter examination(s) designated by the California Commission on Teacher Credentialing. Supervised teaching in single subject

classroom; assignment is for the full day; five days per week. CR/NC grading only.

Units: 5-10, Repeatable up to 10 units

Course Typically Offered: Fall, Spring

EHD 155B. Studt Tchg Typ

Prerequisites: admission to student teaching, EHD 155A, CI 161 (or concurrently, depending on major departmental policy); senior or post baccalaureate standing; approval of major department including subject matter competency approval; completion of the subject matter preparation program or passing the subject matter examination(s) designated by the California Commission on Teacher Credentialing. Supervised teaching in single subject classroom; assignment is for the full day; five days per week. CR/NC grading only.

Units: 5-10, Repeatable up to 10 units

Course Typically Offered: Fall, Spring

EHD 155B. Studt Tchg Bus

Prerequisites: admission to student teaching, EHD 155A, CI 161 (or concurrently, depending on major departmental policy); senior or post baccalaureate standing; approval of major department including subject matter competency approval; completion of the subject matter preparation program or passing the subject matter examination(s) designated by the California Commission on Teacher Credentialing. Supervised teaching in single subject classroom; assignment is for the full day; five days per week. CR/NC grading only.

Units: 5-10, Repeatable up to 10 units

Course Typically Offered: Fall, Spring

EHD 155B. Studt Tchg Biol

Prerequisites: admission to student teaching, EHD 155A, CI 161 (or concurrently, depending on major departmental policy); senior or post baccalaureate standing; approval of major department including subject matter competency approval; completion of the subject matter preparation program or passing the subject matter examination(s) designated by the California Commission on Teacher Credentialing. Supervised teaching in single subject classroom; assignment is for the full day; five days per week. CR/NC grading only.

Units: 5-10, Repeatable up to 10 units

Course Typically Offered: Fall, Spring

EHD 155B. Studt Tchg Art

Prerequisites: admission to student teaching, EHD 155A, CI 161 (or concurrently, depending on major departmental policy); senior or post baccalaureate standing; approval of major department including subject matter competency approval; completion of the subject matter preparation program or passing the subject matter examination(s) designated by the California Commission on Teacher Credentialing. Supervised teaching in single subject classroom; assignment is for the full day; five days per week. CR/NC grading only.

Units: 5-10, Repeatable up to 10 units

Course Typically Offered: Fall, Spring

EHD 155B. Student Teaching in Secondary School - Agricultural

Prerequisites: admission to student teaching, EHD 155A, CI 161 (or concurrently, depending on major departmental policy); senior or post baccalaureate standing; approval of major department including subject matter competency approval; completion of the subject matter preparation program or passing the subject matter examination(s) designated by the California Commission on Teacher Credentialing. Supervised teaching in single subject classroom; assignment is for the full day; five days per week. CR/NC grading only.

Units: 5-10

Course Typically Offered: Fall, Spring

EHD 155B. Student Teaching in Secondary School

Prerequisites: Admission to student teaching; EHD 155A, CI 161 (or concurrently depending on major departmental policy); senior or postbaccalaureate standing; approval of major department including subject matter competency aprroval; completion of the subject matter preparation program or passing the subject matter examination(s) designated by the California Commission on Teacher Credentialing. Supervised teaching in a single subject classroom; assignment is for the full day; five days per week. CR/NC grading only. (CSU liability insurance fee, $8)

Units: 5-10

Course Typically Offered: Fall, Spring

EHD 160A. Part Time Multiple Subject Student Teaching

Prerequisites: Completion of Phase 2 Multiple Subject CI 175, CI 176, LEE 177, EHD 178. Clearance for Final Student Teaching. Supervised teaching in public school classrooms; teaching experience requires a minimum of one-half days, five days per week. CR/NC grading only (instructional materials fee, $5.) FS

Units: 5

Course Typically Offered: Fall, Spring

EHD 160B. Part Time Multiple Subject Student Teaching

Prerequisites: Completion of EHD 160A. Supervised teaching in public school classrooms; teaching experience requires a minimum of one-half days, five days per week. Teaching Experience culminates in assuming all full-day classroom responsibilities for at least two weeks. CR/NC grading only. (Instructional materials fee, $5) . FS

Units: 5

Course Typically Offered: Fall, Spring

EHD 170. Field Study C

Prerequisites: Completion of Phase 2 Multiple Subject, CI 175, CI 176, LEE 177, EHD 178. Clearance for Final Student Teaching. Concurrent enrollment in SPED 179. Supervised full-day, semester-long student teaching experience that culminates in assuming all classroom responsibilties for at least two weeks. Minimum required hours are Monday through Friday from 1/2 hour before school starts until at least 1/2 hour after the school day ends. CR/NC grading only. (Instructional materials fee, $10). FS

Units: 9

Course Typically Offered: Fall, Spring

EHD 170A. Field Study C Seminar

Prerequisite: Concurrent enrollment in EHD 170. This seminar accompanies Field Study C to provide opportunities for candi-

dates to investigate and discuss a variety of topics and strategies and to reflect on issues that surface during their student teaching experience. Credit / No Credit Grading Only.

Units: 2

EHD 170ECE. Field Study C

Prerequisites: Completion of Phase 2 Multiple Subject Credential, Early Childhood Education Program (CI 175, LEE 177ECE, LEE 148, CI 150ECE, EHD 178ECE); Concurrent enrollment in SPED 120 recommended. Supervised full-day, semester-long student teaching experience that culminates in assuming all classroom responsibilities for at least two weeks. Minimum required hours are Monday through Friday half an hour before school starts, until at least half an hour after the school day ends. CR/NC grading only. (Instructional material fee $10).

Units: 9

Course Typically Offered: Fall, Spring

EHD 174. Field Study A/Grades 4-8

Prerequisites: Admission to the Multiple Subject Credential program. (CI 171 and LEE 172 or Concurrent enrollment). Concurrent enrollment in LEE 173. Supervised field experience in a 4-8 grade classroom. First in a sequence of three field placements preparing teacher candidates to teach in culturally and linguistically diverse classrooms. Requires a minimum of 6 hours a week over two afternoons, plus seminars. CR/NC grading only. (CSU liability insurance fee, $8)

Units: 2

Course Typically Offered: Fall, Spring, Summer

EHD 174A. Field Study A Seminar

Prerequisite: Concurrent enrollment in EHD 174. This seminar accompanies Field Study A to provide opportunities for candidates to investigate and discuss a variety of topics and strategies and to reflect on issues that surface during their student teaching experience. Credit / No Credit Grading Only.

Units: 1

EHD 174ECE. Field Study A-ECE

Prerequisite: Admission to Multiple Subject Credential, Early Childhood Education Program; Concurrent enrollment in LEE 173ECE; completion or Concurrent enrollment in CI 171ECE and LEE 172ECE. Supervised field experience in a 4-8 classroom; includes lesson planning and teaching reading and mathematics. CR/NC grading only. (CSU liability insurance fee, $8)

Units: 2

Course Typically Offered: Fall, Spring

EHD 178. Field Study B/Grades K-3

Prerequisites: CI 171, LEE 172, LEE 173, EHD 174. CI 175 and CI 176 must be taken prior to or concurrently with this course. Concurrent enrollment in LEE 177. Supervised field experience in a K-3 classroom. Second of three field placements preparing teacher candidates to teach in culturally and linguistically diverse classrooms. Requires a minimum of 12 hours a week (weekday mornings), plus seminars. CR/NC grading only.(Fomerly EHD 110) (Instructional Materials fee, $7) (CSU liability insurance fee, $8)

Units: 2

Course Typically Offered: Fall, Spring

EHD 178A. Field Study B Seminar

Prerequisite: Concurrent enrollment in EHD 178. This seminar accompanies Field Study B to provide opportunities for candidates to investigate and discuss a variety of topics and strategies and to reflect on issues that surface during their student teaching experience. Credit / No Credit Grading Only.

Units: 1

EHD 178ECE. Field Study B-ECE

Prerequisites: Completion of Phase I Multiple Subject Credential, Early Childhood Education Program (CI 171ECE, LEE 172ECE, LEE 173ECE, EHD 174ECE, CI 176); Concurrent enrollment in LEE 177ECE & LEE 148. Phase 2 supervised field experience in culturally and linguistically diverse preschool and K-3 classrooms. CR/NC grading only. Instructional material fee $7. (CSU liability insurance fee, $8)

Units: 2

Course Typically Offered: Fall, Spring

EHD 180T. Topics in Education and human development: Lesson Study

The implementation of student-centered teaching of mathematics through practicing Lesson Study. International and local perspective to best practices through active learning. Coaching and cognitively guided instruction embedded in lesson study.

Units: 1, Repeatable up to 9 units

ENGLISH (ENGL)

ENGL RS. Writing Skills Application

Covers fundamental composition elements to aid the development of basic writing skills; not applicable toward baccalaureate degree requirements. CR/NC grading only.

Units: 1-3

Course Typically Offered: Fall, Spring

ENGL 1L. Writing Tutorial

May be taken concurrently with ENGL 5A, ENGL 5B, ENGL 10, or ENGL 160W. Students work in a small group of two-three students and a tutor discussing writing assignments and collaborating by giving each other feedback and sharing strategies for revision. The tutor acts as a “personal trainer” by helping understand and fulfill the demands of your assignments according to your individual needs. CR/NC grading only. (2 hours)

Units: 1, Repeatable up to 3 units

Course Typically Offered: Fall, Spring

ENGL 2. Writing Workshop

Practical assignments and individual coaching on specific writing problems. For selected students this workshop may be required to be taken concurrently with, or as prerequisite to, other courses.

Units: 1-4

Course Typically Offered: Fall, Spring

ENGL 5A. Academic Literacy I

Practice in reading and writing processes, making literacy decisions based on audience, context, and purpose. Direct instruction on reading comprehension; genre analysis; planning, composing

and revising writing; research strategies; paragraph development, sentence competence, and grammatical conventions. With ENGL 5B, equivalent of ENGL 10. CR/NC grading only.

Units: 3

Course Typically Offered: Fall, Spring

ENGL 5B. Academic Literacy II

Prerequisite: Completion of ENGL 5A with a grade of C or better. Continued study of reading and writing in various genres. Focus on research, analysis, synthesis, argument, and evaluation. Students guided to analyze the rhetorical qualities of academic literacy and language. Longer papers, portfolio assessment. G.E. Foundation A2.

Units: 3

Course Typically Offered: Fall, Spring

GE Area: A2

ENGL 10. Accelerated Academic Literacy

Reading and writing in academic and public genres, special attention to rhetorical decision-making and critical analysis. Guided instruction in reading and responding to texts. Participation in public and academic conversations via research in primary and secondary sources. (Formerly English 1) Enrollment in ENGL 10 not allowed if already received passing grade in ENGL 5A.

Units: 3

Course Typically Offered: Fall, Spring

GE Area: A2

ENGL 10H. Honors Accelerated Academic Literacy

Open to students in the honors college only. Reading and writing in academic and public genres, special attention to rhetorical decision-making and critical analysis. Guided instruction in reading and responding to texts. Participation in public and academic conversations via research in primary and secondary sources. Portfolio Assessment. A grade of C or better is required to satisfy the University's Engligh composition requirement. G.E. Foundation A2.

Units: 3

GE Area: A2

ENGL 20. Introduction to Literature

Prerequisite: G.E. Foundation A2 (ENGL 5B OR ENGL 10). Introduction to literary appreciation and criticism through reading and close written analyses of short stories, novels, drama, and poetry from diverse Western and non-Western cultures. G.E. Breadth C2. (CAN ENGL 4)

Units: 4

Course Typically Offered: Fall, Spring

GE Area: C2

ENGL 30. Masterpieces

Prerequisites: G.E. Foundation A2 (ENGL 5B OR ENGL 10). Introduction to literary appreciation and criticism through discussion and written analyses of widely influential poetic, dramatic, and fictional works by British, American, and world authors (Western and non-Western), including the contexts for those works. G.E. Breadth C2.

Units: 4

Course Typically Offered: Fall, Spring

GE Area: C2

ENGL 31. Readings in British Literature

Prerequisites: ENGL 5B or ENGL 10. Chronological survey of British Literature from medieval to contemporary. Discussion and written analyses of influential poetry, drama, fiction and nonfiction, including historical and cultural contexts. Required for English majors.

Units: 4

Course Typically Offered: Fall, Spring

ENGL 32. Readings in American Literature

Prerequisite: ENGL 5 or ENGL 10. Chronlogical survey of U.S. Literature from Native American oral traditions to contemporary. Discussion and written analyses of influential poetry, drama, fiction and nonfiction., including historical and cultural contexts. Required for English majors.

Units: 4

Course Typically Offered: Fall, Spring

ENGL 41. Poetry Writing

Beginning workshop in the writing of poetry; appropriate reading and analyses. G.E. Breadth C1.

Units: 4

Course Typically Offered: Fall, Spring

GE Area: C1

ENGL 42H. Creative Writing

Open to students in the Smittcamp Family Honors College only. Beginning workshop in the writing of poetry and fiction; appropriate readings and analysis. G.E. Breadth c2.

Units: 4

GE Area: C1

ENGL 43. Fiction Writing

Beginning workshop in the writing of fiction; appropriate reading and analyses. G.E. Breadth C1.

Units: 4

Course Typically Offered: Fall, Spring

GE Area: C1

ENGL 44. Creative Nonfiction Writing

Beginning workshop in lyric essay, memoir, and other forms of creative nonfiction writing; appropriate readings and analysis. G.E. Breadth C1.

Units: 4

Course Typically Offered: Fall, Spring

GE Area: C1

ENGL 50T. Studies in Literature

(Same as WS 50T, Women in Novels section.) Prerequisite: ENGL 5 or ENGL 10. Sections designated as emphasizing certain writers, types, or themes, e.g., Shakespeare, The Poem, Literature of Protest, Women in Novels. Appropriate readings and analyses.

Units: 1-4, Repeatable up to 8 units

ENGL 100W. Writing Skills
Credit obtained only by passing Upper-Division Writing Skills Examination and upon request. CR/NC grading only.

Units: 1

Course Typically Offered: Fall, Spring

ENGL 101. Masterpieces of World Literature
Prerequisites: G.E. Foundation and Breadth Area C. Discussion and written analyses of influential poetry, drama, fiction, and nonfiction (in translation) from throughout the world, including historical and cultural contexts. Not applicable to the English major. G.E. Integration IC.

Units: 4

Course Typically Offered: Fall, Spring

GE Area: IC

ENGL 102. Masterpieces of English Literature
Prerequisites: G.E. Foundation and Breadth Area C. Discussion and written analyses of influential poetry, drama, fiction, and non-fiction by British authors as well as colonial and post-colonial works influenced by English literature. Historical and cultural contexts of literary works. Not applicable to the English major. G.E. Integration IC.

Units: 4

Course Typically Offered: Fall, Spring

GE Area: IC

ENGL 102WZ. Masterpieces of English Literature
Prerequisites: G.E. Foundation and Breadth Area C. Discussion and written analyses of influential poetry, drama, fiction, and non-fiction by British authors as well as colonial and post-colonial works influenced by English literature. Historical and cultural contexts of literary works. Not applicable to the English major. G.E. Integration IC.

Units: 4

GE Area: IC

ENGL 103. Masterpieces of American Literature
Prerequisites: G.E. Foundation and Breadth Area C. Discussion and written analyses of influential drama, fiction, and nonfiction by American authors and representing the cultural diversity of the nation. Historical and social contexts of literary works. Not applicable to the English major. G.E. Integration IC.

Units: 4

Course Typically Offered: Fall, Spring

GE Area: IC

ENGL 104. Children's and Adolescent Literature
Survey of the major forms and genres of children's literature. Designed primarily for future elementary school teachers. May not be used for credit toward the English major.

Units: 4

Course Typically Offered: Fall, Spring

ENGL 105. Introduction to Literary Analysis
Prerequisite: ENGL 31 and ENGL 32. The theory and practice of literary analysis. Examination of the concept of literary tradition; consideration of research methods; application of critical theory to textual analysis and the writing of literary criticism. Required for English majors.

Units: 4

Course Typically Offered: Fall, Spring

ENGL 112. World Literature: Ancient
Prerequisites: G.E. Foundation and Breadth Area C. Analysis of texts (in translation) from c. 1650 BCE-750 CE, from areas such as China, India, Egypt, Israel, Greece, and Rome. Possible topics: epics and empires, civilization and wilderness, lyric experience, dramatizations of love and terror, and quests for wisdom. G.E. Integration IC.

Units: 4

Course Typically Offered: Fall, Spring

GE Area: IC

ENGL 113. World Literature: Medieval and Renaissance
Prerequisites: G.E. Foundation and Breadth Area C. Analysis of texts (in translation) from c. 750-1650, from areas such as Japan, Mali, Mexico, Spain and Persia. Possible topics: travelers' tales and intercultural encounters, satire and social critique, poetic and narrative self-fashioning, patronage and eroticism in court poetry. G.E. Integration IC.

Units: 4

Course Typically Offered: Fall, Spring

GE Area: IC

ENGL 114. World Literature: Modern
Prerequisites: G.E. Foundation and Breadth Area C. Analysis of texts (Anglophone and in translation) from c.1650 to the present, from areas such as Africa, Asia, Europe, and Latin America. Possible topics: imperialism and resistance, enlightenment, Romanticism, nationalism, modernism, postcolonialism, globalization, migration, evolving cultural and sexual identities. G.E. Integration IC.

Units: 4

Course Typically Offered: Fall, Spring

GE Area: IC

ENGL 115W. Literature of the New Testament
(ENGL 115W same as PHIL 133W.) Prerequisite: satifactory completion (C or better) of the ENGL 5B or ENGL 10 graduation requirement. Discussion and close written analyses of selected texts from the New Testament. Meets upper-division writing skills requirement for graduation.

Units: 3

Course Typically Offered: Fall, Spring

ENGL 116. Literature of the Old Testament
(ENGL 116 same as PHIL 134.) Discussion and written analyses of selected texts from the Hebrew Bible. Special attention to the sources and styles of biblical literarcy techniques.

Units: 4

Course Typically Offered: Fall

ENGL 117W. Writing from Children's Lit

Prerequisite: Satisfactory completion of G.E. Foundation and breadth area C. This course includes intensive, inquiry-based writing that emerges from the study of children's literature from grades K-6. Meets upper-division writing requirement. Enrollment limited to Liberal Studies Majors.

Units: 3

Course Typically Offered: Fall, Spring

ENGL 131. Literacy Studies

Corequisite: ENGL 105. Examines current issues in the field of literacy studies pertaining to English education. Particular emphasis given to literacy acquisition, adolescent literacy, and the discourses of literary analysis and writing pedagogy. Required for English credential majors. (Formerly ENGL 175T)

Units: 4

Course Typically Offered: Fall, Spring

ENGL 146. Medieval Literature

Corequisite: ENGL 105. Analysis of British texts, c. 500-1500. Topics may include oral and manuscript cultures; religious, linguistic and political conversion; and class, gender and sexuality in the literatures of monastery, court, and marketplace.

Units: 4

Course Typically Offered: Fall, Spring

ENGL 147. English Renaissance Literature

Corequisite: ENGL 105. Analysis of texts, 1500-1660. Topics may include Renaissance humanism, Reformation, Counter-Refomration, New World exploration, conflicting political and social cultures of court and city, the rise of print, the advent of English theater, and the development of vernacular literary forms.

Units: 4

Course Typically Offered: Spring

ENGL 150. Restoration and 18th Century Literature

Corequisite: ENGL 105. Analysis of British texts, 1660-1800. Topics may include commerce and mercantilism, colonialism, and global trade, crime and poverty, and an increased emphasis on feminine domesticity and masculine civic virtue.

Units: 4

Course Typically Offered: Fall

ENGL 151. British Romantic Literature

Corequisite: ENGL 105. Analysis of texts from 1789-1832, period of the French and Industrial Revolutions. Topics will examine how expansions in the literary marketplace intersect with the growth of domestic ideology and the idea of 'natural' rights to form national identity.

Units: 4

Course Typically Offered: Spring

ENGL 152. Victorian Literature

Corequisite: ENGL 105. Analysis of British texts, 1832-1901. Topics may include the condition of England, the spiritual crisis and science, empire and travel, cultural identity, and the "Woman Question".

Units: 4

ENGL 153. American Literature to 1865

Corequisite: ENGL 105. Analysis of texts, pre-contact to the Civil War. Topics may include American Indian creation stories and oral narratives, exploration, colonialism, Puritanism, frontier life, transcendentalism, and slavery.

Units: 4

Course Typically Offered: Spring

ENGL 154. American Literature 1865 to World War I

Corequisite: ENGL 105. Analysis of texts from Reconstruction to 1918. Topics may include the women's rights movement, realism and naturalism, urbanization and industrialization, migration and immigration.

Units: 4

Course Typically Offered: Spring

ENGL 155. Modern and Contemporary American Literature

Corequisite: ENGL 105. Analysis of texts since World War I. Topics may include alienation and disillusionment, self-conscious experimentation, the impact of the media and technology, social movements and identity politics, globalization, and postmodernism.

Units: 4

Course Typically Offered: Fall, Spring

ENGL 156. Modern and Contemporary British Literature

Corequisite: ENGL 105. Discussion and written analyses of selected poems, plays, and fiction from 1900 to the present by such authors as Forster, Yeats, Woolf, Lawrence, Joyce, Greene, Auden, Thomas, and post-World War II writers.

Units: 4

Course Typically Offered: Fall, Spring

ENGL 156Z. Modern and Contemporary British Literature

Discussion and written analyses of selected poems, plays, and fiction from 1900 to the present by such authors as Forster, Yeats, Woolf, Lawrence, Joyce, Greene, Auden, Thomas, and post-World War II writers.

Units: 4

ENGL 160W. Writing Workshop

Prerequisite: satisfactory completion (C or better) of the ENGL 5B or ENGL 10 graduation requirement. Practical assignments in writing, directed according to each student's individual needs. May be elected as preparation for special composition requirements. Does not apply to the English major or minor. Meets the upper-division writing skills requirement for graduation.

Units: 4, Repeatable up to 8 units

Course Typically Offered: Fall, Spring

ENGL 160WZ. Writing Workshop

Prerequisite: satisfactory completion (C or better) of the ENGL 5B or ENGL 10 graduation requirement. Practical assignments in writing, directed according to each student's individual needs. May be elected as preparation for special composition requirements. Does not apply to the English major or minor. Meets the upper-di-

vision writing skills requirement for graduation.

Units: 4

ENGL 161. Advanced Writing of Poetry

Prerequisite: ENGL 41. Intensive workshop in the writing of poetry; appropriate readings and analyses.

Units: 4, Repeatable up to 8 units

Course Typically Offered: Fall, Spring

ENGL 163. Advanced Writing of Fiction

Prerequisite: ENGL 43. Intensive workshop in the writing of fiction; appropriate readings and analyses.

Units: 4, Repeatable up to 8 units

Course Typically Offered: Fall, Spring

ENGL 164. Advanced Writing of Creative Nonfiction

Prerequisite: ENGL 44. Intensive workshop in memoir, lyric essay, and all other forms of creative nonfiction writing; appropriate readings and analyses.

Units: 4, Repeatable up to 8 units

Course Typically Offered: Fall, Spring

ENGL 164Z. Advanced Prose Writing

Prerequisite: ENGL 5B or ENGL 10. Workshop in all forms of nonfiction prose writing; appropriate readings and analyses. Designed for majors in all fields who want to develop their writing.

Units: 4, Repeatable up to 8 units

ENGL 167. Mythology and Folklore

Discussion and written analyses of the structure, content, and function of myth and folklore in world literature, with particular emphasis on the relationships among language, myth, and culture.

Units: 4

Course Typically Offered: Spring

ENGL 168T. Women and Literature

(WS 168T same as ENGL 168T.) Prerequisite: ENGL 20. Discussion and written analysis of literature by and about women. Special emphasis on 19th and 20th Century authors including the Brontes, George Eliot, Emily Dickinson, Edith Wharton, Virginia Woolf, and contemporary writers.

Units: 4, Repeatable up to 8 units

ENGL 169T. Forms of Literature

Sections designated as emphasizing poetry, drama, novel, short story, perhaps limited to a specific period or subclass; for example, 18th Century English Novel, 20th Century British and American Poetry, Modern Short Stories, 20th Century Drama, Tragedy, Folklore, Mythology. Discussion and written analyses are required.

Units: 1-4, Repeatable up to 8 units

Course Typically Offered: Spring

ENGL 169T. Mexican American Literature

An undergraduate seminar in Mexican American literature. It provides the skills necessary to understand and historically contextualize literature produced by Mexican American authors between the years 1848 to the present. Texts discussed in class include novels, poetry and plays.

Units: 4, Repeatable up to 8 units

ENGL 171. Biography and Autobiography

Reading, discussion, and written analyses of selected biographical or autobiographical works, including such topics as literary biography, the autobiographical essay, memoirs, and issues of gender and ethnicity in biographical form.

Units: 4

Course Typically Offered: Fall

ENGL 174. Popular Fiction

Prerequisites: G.E. Foundation and Breadth Area C. Survey of major types of popular genre fiction (detective, horror, spy, science fiction, Western, fantasy, etc.) Discussion; writing. Examination of works in cultural and historical context and as literary and commercial art. G.E. Integration IC.

Units: 3

Course Typically Offered: Fall, Spring

GE Area: IC

ENGL 174Z. Popular Fiction - London in Literature

Units: 3

GE Area: IC

ENGL 175T. Lectures in Literature

Lectures in a selected topic in literature or related fields by the regular faculty and/or visiting lecturers.

Units: 1-4, Repeatable up to 12 units

ENGL 175T. Writing in the Digital Age

Designed especially for future teachers of writing, this ciurse introduces students to the variety of new genres (including blogs, wikis, etc) and modes of reception produced by the development of traditional print forms into online and e-formats.

Units: 4, Repeatable up to 12 units

ENGL 176T. Apocalyptic Film

We will be focusing primarily on robot/cyborg films of the 50's, 60's, and 70's as apocalyptic narratives. From the atomic bomb to the red scare to the roles of women to distrust of corporate America to the awe and mystery of life itself, the films we will be looking at reflect how we as a culture have been and perhaps where we in many respects remain.

Units: 4, Repeatable up to 12 units

ENGL 177. Literature, Cinema and the Liberal Arts

Explores humanistic themes and motifs through comparative analysis of works of literature, drama, and contemporary cinema. Examines how film and the other arts shape and reflect American values. Two essay midterms. Final project/paper. Five thousand work writing requirement. (Formerly INTD 168)

Units: 4

Course Typically Offered: Fall

ENGL 178. Lesbian & Gay Literature

Prerequisite: ENGL 105 or permission of the instructor. Discussion and written analysis of literature that explores lesbian, gay, bisexual, transgender, and/or queer identities and experience. Also

considers how cultural and historical forces shape current notions of sexual identity and community

Units: 4

Course Typically Offered: Spring

ENGL 179. Multi-Ethnic American Literature

Prerequisite: English 5B or ENGL 10. Discussion and written analysis of selected poems, plays, fiction, and memoir by authors from several American ethnic backgrounds, such as African American, American Indian, Latino/Hispanic American, Asian American. (Formerly ENGL 169T)

Units: 4

Course Typically Offered: Spring

ENGL 181. Literary Theory and Criticism

A survey of literary theory, including Marxism, feminism, psychoanalysis, deconstruction, structuralism, and post-structuralism. Topics also include the history of literary criticism and the practice of interpretation. Discussion, lectures, written analyses.

Units: 4

Course Typically Offered: Fall, Spring

ENGL 182. English Workshop

Seminar in composition and learning. Discussion and practical exercises concerning theory, evaluation, and improvement of language learning and composition. CR/NC grading only.

Units: 1-4, Repeatable up to 8 units

Course Typically Offered: Fall, Spring

ENGL 183T. Seminar in Literature

Prerequisite: appropriate upper-division literature course. Designed for students interested in in-depth study of a literary topic; recommended for liberal studies majors. Seminar in an aspect of literary history, type, period, movement, individual author. Reports and written analyses required.

Units: 1-4, Repeatable up to 8 units

ENGL 184. Chaucer

Reading, discussion, and written analyses of the major works of Geoffrey Chaucer.

Units: 4

Course Typically Offered: Fall

ENGL 185. English Internship Seminar

Prerequisite: permission of instructor. Seminar to be taken concurrently with ENGL 186 during the first semester of enrollment in program. Group and individual analyses of writing done in internship assignments. Discussion of the rhetorical problems of writing for public agencies, magazines and journals, and private industry. CR/NC grading only.

Units: 2

Course Typically Offered: Fall, Spring

ENGL 186. Internship in English

Prerequisite: permission of instructor. No more than 2 units of ENGL 186 may apply to the English major. See also ENGL 185. Supervised work experience in public agencies and private industry to provide an opportunity to develop professional writing skills. Approved for SP grading. CR/NC grading only.

Units: 2-6

Course Typically Offered: Fall, Spring

ENGL 187. Milton

Reading, discussion, and written analyses of the major works of John Milton.

Units: 4

Course Typically Offered: Spring

ENGL 189. Shakespeare

(ENGL 189 same as DRAMA 194.) Reading and writing analysis of major works of Shakespeare.

Units: 4

Course Typically Offered: Fall, Spring

ENGL 189Z. Shakespeare

Units: 4

ENGL 190. Independent Study

See Academic Placement - Independent Study. Approved for SP grading.

Units: 1-3, Repeatable up to 6 units

ENGL 191. Supervised Independent Reading

Prerequisite: permission of instructor. Reading works from a literary period (for example, Beowulf to Marlowe, American Literature to Whitman, World Literature: Ancient and Medieval) and discussion in individual conferences. (Formerly ENGL 191T)

Units: 1-4

Course Typically Offered: Fall, Spring

ENGL 192. Projects in English

Not applicable to English major. Individual projects in problems related to teaching English composition and literature; for example, tutoring minority students, investigating the effectiveness of programs in English composition and literature, devising new approaches to teaching English.

Units: 1-4, Repeatable up to 8 units

Course Typically Offered: Fall, Spring

ENGL 193T. Seminar in Literary Studies

No more than 12 units of ENGL 193T- ENGL194T may be applied to the English major. Sections designated by topic. Individual projects; reading, discussion, and writing of papers on individual writers (for example, Milton, D.H. Lawrence), short periods of literary history (for example, Romantic Poets, Modern Novel), literary themes and traditions (for example, Transcendental Vein in American Literature, Arthurian Tradition) literary criticism (for example, Problems in Modern Criticism, Archetype and Myth), and other special topics. ENGL 193T should ordinarily not be taken until 3 upper-division courses in English have been completed.

Units: 4, Repeatable up to 8 units

Course Typically Offered: Fall, Spring

ENGL 193T. US Labor Immigration & Racial politics

This course explores historical U.S. racialization processes and labor competition as the outcomes of exploitative capital over

labor. Our readings consider how racial privilege and meritocratic discourse have been deployed repeatedly as a political wedge issue that splits labor into separate factions in order to prevent coalition building.

Units: 4, Repeatable up to 8 units

ENGL 193T. Europe Now

Literature about and from Europe. The course will examine questions of national, cultural and racial identities and their permeability, Europe's unity and diversity, borders and border-crossings, belonging and memory.

Units: 4, Repeatable up to 8 units

ENGL 193T. Origins of the English Novel

Studies of predecessors to and foundational examples of fiction in English from the 17th through the early 19th centuries. Topics include gender and genre, city as setting, the rise of consumer culture, representing desire, individuals navigating society.

Units: 4, Repeatable up to 8 units

ENGL 194T. Seminar in Women and Literature

(ENGL 194T same as WS 194T.) May be substituted for ENGL 193T in the English major; no more than 12 units of ENGL 193T-ENGL194T applicable to the major. Sections designated by topic. Individual projects; reading, discussion, and writing papers on individual women writers or some aspect of women in literature; for example, Doris Lessing, Myth and Archetypes of Women. ENGL 194T should ordinarily not be taken until 3 upper-division courses in English have been completed.

Units: 4, Repeatable up to 8 units

ENGL 197T. Culminating Workshop in the Major

Prerequisites: ENGL 105 and completion of 80% of major coursework. This course helps students prepare a reflective portfolio or other project that demonstrates their learning in the major. Generally, this class should be taken the semester before you graduate.

Units: 1-2

ENGL 205. Research Methods

A graduate-level seminar in research methods in English studies. Students will learn scholarly modes of evaluation, analysis, critical approaches, argumentation, academic conventions, and professional ethics. Required of first year students in the English M.A.

Units: 4

ENGL 241. Seminar in Form and Theory: Poetry

Prerequisite: normally limited to students enrolled in the graduate creative writing program; others admitted by permission of instructor. Seminar in literary craft designed primarily for the graduate writing student to provide intensive study of current and traditional formal, stylistic, and technical issues and controversies in the genre (for example, traditional prosody, non-traditional poetics, and contemporary lyric).

Units: 4, Repeatable up to 12 units

ENGL 242. Literary Editing and Publishing

Prerequisite: normally limited to students enrolled in the graduate creative writing program; others admitted by permission of instructor. Seminar in evaluating literary manuscripts, including but not limited to poetry collections submitted for the annual Philip Levine Prize in Poetry. Issues of aesthetic, book manuscript development, literary contest administration, and poetry book production and marketing.

Units: 4, Repeatable up to 12 units

ENGL 243. Seminar in Form and Theory: Fiction

Prerequisite: normally limited to students enrolled in the graduate creative writing program; others admitted by permission of instructor. Seminar in literary craft designed primarily for the graduate writing student to provide intensive study of current and traditional formal, stylistic, and technical issues and controversies in the genre (for example, narrative theory and non-traditional fictional forms).

Units: 4, Repeatable up to 12 units

ENGL 245. Seminar in Form and Theory: Creative Nonfiction

Prerequisite: normally limited to students enrolled in graduate creative writing program; others by permission of instructor. Seminar in literary craft designed primarily for the graduate writing student to provide intensive study of current and traditional formal, stylistic and technical issues and controversies in the genre (for example, traditional and nontraditional essay forms, memoir, prose theory).

Units: 4, Repeatable up to 12 units

ENGL 250T. Seminar in Literature

Prerequisites: major or minor in English; permission of instructor. Seminar in an aspect of literary history, type, period, movement, or an individual author (for example, Fiction, Seventeenth Century Lyric Poetry, The Irish, Dickens).

Units: 4

ENGL 250T. Political Poetry

A study of U.S. poets whose work questions social and sociopolitical behaviors or serves as witness to history in various ways. Starting as far back as the Puritans and moving all the way into the 21st century, we'll explore definitions, purposes and potential effects of such work.

Units: 4, Repeatable up to 8 units

ENGL 250T. US Women Essayists

Beginning with some of the most significant contemporary thinkers and cultural critics in the field of literary nonfiction, this course will also examine more recently published works in an effort to explore the American women writer's role in the essay's history, possibilities, and current popularity.

Units: 4, Repeatable up to 8 units

ENGL 250T. 20th/21st Century United States Women's Writing

Study of different genres written by U.S. women from a variety of ethnic backgrounds since 1900.

Units: 4

ENGL 250T. Japanese Novel

This course will explore major Japanese authors and work in translation from the early 20th century into the 21st century, representing major themes and trends in Japanese fiction during that period. Discussion will include themes and structure of the novels as well as historical and cultural context.

Units: 4, Repeatable up to 12 units

ENGL 261. Seminar: Writing Poetry
Prerequisite: permission of instructor. Advanced individual projects in the writing of poetry.

Units: 4, Repeatable up to 16 units

ENGL 263. Seminar: Writing Fiction
Prerequisite: permission of instructor. Advanced individual projects in the writing of fiction.

Units: 4, Repeatable up to 16 units

ENGL 265. Seminar: Writing Creative Nonfiction
Prerequisite: permission of instructor. Advanced individual projects in the writing of creative nonfiction.

Units: 4, Repeatable up to 16 units

ENGL 270. Seminar in Teaching Writing: Theory and Practice
Prerequisites: major or minor in English; permission of instructor. Seminar considers histories, philosophies, and research that inform pedagogical practices in rhetoric and composition. It introduces basic teaching methods through such activities as class discussions, curriculum design, and assessments.

Units: 4

ENGL 278T. Seminar in Rhetoric and Composition
Explores special topics in rhetoric and composition studies, such as rhetorical theory and history, composition theory, literacy theory, research methods, genre studies, writing assessment, teaching with technology. ENGL 278T is an approved elective for the Literature Option.

Units: 4, Repeatable up to 8 units

ENGL 280T. Seminar in Critical Theory
Prerequisites: major or minor in English; permission of instructor. Seminar in literary criticism (for example, Literary Critics).

Units: 4, Repeatable up to 12 units

ENGL 281. Current Writing Theory
Prerequisites: major or minor in English; permission of instructor. Designed to acquaint the student with current key issues in composition theory and the theoretical implications for course design and pedagogy.

Units: 4

ENGL 282. Practicum in the Teaching of Writing
Prerequisite: permission of instructor. Practical discussions of daily work of teaching or tutoring writing. Up 2 units apply to the Rhetoric and Writing Studies Option. Required of all Teaching Associates and Tutors every semester as a teacher/tutor.

Units: 1, Repeatable up to 8 units

ENGL 286S. Practicum in Literary Arts - Publishing and Programming
Limited to students enrolled in the MFA program. Supervised work on editorial staff of professional literary magazine; projects in arts programming and service-learning. Repeatable for credit. Letter grade only.

Units: 1-6, Repeatable up to 16 units

ENGL 290. Independent Study
See Academic Placement - Independent Study. Approved for RP grading.

Units: 1-3, Repeatable up to 6 units

ENGL 291. Supervised Independent Reading
Prerequisite: permission of instructor. Reading works from a literary period (for example, More to Milton, 20th Century American Literature, World Literature, Renaissance-Modern) and discussion in individual conferences. Approved for RP grading. (Formerly ENGL 291T)

Units: 1-4

ENGL 298. Project
Prerequisite: See Criteria for Thesis and Project. Revising, amending, and editing of three original scholarly papers produced while enrolled in graduate seminars, with the goal of creating publishable journal articles. The student's committee must approve of the scope and quality of the papers. Abstract required. Approved for RP grading.

Units: 2

ENGL 298C. Project Continuation
Prerequisite: Project ENGL 298. For continuous enrollment while completing the project. May enroll twice with department approval. Additional enrollments must be approved by the Dean of Graduate Studies.

Units: 0

ENGL 299. Thesis
Prerequisite: See Criteria for Thesis and Project. Preparation, completion, and submission of an acceptable thesis for the master's degree. Approved for RP grading.

Units: 2-6

ENGL 299C. Thesis Continuation
Prerequisite: Thesis 298. For continuous enrollment while completing the thesis. May enroll twice with department approval. Additional enrollments must be approved by the Dean of Graduate Studies.

Units: 0

ENGL 422T. Disoriented Word
Units: 3

ENGL 622T. Disoriented Word
Units: 3

ENGL 622T. Cultrs/Chldhd
Units: 3

ENGINEERING (ENGR)

ENGR 1H. Honors Seminar
Seminar course for first semester freshman LCOE Honors Program students. Lectures, guests, discussions. Leadership training

in engineering/construction management professions. Topics: interactive leadership, decision making, technical innovation, global community, ethics, professional service. Emphasis: leadership awareness, leadership training/skill building.

Units: 1

ENGR 2H. Honors Project

Project for second semester, freshman LCOE Honors students. Lectures, guests, discussions, experiential service-learning community projects, engineering/construction management professions. Topics: teamwork, leadership, service-learning, community-engagement, technical applications, human factors, innovation, entrepreneurship, ethics. Emphasis: hands-on service projects in community.

Units: 1

ENGR 3H. Honors Seminar II

Seminar for first semester, sophmore LCOE Honors students. Lectures, guests, discussions, workshops. Leadership training in engineering/construction management professions. Topics: Proactive/interactive leadership, decision making, goal setting, project planning, leaadership attitude, team building, innovation, ethics. Emphasis: leadership awareness/training/skill building, goal setting, teamwork.

Units: 1

ENGR 4H. Honors Project II

Project for second semester, sophmore LCOE Honors students. Lectures, guests, discussions, experiential service-learning professional projects in engineering/construction management. Topics: teamwork leadership, professional engagement, technical applications, human factors, innovation/entrepreneurship, ethical behavior, pro-bono service. Emphasis: hands-on professional service projects.

Units: 1

ENGR 11. Engineering Applications

Open to qualified high school juniors and seniors only. Selected topics in engineering that serve as an introduction to the field of engineering and technology. (Formerly ENGR 1T)

Units: 1-4, Repeatable up to 12 units

ENGR 101. Applied Engineering Analysis I

Covers selected topics in mathematical analysis, with emphasis on applications to engineering problems. Ordinary differential equations, the LaPlace transformation, matrices and determinants, Fourier series and integrals, partial differential equations.

Units: 3

ENGR 102. Applied Engineering Analysis II

Covers selected topics in mathematical analysis with emphasis on applications to engineering problems. Vector Analysis, line and surface integrals, complex variables and integrals, conformal mapping, series, residues, potential theory, special functions.

Units: 3

ENGR 105W. Engineering and Entrepreneurship

Prerequisites: Satisfactory completion of ENGL 1, junior standing. Preparation of resumes, letters of transmittal, technical reports, research proposals, progess reports, business plans, oral presentations, using effective writing techniques, in the process of commercializing a technology/process. Meets upper division writing skills requirement for graduation. Formerly ME 191T.

Units: 3

ENGR 116. Fluid Mechanics

(ME 116 same as ENGR 116). Prerequisites: CE 20, MATH 81 or ENGR 101, and ME 112 (or concurrently). Fundamentals of fluid mechanics as applied to engineering problems.

Units: 3

ENGR 190. Independent Study

See Academic Placement - Independent Study. Approved for RP grading.

Units: 1-3

ENGR 191T. Topic in Engr

Prerequisite: permission of instructor. Investigation of selected engineering subjects not in current courses.

Units: 1-3

ENGR 200. Seminar in Engineering

Orientation to the graduate program, exposure to various areas within Electrical Engineering and Mechanical Engineering, introduction to research methods, discussion of project and thesis topics.

Units: 1

ENGR 201. Systems Modeling and Realization

Prerequisites: Graduate Standing. Advanced software and hardware engineering tools and their applications; instrumentation and experimental measurements; transducers; analog and digital signal conditioning; instrumentation amplifiers; signal reconstruction; actuators; dynamic systems modeling; realization of models; spectrum analysis; real-time computations; data analysis. (2 lecture, 2 lab hours)

Units: 3

ENGR 202. Applied Engineering Analysis

Study of analytical tools used in the analysis and modeling of engineering systems in addition to the use of simulation software such as MATLAB. Emphasis is placed on solving problems tied to direct applications within the engineering disciplines.

Units: 3

ENGR 205. Computing in Engineering Analysis

(ENGR 205 same as CE 205). Prerequisite: graduate status in engineering. Solution of engineering problems using digital computation. Modeling of engineering systems for numerical analysis at the graduate level. Solution of engineering problems using digital computation. Modeling of engineering systems for numerical analysis.

Units: 3

ENGR 206. Stochastic Theory in Engineering Analysis for Electrical Engineers

Prerequisites: ECE 125 or ME 125 or equivalent. Estimation theory and applications, reliability theory, statistical yield models, random processes, autocorrelation, power spectral densities, noise

characterization, random processes, matched filters, multivariable regression, analysis of variance, and design of experiments. Applications to communications and communication systems, control systems, and dynamic mechanical systems.

Units: 3

ENGR 210. Linear Control Systems

A first-year graduate course covering the analysis, synthesis, and performance of linear control systems. Partial fraction expansion, Routh's criterion, the impulse function. Basic servo characteristics and types, block diagrams, transfer functions. A detailed treatment fo the root locus method for analysis adn synthesis. Frequency response, logarithmic and polar plots, Nyquist's criterion, stability characteristics, phase margin and gain margin.

Units: 3

ENOLOGY (ENOL)

ENOL 15. Introduction to Enology

History and development of the wine industry; mechanics of various processes and factors affecting wine quality and consumer acceptance.

Units: 3

Course Typically Offered: Fall, Spring

ENOL 45. Wine Evaluation Techniques

Parameters that determine sensory quality in wines. Wine appreciation. Critical evaluation of wines including premium varietals. Must be 21 years of age - State law. (1 lecture, 2 lab hours) (Course fee: $50) (Formerly ENOL 25)

Units: 2

Course Typically Offered: Fall, Spring

ENOL 105. Advanced Sensory Evaluation of Wines

Prerequisites: ENOL 45, ENOL 110. Factors affecting the quality of wines in terms of growing region, grape maturity, harvesting, vinification, cellaring, blending, and storage practices; attributes and defects in premium varietals. Statistical concepts. (2 lecture, 2 lab hours) (Course fee: $40)

Units: 3

Course Typically Offered: Fall, Spring

ENOL 110. Grape and Wine Chemistry

Prerequisite: CHEM 150. Biosynthesis of grape-based compounds through fundamental chemical concepts of wine production and aging. Chemical processes that contribute to final wine composition, how grape and wine production practices can be used to manage composition.

Units: 3

Course Typically Offered: Spring

ENOL 115. Analytical Methods for Wine I

Corequisite: ENOL 164; prerequisite: ENOL 110 and CHEM 105 (may be taken concurrently) or permission of instructor. Fundamental principles and practices of methods of analysis for grape juice and wine during crush. Emphasis on practical laboratory procedures (2 lecture, 4 lab hours)

Units: 4

Course Typically Offered: Fall

ENOL 125. Wine Microbiology

Prerequisites: ENOL 15, ENOL 110; CHEM 150. Identification, physiology, and biochemistry of bacteria and yeasts involved in winemaking and spoilage of wines. Vinous and malo-lactic fermentations. Sherry organisms and other film yeasts. (2 lecture, 6 lab hours)

Units: 4

Course Typically Offered: Spring

ENOL 140. Regulations: Wine and Brandy

Prerequisites: ENOL 15. Rules and regulations concerning wine and brandy licensing; recordkeeping; production; taxation; enological practices; rule making; labeling. Interstate and international commerce. Export requirements.

Units: 2

Course Typically Offered: Spring

ENOL 151. Winery Equipment

Prerequisites: ENOL 15 passed. Evaluation, use, location, operation, and repair of winery equipment. Winery safety. Safety equipment required. (1 lecture, 3 lab hours)

Units: 2

Course Typically Offered: Spring

ENOL 162T. Topics in Enology and Fermentation Science

Prerequisite: ENOL 15. Topics in winemaking and fermentation science. Some topics may include labs.

Units: 1-4, Repeatable up to 12 units

ENOL 163. Fermentation

Prerequisite: ENOL 15 (may be taken concurrently). Vinification/ Fermentation Laboratory practice at the university's Enology Pilot Plant and Ag Lab Winery. Individual winemaking. Students must supply their own grapes. (1 lecture, 5 lab hours)

Units: 3

Course Typically Offered: Fall

ENOL 164. Wine Analysis and Production

Corequisite: ENOL 115. Prerequisites: CHEM 105; ENOL 110; ENOL 151; ENOL 163. Only open to Enology and viticulture students. Laboratory and winery experience in winemaking operations, including harvest, scheduling, crushing, fermentation, safety, sanitation procedures, record keeping, analysis, and operation of enology facility equipment. Safety equipment required. (2 lecture, 6 lab hours)

Units: 4

Course Typically Offered: Fall

ENOL 166. Cellar Operations

Prerequisite: ENOL 115, ENOL 164 (must be taken the previous semester). Survey of cellaring operations and equipment. Analytical methods, blending, fining, ion exchange, finishing, and bottling. (2 lecture, 3 lab hours; local field trips)

Units: 3

Course Typically Offered: Spring

ENOL 170. Wine Business
Prerequisite: AGBS 1. Theory and practice of wine business practices. Develop understanding of the following areas: business plan development, organizational structure, human resources, entrepreneurship, family business, government regulation, management of technology, financial management and social responsibility. (2 lecture, 2 activity hours)

Units: 3

Course Typically Offered: Spring

ENOL 173. Wine Marketing
Prerequisites: ENOL 45. Marketing principles as applied to wine. Role of wholesalers, distributors, retailers, cooperatives. Advertising. Regulations. Interstate and international trade. (2 lecture, 2 activity hours)

Units: 3

ENOL 175. Winery Management
Prerequisites: ENOL 15 and permission of instructor. Physical properties of a winery; administrative organizational set-up; personnel; purchasing, packaging and shipping; local, state, and federal regulatory statutes.

Units: 3

Course Typically Offered: Spring

ENOL 180. Undergraduate Research
Prerequisite: ENOL 164. Open to juniors or seniors with permission of instructor. Exploratory work on a suitable agricultural problem in enology. Approved for RP grading.

Units: 1-4

Course Typically Offered: Fall, Spring

ENOL 190. Independent Study
See Academic Placement - Independent Study. Approved for RPgrading.

Units: 1-3, Repeatable up to 6 units

Course Typically Offered: Fall, Spring

ENOL 194. Wine Industry Internship
Prerequisite: permission of instructor. Field experience in a career specialty that integrates with classroom instruction. Requires written reports of knowledge and experience gained. CR/NC grading only.

Units: 2-4

Course Typically Offered: Fall

ENOL 199. Undergraduate Seminar
Oral presentations of topics of current interest in enology, wine grapes, and fermentation science.

Units: 1, Repeatable up to 2 units

Course Typically Offered: Fall

ENTREPRENEURSHIP (ENTR)

ENTR 81. Introduction to Entrepreneurship
Develops an understanding of the complex tasks faced by individuals engaged in entrepreneurial activities. Identifies the methods for developing a business idea, the process of starting a business, how to acquire resources, and the key parts of a business plan. (Formerly MGT 81)

Units: 3

Course Typically Offered: Fall, Spring

ENTR 151. Opportunity Assessment
Presents tools and techniques for evaluation and assessment of opportunities for new businesses are presented. Idea assessment, market and competitive analysis, trends, distribution systems and customer needs are evaluated to determine if launching a business is feasible. Assessments will be made across industries including retail, manufacturing, distribution, services, and technology. The course provides the foundation for writing a business plan.

Units: 3

Course Typically Offered: Fall, Spring

ENTR 153. Business Plan Model
Prerequisite: ENTR 81, with a B or better; ENTR 151; MGT 110. Provides the student with both (1) an understanding of what is required to launch a new firm and (2) the skills needed to craft a business model that will meet the standards for attracting funding by an investor or financial institution. (Formerly MGT 153)

Units: 3

Course Typically Offered: Fall, Spring

ENTR 155. Managing the New Venture
Prerequisite: ENTR 81 and ENTR 153. Special problems of small businesses: initiation, financing, operations. Class projects: studying local business operations; preparing business plans and financial requests. (Formerly MGT 155)

Units: 3

ENTR 157. New Venture Laboratory
Prerequisites: ENTR 151, ENTR 153. Students develop a business idea that results in a business plan. In a laboratory setting, students interact with entrepreneurs, suppliers, customers, and experts in order to create a new venture that may become viable. (Formerly MGT 157)

Units: 3

Course Typically Offered: Spring

ENTR 161. Urban Entrepreneurship
Prerequisites: ENTR 81. Urban environments have their own special planning, psychology, economics, design and politics. Opportunities abound, but require a different skill set for the entrepreneur. Students will participate in urban space, identify opportunities, and develop projects that may lead to successful launches of new enterprises. Presentation of a business concept for urban space will conclude the course.

Units: 3

ENTR 163S. Social Entrepreneurship
Explores current thoughts, and trends, and challenges in the emerging field of social entrepreneurship. Special attention is placed on service-learning and measuring social impact. Students gain hands-on experience working with supporting social ventures. Guest lectures and site visits. (Formerly INOV 191T)

Units: 3

Course Typically Offered: Fall

ENTR 165. Corporate Entrepreneurship

Prerequisite: ENTR 81. This course is about entrepreneurship in established companies, or entrepreneurship. The course will address the emerging theories and practices of entrepreneurship and apply them to a corporate setting. Issues of how to establish corporate entrepreneurial vision, strategy, and direction are presented. Methods for relating entrepreneurship to other functions such as human resource management, new product development, research and development, and corporate venturing are discussed.

Units: 3

ENTR 167. Franchising

Prerequisite: ENTR 81. Students examine franchising from both the franchisor and franchisee perspectives. Topics include the evaluation of franchising opportunities, legal concerns of franchising, the development of appropriate franchising strategies, and the successful planning, implementation, and launching of franchise networks and franchised outlets. (Formerly ENTR 189T)

Units: 3

ENTR 169. Family Business Management

Prerequisite: ENTR 81. The course addresses aspects of managing an established family business, on a day-to-day basis and planning for succession to the next generation.

Units: 3

ENTR 189T. Topics in Entrepreneurship

Studies in entrepreneurship, business plan writing, and problems in small business management.

Units: 1-3, Repeatable up to 9 units

ENTR 190. Independent Study

See Academic Placement - Independent Study. Approved for SP grading.

Units: 1-3, Repeatable up to 6 units

Course Typically Offered: Fall, Spring

ENTR 193. Supv Work Exper

Units: 1

ENTR 195. Internship

Prerequisites: permission of internship coordinator. Requires 150 hours of work at a pre-qualified, academically related work station (business, government, or nonprofit agency). Reflective journal, final report, and work station evaluation. Prior department approval is required for course substitutions. Only one internship may count toward option requirements. CR/NC grading only.

Units: 3, Repeatable up to 6 units

Course Typically Offered: Fall, Spring

EDUCATIONAL RESEARCH & EVALUATION (ERE)

ERE 153. Educational Statistics

Methods of describing, analyzing, and interpreting data; statistical methods including correlation, regression, t-tests, 1 and 2-way ANOVA designs, and chi-square.

Units: 3

Course Typically Offered: Fall, Spring, Summer

ERE 180T. Topics in Education

Issues and topics in educational foundations; curriculum and instruction; early childhood, elementary, middle school, and secondary education; pupil personnel services; supervision and administration; child abuse, and computer literacy.

Units: 1-3, Repeatable up to 9 units

ERE 190. Independent Study

See Academic Placement - Independent Study. Approved for RP grading.

Units: 1-3, Repeatable up to 6 units

Course Typically Offered: Fall, Spring

ERE 220. Research in Education

Prerequisites: ERE 153. Seminar in education research methodology; library resources; critiquing data collection, analyses, interpretation in research articles; writing research papers; for elementary adn secondary teaching, early childhood, reading, administration, counseling, special education, related fields.

Units: 3

ERE 243. Research on Teaching in the Multicultural Classroom: Quantitative and Qualitative Methods

Prerequisite: CI 245. Provides students with a series of modules on quantitative and qualitative research techniques used in action research. Students begin to develop their Action Research Project after reviewing articles, developing mini-research ideas, collecting and analyzing data in the classroom context to improve teaching and learning.

Units: 3

ERE 244. mixed Methods Research in Diverse Classrooms

Provides students with a series of modules on quantitative and qualitative research techniques used in action research. Students conduct mini-research studies by collection and analyzing data in the classroom context to improve teaching and learning and to synthesize the results.

Units: 4

ERE 260. Assessment as Learning

Analyze interaction among assessment models, effective instruction, and learning in educational settings. Use educational theory to identify criteria for choosing and integrating alternative assessments including performance, observation/interview, portfolio, curriculum-embedded and self-assessment. Develop assessment items and protocols.

Units: 3

ERE 272. Instructional Planning and Evaluation

Principles and practices of instructional planning, assessment and testing of learning outcomes, performance appraisal and evaluation of teaching; test construction analysis, and grading.

Units: 3

ERE 280T. Advanced Topics in Education
Prerequisite: permission of instructor. Advanced, in-depth analysis of issues and problems in educational foundations; curriculum and instruction; reading; early childhood, elementary, middle school, and secondary education; and computers in education. Emphasis placed on advanced research.

Units: 1-3, Repeatable up to 6 units

ERE 288. Educational Measurement and Program Evaluation
Prerequisite: ERE 153. Procedures and issues involved in the measurement and evaluation of educational programs; planning, etc. Applications in educational settings are emphasized.

Units: 3

ERE 290. Independent Study
See Academic Placement --Independent Study. Approved for RP grading.

Units: 1-3, Repeatable up to 6 units

ERE 298. Project
Prerequisites: advancement to candidacy for the master's degree; B average on 24 units of the master's program including ERE 220. See Criteria for Thesis and Project. A project consists of a significant undertaking appropriate to graduate study in education. An approved proposal is required for enrollment. Approved for RP grading.

Units: 4

ERE 298C. Project Continuation
Prerequisite: Project ERE 298. For continuous enrollment while completing the project. May enroll twice with department approval. Additional enrollments must be approved by the Dean of Graduate Studies.

Units: 0

ERE 299. Thesis
Prerequisites: advancement to candidacy for the master's degree; B average on at least 24 units of the master's program including ERE 220 and completion of an acceptable thesis proposal. See Criteria for Thesis and Project. Preparation, completion, and submission for the master's degree. See the Kremen School of Education and Human Development's graduate programs coordinator for school thesis guidelines. Approved for RP grading.

Units: 4

ERE 299C. Thesis Continuation
Prerequisite: Thesis ERE 298. For continuous enrollment while completing the thesis. May enroll twice with department approval. Additional enrollments must be approved by the Dean of Graduate Studies.

Units: 0

EARLY START ENGLISH (ESE)

ESE 1. Introduction to Academic Literacy
Meets the Early Start Requirement. Designed to prepare students for the university's first-year writing requirement by teaching students a variety of academic reading and writing strategies.

Units: 1

ESE 3. English Strategies
Exposure to a variety of texts. Quoting, paraphrasing, summarizing, and synthesizing ideas. Attention to vocabulary development and grammar/editing. Application of learning strategies and reflection on use of these strategies. Meets the university remediation requirement.

Units: 3

EARLY START MATHEMATICS (ESM)

ESM 1. Early Start Developmental Mathematics
Designed for students in the Early Start program. Review of topics in algebra and geometry: percentages, ratios, radicals, exponents, linear equations and inequalities, equations of lines, factoring, solving equations, area, volume, angles, and similar triangles. CR/NC/RP grading only; not applicable towards baccalaureate degree requirements.

Units: 1

Course Typically Offered: Summer

ESM 3. Early Start Algebra II
Designed for students in the Early Start program. Radicals, rational exponents, quadratic equations, simultaneous linear equations, graphing, inequalities, and complex numbers.

Units: 3

Course Typically Offered: Summer

FORENSIC & BEHAVIORAL SCIENCES (FBS)

FBS 222. Investigative Profiling
Examines the psychological and behavioral principles that underlie investigative profiling. Compares and evaluates actuarial and clinical approaches in constructing offender profiles. Looks at the utility and reliability of profiling in criminal investigations.

Units: 3

FBS 228. Eyewitness Evidence
Primarily for those students interested in research careers in criminal sciences. Topics include vision and audition, attention, memory, mental representation, physiological factors, and information processing in the context of eyewitness identification and memory.

Units: 3

FBS 230. Microscopy and Materials Analysis
Forensic science methods for analysis of inorganic evidentiary materials, including composition and comparison of trace and impression evidence and their interpretation and significance. (Formerly FBS 250)

Units: 3

FBS 242. Forensic DNA Analysis
Prerequisites: BIOL 102, CHEM 150 or CHEM 155, or permission

of instructor. FBS 241A recommended but not required. Provides an understanding of forensic DNA analysis, from extraction of DNA from biological tissues commonly encountered in forensic practice through typing and interpretation of profiles obtained to the presentation of these types of data in courts of law. (Formerly FBS 252)

Units: 3

FBS 251. Forensic Drug Chemistry and Toxicology

(FBS 251 same as CHEM 251) Prerequisites: CHEM 128B, CHEM 129A, and CHEM 102 or CHEM 105, or persmission of instructor. CHEM 106 or CHEM 125 strongly recommended. Forensic science methods for analysis of controlled substances (in vivo or ex vivo) and their interpretation and significance May include laboratory.

Units: 3

FBS 262. Human Identification

Prerequisites: FBS 205. Various technologies for human identification. Value and reliability of methods used for identification through physical evidence at crime scenes and related events. Case studies and key concepts.

Units: 3

FBS 265. Failure Analysis

Prerequisites: FBS 201, FBS 202, FBS 203, FBS 204, FBS 205, FBS 261, FBS 262, FBS 263, & FBS 264. Focus on understanding the way materials fail. Effects of high temperatures, mechanical deformation and corrosion on the properties of materials. Forensics and methodologies for investigating materials' failures including optical microscopy, x-ray analysis and scanning electron microscopy discussed.

Units: 3

FBS 269. Forensic Anthropology

Knowledge of osteological techniques to aid in the analysis of decomposed or skeletonized remains of human origin to identify unknown individuals. Covers field of forensic anthropology, recovery techniques of human remains, and the development of biological profiles.

Units: 3

FBS 271. Scientific Evidence

Fundamental principles pertaining to the laws of evidence and seminal case law; standards of admissibility of scientific evidence. Legal environment and purpose of expert testimony. Fundamental principles of philosophy of science and statistics related to court decision-making on evidence admissibility.

Units: 3

FBS 272. Expert Witness Testimony

Explores role of the expert witness in the courtroom and in litigation. Studies legal standards of admissability, such as scientific research on expert testimony. Probes ethical challenges related to adversarial advocacy.

Units: 3

FBS 274. Topics in Forensic Science

Specific methods of analysis in contemporary forensic science. Current and future forensic science practice. Recent advances in pure and applied research. Theoretical concepts in current practice.

Units: 3

FBS 280. Forensic Science Seminar

(Same as CHEM 280.) Prerequisites: graduate students only. Admission into MSFS program or permission of instructor. Discussion and presentation of current topics and literature in forensic science.

Units: 1

FBS 290. Independent Study

Gives students experience in planning a course of study on their own initiative under departmental supervision. Deals with special interest not covered in regular courses or explores a regular class subject in greater depth.

Units: 1-3

FBS 291. Intership in Science Laboratory

(Same as CHEM 291) Prerequisites: classified standing in the MSFS program with successful completion of the Graduate Writing Requirement and beginning work with the student's research mentor on approved project/thesis research. Minimum of 150 hours research internship. May be completed at any public crime laboratory or facility approved by program coordinator. (Current employees of public crime laboratories may take FBS 290 instead of FBS 291 - must pass required agency background investigation.) S

Units: 3

FBS 292. Readings in Forensic & Behavioral Sciences

Prerequisite: Permission of Instructor. Individually directed readings in an area of special concern to the student's graduate program; appropriate written reports and evaluation required; individual student conferences.

Units: 3

FBS 295. Research

Prerequisite: permission of intructor. Independent investigations of an advanced character for the graduate student with adequate preparation. Approved for RP grading. (May inlcude conferences, laboratory, library.)

Units: 1-4, Repeatable up to 6 units

FBS 298. Project

Prerequisites: See Criteria for Thesis and Project. Preparation, completion, and submission of an acceptable project for the master's degree. Approved for RP grading.

Units: 1-4, Repeatable up to 6 units

FBS 298C. Project Continuation

Prerequisite: Project 298. For continuous enrollment while completing the project. May enroll twice with department approval. Additional enrollments must be approved by the Dean of Graduate Studies.

Units: 0

FBS 299. Thesis

Prerequisite: See Criteria for Thesis and Project. Preparation,

completion, and submission of an acceptable thesis for the master's degree. Approved for RP grading.

Units: 1-4, Repeatable up to 6 units

FBS 299C. Thesis Continuation

Prerequisite: Thesis 298. For continuous enrollment while completing the thesis. May enroll twice with department approval. Additional enrollments must be approved by the Dean of Graduate Studies.

Units: 0

FAMILY AND CONSUMER SCIENCES (FCS)

FCS 190. Independent Study

See Academic Placement --Independent Study. Approved for RP grading.

Units: 1-3, Repeatable up to 6 units

Course Typically Offered: Fall, Spring

FCS 192. Readings and Conference

Prerequisite: permission of instructor. Individually directed readings; reports and evaluation. (Hours arranged) Approved for RP grading.

Units: 1-3, Repeatable up to 6 units

Course Typically Offered: Fall, Spring

FCS 203. Trends and Issues in Family and Consumer Sciences

A study of the history and current status of family and consumer sciences. An examination of trends and issues pertaining to child and family sciences, clothing and textiles/fashion merchandising, consumer science and housing, food and nutrition, and interior design. (Formerly HEC 241)

Units: 3

FCS 205. Survey of Family and Consumer Sciences Research

Prerequisite: FCS 203. Examination of current research in each area of family and consumer sciences. Abstract writing, formulation of annotated bibliographies and research presentations. (Fulfills university's graduate writing proficiency requirements) (Formerly H EC 201)

Units: 3

FCS 210T. Seminar in Consumer Science and Family Management

Prerequisite: permission of instructor. Analytical study of problems pertaining to identifiable segments of the populace; intercultural, socioeconomic, age level and ethnic and community groups. Topics may include aspects of aging, cultural aspects of management, home and community relationships and ergonomics -- aspects of work simplification.

Units: 3, Repeatable up to 12 units

FCS 220T. Seminar in Clothing, Text

Prerequisite: permission of instructor. Research and analysis of historical material and contemporary developments in clothing textiles, and fashion merchandising. Topics may include aspects of historical costume and textiles, technological developments in textiles, and trends in purveying fashion. Some topics may have labs.

Units: 3, Repeatable up to 6 units

FCS 230T. Seminar in Child Development, Family Relations

Prerequisite: permission of instructor. Research, methodology, and issues in family relationships and child development. Topics may include parenting, families in transition, relationship patterns, infancy, early childhood, and family diversity.

Units: 3, Repeatable up to 12 units

FCS 240T. Seminar in Family and Consumer Sciences Education

Prerequisite: permission of instructor. Applied research; current and future trends of the multilevel areas of family and consumer sciences education. Topics may include curriculum development, administration, evaluation, and supervision and incorporation of business and industry.

Units: 3, Repeatable up to 6 units

FCS 242. Community College Teaching in Family and Consumer Sciences

Strategies for implementing family and consumer sciences curriculum in community colleges. Study of instruction techniques, procedures, resources, problems and responsibilities in the community college setting.

Units: 3

FCS 290. Independent Study

See Academic Placement --Independent Study. Approved for RP grading.

Units: 1-3, Repeatable up to 6 units

FCS 292. Readings in Family and Consumer Sciences

Prerequisite: permission of instructor. Individually directed readings in a field of special concern to students in the graduate program; appropriate reports and evaluations required; individual confer ences, no formal class meetings. Approved for RP grad

Units: 2-3, Repeatable up to 6 units

FCS 298. Project

Prerequisite: prior advancement to candidacy. See Criteria for Thesis and Project. The project is a significant undertaking of an approved pursuit appropriate to the applied arts, e.g., extensive curriculum design, development of new consumer products, or similar professional endeavors with written documentation. Abstract required. Approved for RP grading

Units: 2-6

FCS 298C. Project Continuation

Prerequisite: Project 298. For continuous enrollment while completing the project. May enroll twice with department approval. Additional enrollments must be approved by the Dean of Graduate Studies.

Units: 0

FCS 299. Thesis
Prerequisite: prior advancement to candidacy; see Criteria for Thesis and Project. Preparation, completion, and submission of an acceptable thesis for the master's degree. Approved for RP grading.

Units: 2-6

FCS 299C. Thesis Continuation
Prerequisite: Thesis 298. For continuous enrollment while completing the thesis. May enroll twice with department approval. Additional enrollments must be approved by the Dean of Graduate Studies.

Units: 0

FINANCE (FIN)

FIN 30. Personal Financial Planning
Personal financial analysis, planning, and management for lifelong decision making. Topics include financial planning strategies; money and credit management; home ownership; home, health, and auto insurance needs; savings and investment strategies; and retirement and estate planning. G.E. Breadth E1.

Units: 3

Course Typically Offered: Fall, Spring

GE Area: E1

FIN 120. Principles of Finance
Prerequisites: ACCT 4A; DS 71; BA 105W or ENGL 160W (BA or ENGL course may be taken concurrently). Introduction to corporate financial management, investments, and financial institutions. Focus on financial policy, analysis, and valuation in a global environment. Topics include capital markets, risk and return, financial planning, capital budgeting, cost of capital, and working capital management.

Units: 4

Course Typically Offered: Fall, Spring

FIN 121. Intermediate Financial Management
Prerequisite: grade of C or better in FIN 120. Modern theories of corporate finance; financial decision making under uncertainty; efficient allocation of financial resources; advanced financial planning and control strategies.

Units: 3

Course Typically Offered: Fall, Spring

FIN 122. Financial Institutions and Financial Markets
Prerequisite: grade of C or better in FIN 120. Role of the Federal Reserve in monetary policy; interaction of fiscal and monetary policy; analysis of depository and nondepository financial institutions; regulatory issues in financial markets; public policy toward financial institutions.

Units: 3

Course Typically Offered: Fall, Spring

FIN 123. Business Forecasting
Prerequisite: DS 123; grade of C or better in FIN 120. Business activity analysis; methods of forecasting; general and specific forecasts; analysis of trends in product groups, sectors, regions, and other areas of the world economy; mathematical models and statistical decisions; analysis of case problems.

Units: 3

Course Typically Offered: Fall, Spring

FIN 128. Investments
Prerequisite: grade of C or better in FIN 120. Basics of investing; analysis of financial securities including debt and equity instruments, mutual funds, and exchange-traded funds; theories and techniques of asset allocation, active and passive portfolio management, and portfolio performance evaluations; fundamental analysis; technical analysis.

Units: 3

Course Typically Offered: Fall, Spring

FIN 129. Student Investment Fund
Prerequisite: grade of C or better in FIN 120. Student-managed, privately donated funds; designed of investment strategies; analysis of investment vehicles; fundamental and technical analyses; assessing market and portfolio risks; portfolio performance evaluation. (Formerly FIN 189T)

Units: 3

Course Typically Offered: Fall, Spring

FIN 131. Entrepreneurial Finance
Prerequisite: grade of C or better in FIN 120. Using financial and entrepreneurial perspectives to make better decisions at each stage of the entrepreneurial process, from identification of opportunity to harvest. Issues: venture capital markets, deal structuring, valuations, later stage financing, going public and other harvesting methods.

Units: 3

Course Typically Offered: Fall, Spring

FIN 133. Futures Markets
Prerequisite: grade of C or better in FIN 120. Use of futures contracts as speculative investments and as hedging devices to reduce risk in securities portfolios and in domestic and international business operations. Topics: financial futures, commodity futures, futures markets, fundamental and technical analyses, hedging strategies.

Units: 3

FIN 138. Derivatives
Prerequisite: grade of C or better in FIN 120. Introduction to the use and pricing of derivative assets such as options, futures, swaps, and option-like features embedded in corporate/treasury securities; mathematical concepts underlying derivative markets and contracts and basic pricing models; derivative strategies for hedging and arbitrage.

Units: 3

Course Typically Offered: Fall, Spring

FIN 139. Financial Policy and Strategy
Prerequisites: FIN 121 and last-semester senior standing. Integration and application of financial analysis, policy, strategy, and theory across business functional areas in a globally competitive environment. Case analysis/computer simulations included.

Units: 3

Course Typically Offered: Fall, Spring

FIN 143. Risk and Insurance

Fundamentals of insurance and risk management. Covers the basic areas of property, liability, auto, life, health, and social insurance. Other areas including marketing, underwriting, claims, investments, and loss control.

Units: 3

FIN 150. Financial Planning

Prerequisite: permission of instructor. The concept of a total coordinated system of personal financial planning; evaluate existing programs, design improved plans and coordinate execution to achieve stated objectives. Includes data gathering, the psychology of financial counseling, and the counselor's fiduciary responsibilities. Case studies.

Units: 3

FIN 178. International Finance

Prerequisite: grade of C or better in FIN 120. Evolution of international monetary system; balance of payment accounting; foreign exchange; forecasting exchange rates; management of foreign exchange risk; political risk analysis; foreign direct investment; international money and capital markets. Eurocurrency markets; international banking; international monetary and banking organizations.

Units: 3

Course Typically Offered: Fall, Spring

FIN 180. Real Estate Principles

Meets California statutory course requirement for real estate salesperson's and broker's license. Theory and practice of urban land use. Location and legal dimensions, planning, and market processes; financial and investment decisions in real estate; computer analysis and case studies.

Units: 3

Course Typically Offered: Spring

FIN 181. Real Estate Appraisal

Prerequisite: grade of C or better in FIN 120 and FIN 180. Theory and determinants of real property value. Methods used in urban and rural property appraisals. Statistical techniques and the appraisal process; special purpose appraisals. Fieldwork required.

Units: 3

Course Typically Offered: Fall

FIN 182. Real Estate Practices

Meets California statutory course requirement for real estate broker's license. Relationship between public and private organizations active in real estate; company formation; selling and marketing techniques; financing; advertising; aspects of taxation; escrow procedure; property insurance; computer analysis and case studies.

Units: 3

Course Typically Offered: Fall

FIN 183. Real Estate Finance

Prerequisite: grade of C or better in FIN 120 and FIN 180. Characteristics and underwriting standards of institutions furnishing funds for real estate investment and development. Alternative financial instruments and their effect on property economics and value.

Units: 3

Course Typically Offered: Spring

FIN 185. Housing Market Analysis

Prerequisite: junior standing. Analysis of local and regional housing markets and submarkets; availability of market data; primary versus secondary data; design of data collecting instruments; interviewing techniques and interviewer bias; data analysis and presentation of findings; field studies required.

Units: 3

FIN 186. Business and Real Estate Economics

Prerequisites: ECON 40, ECON 50. Applications of economic principles in business and real estate management; measure of profit, analysis of demand, cost analysis; price, wage, and public policies; case studies, analysis.

Units: 3

Course Typically Offered: Spring

FIN 189T. Topics in Finance

Studies in business including agricultural economics, business economics, legal environment of business, international business, finance, financial services, risk and insurance, and real estate.

Units: 1-3, Repeatable up to 9 units

FIN 190. Independent Study

See Academic Placement - Independent Study. Approved for RP grading.

Units: 1-3, Repeatable up to 6 units

Course Typically Offered: Fall, Spring

FIN 195. Internship

Prerequisite: permission of internship coordinator. Requires 150 hours of work at a pre-qualified, academically-related work station (business, government or nonprofit agency). Reflective journal, final report, and work station evaluation. As a course substitution, prior department approval required. Only one internship may count towards option requirements. CR/NC grading only.

Units: 3, Repeatable up to 6 units

Course Typically Offered: Fall, Spring

FOREIGN LANGUAGE (FL)

FL 10T. Topics in Foreign Language

Beginning or intermediate speaking, listening, reading, and writing skills in a selected language.

Units: 1-4

FL 131. Trends in Foreign Language Teaching

Current trends and issues in foreign language teaching. Evaluation of recent teaching materials. May include on-campus practice in teaching beginning languages.

Units: 3

FL 170. Community Service
Directed fieldwork in a project which uses language skills developed through previous study of a foreign language. Projects may include working with public school foreign language teachers and students, interpreting/ translating for public/ private service agencies, or other approved projects. CR/NC grading only.

Units: 1-3

FL 190. Independent Study
See Academic Placement - Independent Study. Approved for SP grading.

Units: 1-3, Repeatable up to 6 units

FASHION MERCHANDISING (FM)

FM 20. Textile Science
Introduction to physical and chemical properties of textile fibers, yarns, fabric structures, finishes, and textile coloration. Criteria for selection and evaluation of textile properties, performance, and care. Review of pertinent regulations related to production, quality, and environmental protection.

Units: 3

Course Typically Offered: Fall, Spring

FM 21. Fashion Merchandising Fundamentals
Introduction to Fashion Merchandising with an overview of fashion products and the merchandising system.

Units: 3

Course Typically Offered: Fall

FM 120. Social and Psychological Aspects of Clothing
The psychological, social, and economic aspects of clothing related to the individual, family, and society.

Units: 3

Course Typically Offered: Fall

FM 122T. Topics in Clothing and Textiles
Topics relating to clothing, textiles, and fashion merchandising. Some topics may have labs.

Units: 1-4, Repeatable up to 12 units

FM 124. Textile Finishing
Prerequisite: FM 20. Finishing, dyeing and printing techniques, material and equipment. Evaluation through standard laboratory tests. (2 lecture, 2 lab hours)

Units: 3

Course Typically Offered: Spring

FM 126. History of Costume
Important periods of costume; their relationship to political, social, and economic conditions of the times and their importance in evolution and inspiration of modern dress.

Units: 3

Course Typically Offered: Fall

FM 127. Fashion Merchandising
Prerequisite: FM 21 or permission of instructor; ACCT 3 or ACCT 4A (recommended). Principles of fashion merchandising as applied in manufacturing and retailing business organizations; study of planning, developing, and presenting product lines. (2 lecture, 2 lab hours)

Units: 3

Course Typically Offered: Spring

FM 128. Visual Merchandising
Prerequisite: FM 21 (may be taken concurrently). Aspects of visual merchandising and display, from classic techniques to most recent developments. Design fundamentals applied to the aesthetic arrangement of promotional and institutional displays in the retail store. (2 lecture, 2 lab hours)

Units: 3

Course Typically Offered: Spring

FM 130. Fashion Study Tours
An in-depth study of industrial, retail, and wholesale sites in California. Field experiences are included to ensure optimum learning opportunities. (1 lecture, 4 lab hours) (Course fee, $250)

Units: 3

Course Typically Offered: Fall

FM 133. Textile/Apparel Economics
Prerequisites: FM 20 (may be taken concurrently); ECON 40 or AGBS 1. Organization and development of the textile and apparel industries. Aspects of production, consumption, and international trade. Analysis of current problems facing the industry and industry's response.

Units: 3

Course Typically Offered: Spring

FM 134. Fashion Retail Buying
Prerequisite: G.E. Math; FM 127 or permission of instructor. Basic principles and applications of retail mathematics as related to fashion retailing. Focuses on quantitative concepts used in merchandising fashion goods with an emphasis on profitability.

Units: 3

Course Typically Offered: Fall

FM 140. Fashion Entrepreneurship
Prerequisites: FM 20, FM 21, and FM 127; Senior standing for Fashion Merchandising majors or permission of instructor. Applying entrepreneurship principles to fashion apparel and accessories, from identifying new enterprise opportunities to analyzing the feasibility of business ideas by in-depth analysis of fashion consumers, markets, and merchandising strategies.

Units: 3

Course Typically Offered: Spring

FOOD AND NUTRITION (FN)

FN 200. Research Methods in Food and Nutrition
Prerequisite: permission of instructor. Quantitative and qualitative research design in food and nutritional sciences. Methods of data collection and analysis. Evaluation of research design and

outcomes. Reporting research results. Students will develop a research proposal.

Units: 3

FN 209. Vitamins and Biocatalysts

Prerequisite: CHEM 150. Mechanisms of action of vitamins, coenzymes, and cofactors in biological transformations involving food processing and human nutrition. Emphasis on the fundamental nature of biochemical reactions related to food science and nutrition. (Formerly AGRI 209)

Units: 3

FN 221T. Topics in Food Science and Nutrition

Prerequisites: upper-division food science and nutrition course appropriate to study topic; permission of instructor. Advanced studies in a given area of food science and nutrition. Some topics may require lab hours.

Units: 3, Repeatable up to 9 units

FN 223. Food, Nutrition, and Health

Prerequisite: CHEM 150. Review and discussion of the recent scientific literature relating to food consumption, nutrient intake, and human health.

Units: 3

FN 229. Seminar

Prerequisite: permission of instructor. Students investigate and present current research problems. Observation and evaluation of additional assigned seminars. Oral and written reports required.

Units: 1, Repeatable up to 3 units

Course Typically Offered: Fall, Spring

FN 230. Advanced Nutrition Counseling

Prerequisite: NUTR 157. Advanced counseling techniques including learning and behavioral theories and principals of goal setting. Design, delivery, and evaluation of nutrition counseling. Development and evaluation of nutrition education materials. Role-playing and case studies assigned. (Formerly FN 221T)

Units: 3

Course Typically Offered: Fall

FN 250. Food and Nutrition Resource Management

Examine management resources (human, financial, and physical) in a variety of industry and practice settings related to foods and nutrition. Development of a business and marketing plan. Group projects, case studies, and selected topics from current literature.

Units: 3

Course Typically Offered: Spring

FN 290. Independent Study

See Academic Placement - Independent Study. Approved for RP grading.

Units: 1-3

FN 292. Readings in Food Science and Nutrition

Prerequisite: permission of instructor. Individually directed readings in a field of special concern to students in the graduate program; appropriate reports and evaluations required; individual conferences, no formal class meetings. Approved for RP grading.

Units: 1-3

FN 299. Thesis

Prerequisite: prior advancement to candidacy. See Criteria for Thesis and Project. Preparation, completion, and submission of an acceptable thesis for the master's degree. Approved for RP grading.

Units: 2-6

FN 299C. Thesis Continuation

Prerequisite: Thesis 298. For continuous enrollment while completing the thesis. May enroll twice with department approval. Additional enrollments must be approved by the Dean of Graduate Studies.

Units: 0

FRENCH (FREN)

FREN 1A. Elementary French

Beginning course in conversational and written French. Not open to students with two or more years of high school French credit. (CAN FREN 2)

Units: 4

Course Typically Offered: Fall, Spring

FREN 1B. Elementary French

Prerequisite: G.E. Foundation A2; FREN 1A recommended or permission of instructor. Second semester course in conversational and written French. Not open to those with three or more years of high school French credit. G.E. Breadth C2. (CAN FREN 4)

Units: 4

Course Typically Offered: Fall, Spring

GE Area: C2

FREN 2A. French for Communication

Prerequisite: G.E. Foundation A2; FREN 1B or equivalent recommended. Second year course that emphasizes speaking and reading, and a review of basic French grammar. G.E. Breadth C2. (CAN FREN 8)

Units: 3

Course Typically Offered: Fall, Spring

GE Area: C2

FREN 2B. French for Communication

Prerequisite: G.E. Foundation A2; FREN 2A or equivalent recommended. Second year course that emphasizes speaking and reading skills. G.E. Breadth C2. (CAN FREN 10)

Units: 3

Course Typically Offered: Fall, Spring

GE Area: C2

FREN 4. Reading and Writing

FREN 2B or equivalent recommended. Opportunity to increase reading and writing skills in preparation for upper-division coursework in French.

Units: 3

Course Typically Offered: Fall

FREN 5. Conversation

FREN 2A or equivalent recommended. May be taken concurrently with FREN 2A or FREN 4. Development of listening and speaking skills. Exclusive use of French in an informal class atmosphere. Conversations on assigned topics, extemporaneous discussions.

Units: 3, Repeatable up to 6 units

Course Typically Offered: Spring

FREN 103. Advanced Grammar and Composition

Two semesters of Intermediate French recommended. To be taken twice for the major. Written assignments in French on varied topics with emphasis on composition. Written exercises in French on specific points of grammar. (Fall semester)

Units: 3, Repeatable up to 6 units

Course Typically Offered: Fall, Spring

FREN 109. French Literature, Culture, and Society from the Middle Ages to Today

Prerequisites: G.E. Foundation and Breadth Area C. Two semesters of intermediate French recommended. Intellectual, cultural and social background of major literary movements and representative authors from the earliest period to the present. Selected readings. Taught in French. (Fall semester) G.E. Integration IC.

Units: 3

Course Typically Offered: Fall, Spring

GE Area: IC

FREN 110. French Theater

FREN 109 recommended. Drama in France from the Renaissance to the present, with emphasis on the 17th and 20th centuries. Reading and discussion of representative works.

Units: 3

Course Typically Offered: Fall

FREN 111. The French Novel

FREN 109 recommended. The novel as a reflection of French society. Analysis of major works from various periods.

Units: 3

Course Typically Offered: Fall

FREN 112. French Prose: Essay and Short Story

FREN 109 recommended. Analysis of prose works by such authors as Montaigne, Voltaire, Maupassant, Camus, Sartre.

Units: 3

Course Typically Offered: Fall

FREN 113. French Poetry

FREN 109 recommended. Introductory course in poetry as a genre; principles of French versification. Students will be exposed to major contributions of the French in poetry. Thematic and/or chronological presentations (movements, “isms”).

Units: 3

Course Typically Offered: Spring

FREN 120T. Topics in French Civilization

FREN 103 recommended or permission of instructor. Possible topics: French contributions to Western Civilization (art, music, architecture, history, science). Special emphasis on contemporary France. The history of Anglo-French and Franco-American relations. Linguistic, cultural, intellectual, political, commercial, and diplomatic similarities and differences explored. Taught in French.

Units: 3, Repeatable up to 6 units

FREN 132. French Phonology and Structural Analysis

Completion of one semester of FREN 103 recommended. As a progression toward mastery, an investigation of the French language as a functioning code of verbal communication. Relationships of oral/written aspects and contrasts with American English. Intensive drill on individual pronunciation problems.

Units: 3, Repeatable up to 6 units

Course Typically Offered: Spring

FREN 149. Voices of Africa

Prerequisites: G.E. Foundation and Breadth Area C. Study of representative works by such writers as Achebe, Senghor, and Mphahlele which reveal the attitudes of modern Africans toward their land, their traditions, and their encounter with the 20th century world. Course taught in English. G.E. Integration IC.

Units: 3

Course Typically Offered: Fall, Spring

GE Area: IC

FREN 150. Advanced Conversation

Two semesters of Intermediate French recommended. Intensive practice in oral expression in French. Emphasis on current affairs in France.

Units: 3

FREN 160T. Selected Topics in French Studies

FREN 103 recommended or permission of instructor. Topics chosen from French literature (genre, themes, movements), from French linguistics (History of the Language; Contrastive Analysis: English/French), or French Culture and Civilization.

Units: 1-3, Repeatable up to 6 units

FREN 160T. Voices of French-Speaking Southeast Asia

This course will also explore the concept of Francophonie and its meaning among the French-speakers in these countries and other regions of the world where peoples from French-speaking Southeast Asia had to relocate in an often forced Diaspora. These peoples maintain two ties: one to their countries of origin and another to France. The course also covers their attitudes toward the French-language and France, their own societies, their cultures, their countries, and their encounters with the 21st century.

Units: 3

FREN 190. Independent Study

See Academic Placement - Independent Study. Approved for RP grading.

Units: 1-3, Repeatable up to 6 units

FREN 290. Independent Study

See Academic Placement - Independent Study. Approved for RP

grading.

Units: 3, Repeatable up to 6 units

FOOD SCIENCE (FSC)

FSC 1. Introduction to Food Science and Technology

Survey of specific types of industries, chemical composition, microbiological concerns, processing, and environmental risks and their control to ensure food quality and safety. Introduction to governmental regulation. Current issues in the food industry.

Units: 3

Course Typically Offered: Fall, Spring

FSC 41. Introduction to Food and Dairy Processing

Prerequisites: FSC 1. Introduction to the technology of processing foods, including dairy products with special reference to unit operations and sanitation. Laboratory includes computer applications related to food technology. (2 lectures, 2 lab hours) (Field trips) 3RD

Units: 3

Course Typically Offered: Spring

FSC 100. Sensory Evaluation

Prerequisite: MATH 11 or AGBS 71. Analysis, measurement, and methods used in sensory evaluation of foods. (2 lecture, 3 lab hours)

Units: 3

Course Typically Offered: Fall

FSC 112. Food and Dairy Chemistry

Prerequisites: CHEM 150; FSC 1. Study of the functional properties of water, dispersed systems, carbohydrates, proteins, enzymes, lipids, and colligative properties with respect to their role in processing and shelf-life. Computer applications. (3 lecture, 3 lab hours)

Units: 4

Course Typically Offered: Fall

FSC 115. Food Analysis

Prerequisites: FSC 41 or FSC 112; MATH 11 or AGBS 71; or permission of instructor. Application of analytical techniques and instrumental methods used in the analysis of food composition. Laboratory analyses include proximate, fatty acids, ?Brix, titratable acidity, mineral, peroxidase, peroxide values, reducing sugars, vitamins, and filth. (2 lecture, two 3-hour labs)

Units: 4

FSC 120. Quality Assurance in the Food and Dairy Industries

Prerequisites: FSC 1; FSC 178; CHEM 1A or CHEM 3A; MATH 11 or AGBS 71; or permission of instructor. Physical, chemical, and microbiological methods for determining quality in food and dairy processing. Total Quality Management (TQM) and Statistical Quality Control (SQC) principles utilized. Food product standards and Hazard Analysis Critical Control Points (HACCP) guidelines and applications. Computer applications. (3 lecture, 3 lab hours) (Field trips)

Units: 4

Course Typically Offered: Spring

FSC 125. Food and Dairy Microbiology

Prerequisites: FSC 41, FSC 178; BIOL 20; or permission of instructor. Physical, chemical, and biological control of microorganisms used in foods. Beneficial microorganisms used in food and dairy production. Laboratory emphasis on microbiological methods used in examining foods. Computer applications. (2 lecture, two 3-hour labs) (Field trips)

Units: 4

Course Typically Offered: Spring

FSC 141. Fruit and Vegetable Processing

Prerequisites: FSC 41, FSC 178; senior standing. Characteristics of raw fruits and vegetables. Application of storage and thermal dehydration, refrigeration/freezing, waste management, and packaging principles that influence quality. Computer applications. (3 lecture, 3 lab hours) (Field trips)

Units: 4

FSC 142. Dairy Processing

Prerequisite: FSC 41, FSC 178; senior standing; or permission of instructor. Unit operation approach to processing, including the three major steps of processing (raw material preparation, processing and packaging.) Overview of applied processing such as fluid milk, concentrated milks, cream, non-fat dried milk (NFDM) powder, ice cream, butter, and cheese. (2 lecture, two 3-hour labs) (Field trips)

Units: 4

Course Typically Offered: Fall

FSC 144. Food Engineering

Prerequisites: FSC 41; PHYS 2A; MATH 75 or equivalent; or permission of instructor. The application of the engineering concepts and unit operations that include energy balance, heat transfer, fluid flow, thermodynamics, and mass transfer. (2 lectures, two 3 lab-hours) (Field trips)

Units: 4

Course Typically Offered: Fall, Spring

FSC 162T. Topics in Food Science

Prerequisites: FSC 50; CULG 50; NUTR 54. Topics relating to food science. Some topics may have labs.

Units: 1-4, Repeatable up to 12 units

FSC 178. Food Laws, Regulations, Inspection, and Grading

Prerequisites: FSC 1. Federal and state laws and regulations pertaining to the food industry. Federal Register, Code of Federal Regulations, United States codes, California state codes, and other government documents as they pertain to the FDA, USDA, EPA, and other agencies. Grading and inspection of food products. (2 lectures, 2 activity hours)

Units: 3

Course Typically Offered: Fall

FSC 180. Undergraduate Research

Prerequisites: junior or senior standing and permission of instructor. Exploratory work on a suitable problem in food science.

Approved for RP grading.

Units: 1-4

Course Typically Offered: Fall, Spring

FSC 190. Independent Study
See Academic Placement - Independent Study. Approved for RP grading.

Units: 1-3, Repeatable up to 6 units

Course Typically Offered: Fall, Spring

FSC 192. Readings and Conference
Prerequisite: permission of instructor. Individually directed readings; reports and evaluation. (Hours arranged)

Units: 1-3

Course Typically Offered: Fall, Spring

FSC 193. Supervised Work Experience
Prerequisites: second semester junior standing and permission of instructor. Supervised work experience in food science. CR/NC grading only.

Units: 1-6

Course Typically Offered: Fall, Spring

FSC 199. Senior Seminar
Prerequisites: permission of instructor. Faculty, student, and industry presentations of current food science topics. Discussion of topics of practical importance to graduating students.

Units: 1

Course Typically Offered: Spring

FOOD SYSTEMS MANAGEMENT (FSM)

FSM 60. Food Safety for Foodservice Professionals
Up-to-date information on all aspects of handling food from receiving and storing to preparing and serving.

Units: 1

Course Typically Offered: Fall, Spring

FSM 131. Introduction to Food Systems Management
A managerial and systems approach to food service operations. Impact of legislation, labor relations, and marketing on industry.

Units: 3

Course Typically Offered: Fall, Spring

FSM 133. Quantity Food Production
Prerequisites: FSM 60; FSM 131; CULG 50. Preparation and service in quantity foodservice operations including techniques for making stocks, soups, and sauces. Ethnic cooking, menu planning, recipe standardization, equipment and layout, production controls, work simplification, and quality assurance. (2 lecture, 3 lab hours)(Course fee, $25)

Units: 3

Course Typically Offered: Fall

FSM 134. Cost Analysis in Food Systems Management
Prerequisites: FSM 133; computer competency recommended. Advanced concepts of planning, analyzing, decision-making and reporting procedures unique to food systems management. Cost analysis and control, computer applications, and purchasing in food service. (2 lecture, 2 lab hours)

Units: 3

Course Typically Offered: Spring

FSM 135. Institutional Experience
Prerequisites: FSM 134 or permission of instructor; health clearance and health and accident insurance required. Supervised work experience in food systems management. (1 lecture, 4 lab hours)

Units: 3

Course Typically Offered: Fall, Spring

FSM 162T. Topics in Food Systems Management
Prerequisites: CULG 50; FSM 131; NUTR 54. Topics relating to food systems management.

Units: 1-4, Repeatable up to 12 units

FSM 180. Undergraduate Research
Prerequisite: permission of instructor. Exploratory work on a suitable problem in food systems management. Approved for RP grading.

Units: 1-4

Course Typically Offered: Fall, Spring

FSM 190. Independent Study
See Academic Placement - Independent Study. Approved for RP grading.

Units: 1-3, Repeatable up to 6 units

Course Typically Offered: Fall, Spring

FSM 192. Readings and Conference
Prerequisite: permission of instructor. Individually directed readings; reports and evaluation. (Hours arranged)

Units: 1-3

Course Typically Offered: Fall, Spring

FSM 193. Supervised Work Experience
Prerequisite: permission of instructor. Supervised work experience in food systems management. A health clearance may be required. CR/NC grading only. (CSU liability insurance fee, $8)

Units: 1-6

Course Typically Offered: Fall, Spring

GRAPHIC DESIGN (GD)

GD 35. Visual Communications Fundamentals
Foundational visual and cognitive organizational processes for the practice of visual communication, presented through lectures and applications through studio exercises. Includes visual perception and organization, visual ideation, and visual problem solving processes techniques and principles. (2lecture, 2 lab hours)(Course fee, $30).

Units: 3

Course Typically Offered: Fall

GD 37. Graphic Design: Computer Imaging

Prerequisites: ART 13, GD 35. Emphasis on basic skills, theories, and principles of graphic design including photo manipulation and illustration software applications as related to the graphic design field. (6 lab hours). (Formerly GD 40) (Course fee, $30).

Units: 3

Course Typically Offered: Fall, Spring

GD 39. Graphic Design: Computer Layout Design

Prerequisite: ART 13, GD 37. Exploration and application of layout design and pre-press software as related to the graphic design field through projects encompassing the basic skills, theories, and principles of graphic design.(Course fee, $30).

Units: 3

Course Typically Offered: Fall, Spring

GD 41. Typography

Prerequisite: ART 13, GD 37. Typographic principles, elements, and techniques. Type classification, selection, design, and layout. Computer projects. (6 lab hours) (Course fee, $30). FS

Units: 3

Course Typically Offered: Fall, Spring

GD 42. Graphic Design

Prerequisite: GD 35 and GD 41 or concurrently. Advertising and graphic design projects taken through steps from thumbnail sketches through rough layouts to computer-generated comprehensive presentations. Emphasis on evaluation of market and audience and development of aesthetic solutions to communication problems. (6 lab hours) (Formerly GID 142) (Course fee, $30).

Units: 3

Course Typically Offered: Fall, Spring

GD 50. Internet Design

Prerequisite: GD 41, GD 42. Introduction to Internet design for graphic designers focusing on Web site structure. Emphasizing on professionally designed, visually integrated Web sites utilizing contemporary software for We design, image creation, and manipulation. (6 lab hours).(Course fee, $30).

Units: 3

Course Typically Offered: Fall, Spring

GD 60. Illustration Techniques

Prerequisites: ID 43 or ART 20. Introduction to various traditional drawing and painting techniques. Emphasis on the application of rendering solutions to graphic design problems. (6 lab hours). (Course fee, $5). (Formerly GD 143).

Units: 3

Course Typically Offered: Fall, Spring

GD 135. History of Graphic Design

Prerequisites: ARTH 10 and ARTH 11. A survey of characteristic design approaches, solutions, materials, and technologies, their relationship to popular culture and trends, and their social and political history. Course includes lectures and studio projects. (2 lecture and 2 lab hours) (Course fee, $30).

Units: 3

Course Typically Offered: Fall, Spring

GD 150. Advanced Internet Design

Prerequisite: GD 41, GD 42 and GD 50. Advanced application and exploration of Web standards-based Web sites design. Emphasis on the aesthetics and structure of Web site development. (6 lab hours). (Course fee, $30).

Units: 3

Course Typically Offered: Fall, Spring

GD 153. Interactive Design

Prerequisite: GD 41, GD 42 and GD 50. Interactive design for graphic designers. Use of contemporary software to develop professionally designed, visually integrated, interactive graphics and content for Web and multimedia applications. (6 hours) (Course fee $30).

Units: 3

Course Typically Offered: Spring

GD 155. Advanced Interactive Design

Prerequisite: GD 153. Integration of advanced and complex interactive content for Web and multimedia applications. Emphasis on experimentation and concept development incorporating elements from different thematic structures. (6 lab hours).(Course fee $30).

Units: 3

Course Typically Offered: Fall

GD 157. Motion Graphics

Prerequisite: GD 153. Application of software to create visually integrated, concept driven motion graphics and interactive web content Web and multimedia applications. Emphasis on research and production on advanced projects. (6 lab hours) (Course fee $30).

Units: 3

GD 163. Illustration

Prerequisite: GD 60 and ART 116. Understanding how illustration functions with text. Experiences in the conceptualization, and organized development of illustrative images, Creative illustrative strategies applied to design situations. (6 lab hours). (Formerly GD 146, Advanced Rendering).

Units: 3

Course Typically Offered: Fall, Spring

GD 165. Digital Illustration Techniques

Prerequisite: GD 42, GD 60, and GD 163. Introduction to digital illustration, appreciation of its strengths. Applying basic digital illustration techniques to characteristic graphic design problems and formats. (6 lab hours). (Course fee, $5). (Formerly GD 147, Advertising Illustration) (Course fee $30).

Units: 3

Course Typically Offered: Fall, Spring

GD 167. Advanced Illustration

Prerequisites: GD 163, Illustration. Advanced techniques in non-digital illustration. Creative illustrative visual solutions to a range of problems in graphic design, including complex, and

abstract subjects. Developing distinctive individual work. (6 lab hours).

Units: 3, Repeatable up to 6 units

Course Typically Offered: Spring

GD 169. Advanced Digital Illustration

Prerequisites: GD 163, and GD 165. Advanced digital illustration techniques. Analyzing and applying components of a visual style. Combining traditional and digital illustrative components. (6 lab hours).

Units: 3

Course Typically Offered: Fall

GD 170. Typographic Design

Prerequisite: GD 41 and GD 42. Advanced principles of typography, including design of typefaces utilizing contemporary software. Exploration of sophisticated typographical projects incorporating commercial and student designed fonts. Emphasis is placed upon typographical experimentation. (6 lab hours). (Formerly GD 141) (Course fee $30).

Units: 3

Course Typically Offered: Fall, Spring

GD 171. Advanced Typographic Design

Prerequisite: GD 170. Creation of unique typefaces for use in typographic solutions to projects such as brand identity, packaging design, environmental graphics, and publication design. (Course fee $30).

Units: 3

Course Typically Offered: Spring

GD 174. Graphic Systems

Prerequisite: GD 41 and GD 42. Examination of the structures of primary/secondary and co-equal communication systems as applied to identity, packaging and other graphic design projects. (6 lab hours). (Formerly GD 142) (Course fee $30).

Units: 3

Course Typically Offered: Fall, Spring

GD 175. Graphic Concept Development

Prerequisite: GD 174. Examination of the importance of an underlying concept development to successful graphic design solutions. Emphasis placed on the development of strong concepts in projects such as identity applications and environmental graphics. (6 lab hours) (Course fee $30).

Units: 3

Course Typically Offered: Spring

GD 176. Packaging Design

Prerequisite: GD 171 and GD 175. Advanced projects in packaging with emphasis on the application and exploration of the socio-cultural, physical, and legal requirements of packaging systems. (6 lab hours) (Course fee $30).

Units: 3

Course Typically Offered: Fall

GD 178. Professional Advertising Design

Prerequisites: GD 171, GD 174. Advanced advertising/graphic design projects from concept development to finished product. Emphasis on complex methods and approaches relating to advertising media, production procedures, and professionalism. (Course fee $30) (Formerly GD 148)

Units: 3

Course Typically Offered: Fall, Spring

GD 179. Professional Practices In Graphic Design

Prerequisites: GD 176 and GD 178, or GD 155 and GD 157, or GD 167 and GD 169. Advanced exploration of the fields of graphic and advertising design, and the standards and practices common in advertising agencies and design studios. Covers workplace structures, time and record-keeping, estimating, self-promotion, and working with vendors and employees. (6 lab hours). (Formerly GD 149) (Course fee $30).

Units: 3

Course Typically Offered: Spring

GD 180. Graphic Portfolio Development

Prerequisites: (GD 176 and GD 178), or (GD 155 and GD 157), or (GD 167 and GD 169). Organization and creation of a professional portfolio. Advanced approaches and production of various media and professional applications including practices encompassing the portfolio, exhibitions and competitions. (6 lab hours).

Units: 3

Course Typically Offered: Spring

GD 190. Independent Study in Graphic Design

See Academic Placement - Independent Study. Approved for RP grading.

Units: 3, Repeatable up to 6 units

Course Typically Offered: Fall, Spring

GD 198. Internship in Graphic Design

Prerequisites: permission of instructor and supervising agency. Experience in graphic design related professions with a design studio or advertising agency or for a publication under the supervision of graphic design faculty. Maximum credit toward a graphic design option is 6 units. CR/NC grading only. (Minimum of 3 field hours per unit.)

Units: 1-6

Course Typically Offered: Fall, Spring

GEOGRAPHY (GEOG)

GEOG 2. Introduction to Cultural Geography

General background to cultural geography, including origins of cultural land scapes, man's modification of the natural environment, and problems of population and settlement geography. G.E. Breadth D3. (CAN GEOG 4)

Units: 3

Course Typically Offered: Fall - even

GE Area: D3

GEOG 4. World Geography

Survey of world-wide social, cultural, economic and political forc-

es; earth's physical features; economic development; cultural and natural resources; man-land relationships. Applicable concepts and methodologies. Approach is by continents and/or cultural realms. G.E. Breadth D3.

Units: 3

Course Typically Offered: Fall, Spring

GE Area: D3

GEOG 5. Physical Geography: Global Concepts, Weather and Climate

The earth as a planet, map projections, location on the earth's surface, time, oceans, weather, and climate.

Units: 3

Course Typically Offered: Fall

GEOG 7. Physical Geography: The Earth's Surface

A survey of those elements of the physical environment at the earth-atmosphere contact. Fundamentals of landform features, soils, natural vegetation, and water bodies.

Units: 3

Course Typically Offered: Spring

GEOG 20. Introduction to Spatial Techniques

Introduction to spatial/geographical techniques, including cartography, topographical map reading, geographical information systems, and aerial photo interpretation.

Units: 3

Course Typically Offered: Spring

GEOG 25. Critical Thinking in Geography

Fundamentals of critical thinking with emphasis on: evaluating claims, geographical and cultural influences on perception, constructing arguments, deductive and inductive reasoning, recognizing fallacies and persuasive rhetoric, and explanations. These skills are applied to select topics drawn from various geographical contexts.

Units: 3

GE Area: A3

GEOG 30. Introduction to Spatial Statistics

Introduction of elementary statistical principles and techniques: probability theory, sampling, descriptive statistics, spatial statistics, hypothesis testing, correlation analysis, bivariate regression, and forecasting. (Formerly GEOG 110) (2 lecture, 2 lab hours)

Units: 3

Course Typically Offered: Spring

GEOG 111. Meteorology

Prerequisites: MATH 75 (or equivalent) and GEOG 5 (or equivalent). Study of the earth's atmosphere; energy exchanges and temperature; pressure and air circulation; fog, clouds, precipitation and the hydrologic cycle; cyclonic storms and orographic processes; stability and thunderstorms; weather modification and predictions with application to agriculture, aviation and other activities.

Units: 3

Course Typically Offered: Fall - even

GEOG 112. Climatology

Prerequisites: MATH 75 (or equivalent) and GEOG 5 (or equivalent). Study of various systems of climate classification. Climates as they exist throughout the world and the reasons for their occurrence.

Units: 3

Course Typically Offered: Spring - odd

GEOG 114. Micrometeorology

(GEOG 114 same as PLANT 134.) Prerequisites: MATH 75 (or equivalent) and GEOG 5 (or equivalent), or permission of instructor. Micrometeorological influences on local climates including natural ecosystems and varying agricultural canopies. Local climate influences on wildlife, domestic animals, and humans. Manipulation of local climate including frost protection, irrigation and wind sheltering. Microclimates of non-uniform terrain and urban environment.

Units: 3

Course Typically Offered: Fall - odd

GEOG 115. Violent Weather/Climatic Hazards

Prerequisite: G.E. Foundation and Breadth Area B. Studies hurricanes, tornadoes, thunderstorms, lightning, destructive winds, heat waves, drought, severe winter storms, and floods. Looks at physical laws and processes that account for their formation and behavior; examines human impact. G.E. Integration IB.

Units: 3

Course Typically Offered: Fall, Spring

GE Area: IB

GEOG 118. Air Quality Meteorology

This course examines the sources, effects, and regulation of air pollutants; and the roles of meteorology in air pollution. Topics covered include air pollution sources and sinks, atmospheric systems and pollutant transport, welfare and health effects of air pollution.

Units: 3

GEOG 122. Introduction to Biogeography

Prerequisites: G.E. Foundation and Breadth Area B, and GEOG 30 (or equivalent). Examination of the living planet and global patterns of life. Topics covered include evolution, biodiversity, extinction, conservation, and impacts of global change on our planet's biosphere. (Formerly GEOG 117.)

Units: 3

Course Typically Offered: Fall - even

GEOG 127. Global Environmental Change

Prerequisites: G.E. Foundation and Breadth Area B. Effects of human activities on the natural world from ancient times to the present with emphasis on local, regional, and global environmental changes and their implications for the future.

Units: 3

Course Typically Offered: Spring - even

GEOG 128. Environmental Pollution

Prerequisites: completion of G.E. Foundation and Area B. Breadth requirements. A discussion of current environmental pollution

problems involving the atmosphere, land, and water. The adverse effects of transportation, surface mining, sewage and water disposal, noise, the use of pesticides, energy production and consumption, and related topoics are examined.

Units: 3

Course Typically Offered: Fall, Spring

GE Area: IB

GEOG 129. Environmental Impact Assessment

This course examines National Environmental Policy Act (NEPA) guidelines required to conduct environmental impact assessment (EIA) of a project via physical-chemical, biological, socioeconomic, and cultural analyses of the effects the proposed activity will have on the natural environment.

Units: 3

GEOG 132. United States Environmental Law

Prerequisites: G.E. Foundation and Breadth Area D, and junior standing. Contemporary environmental problems and their interrelationships. The conceptual, constitutional, and administrative framework for environmental protection and management. Legislation and case law for the protection and enhancement of the environment with emphasis on natural resources. (Formerly CRP 135).

Units: 3

Course Typically Offered: Spring - odd

GEOG 133. Environmental Policy Management

Discussion of theories, practices, and apparatus used in solving environmental problems from multidisciplinary approach to safeguard, sustain, and reinstate the physical environmental conditions. Topics include environmental policy, issues in water resources and solid waste management, and life cycle analysis.

Units: 3

GEOG 134. Introduction to Environmental Entrepreneurship

Discussion on how to set up a new business in environmental science, sustainability, green energy, and natural resource management. Topics include environmental equity and management, natural resource management, forestry, life cycle analysis, waste management, green energy, engineering economics, and entrepreneurship.

Units: 3

GEOG 135. Environmental Protection

Prerequisite: G.E. Foundation and Breadth Area D. An examination of the plight of nature; the values of nature preserved; man's attempt to preserve nature. Attention focuses on the national park movement, wilderness, endangered species, the management of lands for the purpose of preservation, and related topics.

Units: 3

Course Typically Offered: Spring - odd

GEOG 139T. Environmental Regions

Prerequisites: G.E. Foundation and Breadth Area D. Systematic and regional investigation of the physical and cultural complexes of various environmental regions. Regions to be discussed include the Humid Tropics, Arid Lands, Polar Lands, Coastal Lands, Mountain Environments, Island Environments. (Formerly GEOG 145T)

Units: 3, Repeatable up to 9 units

GEOG 140. Computer Cartography

Map design and production in a computer environment: business graphics, desktop publishing, computer-aided design, thematic mapping, three-dimensional surfaces, and graphic programming. (2 lecture, 2 lab hours) (Formerly GEOG 102).

Units: 3

Course Typically Offered: Spring - odd

GEOG 141. GIS I: Data Display and Manipulation

Prerequisites: GEOG 30 (or equivalent) or permission of instructor. Use of computers in mapping and geographic information systems applications. Operational knowledge of boundary and attribute data manipulation, spatial query, geocoding, and layout using state-of-the-art mapping and geographic information systems software. (2 lecture, 2 lab hours) (Formerly GEOG 101).

Units: 3

Course Typically Offered: Fall

GEOG 142. GIS II: Data Creation and Project Implementation

Prerequisite: GEOG 141 or permission of instructor. Fundamental concepts of acquisition, structure, manipulation, and analysis of GIS data. Practice in the design, management, and implementation of GIS. Specific operational knowledge may include georegistration, boundary and attribute file creation, map development, spatial query, and spatial analysis. (2 lecture, 1 lab) (Formerly GEOG 107).

Units: 3

Course Typically Offered: Spring

GEOG 143. GIS III: Spatial Analysis and Modeling

Prerequisite: GEOG 142 or permission of instructor. Spatial analysis and modeling in a GIS environment. Spatial geometry, pattern analysis, terrain analysis, path analysis, network analysis, surface modeling, spatial autocorrelation, and spatial interpolation. (2 lecture, 2 lab hours) (Formerly GEOG 108).

Units: 3

Course Typically Offered: Fall - odd

GEOG 149. Technical Field Geography

Prerequisite: Geography major or permission of instructor. Gathering and analysis of data pertaining to topics in physical or human geography. Includes an on-campus seminar to discuss issues and concepts. (1 lecture, 4-8 field hours) (Formerly GEOG 109).

Units: 3

Course Typically Offered: Spring - odd

GEOG 150. Map Interpretation

Prerequisites:G.E. Foundation B3, MATH 5 (or equivalent), GEOG 7, and GEOG 30 or permission of instructor. Reading and interpretation of USGS-type topographic maps. Emphasis on interpretative inference concerning both physical and cultural landscapes. (2 lecture, 2 lab hours) (Formerly GEOG 104).

Units: 3

GEOG 151. Aerial Photograph Interpretation

Prerequisites: G.E. Foundation B4; MATH 5 (or equivalent); GEOG 7, GEOG 30 (or equivalent) or permission of instructor. Introduction to aerial imagery interpretation, videography, multispectral scanner technology; computer-based digital processing; monitoring and mapping of terrain features; georeferencing (GPS); GIS applications. (2 lecture, 2 lab hours) (Formerly GEOG 105).

Units: 3

Course Typically Offered: Spring

GEOG 152. Remote Sensing I: Intro to Remote Sensing of Environment

Prerequisites: G.E. Foundation Breadth and Area B; MATH 5 (or equivalent); GEOG 7, GEOG 30 (or equivalent) or permission of instructor. Introductory techniques of remote sensing; including digital image processing; advanced GIS applications. (2 lecture, 2 lab hours) (Formerly GEOG 106).

Units: 3

GEOG 160. Urban Geography

Prerequisites: G.E. Foundation and Breadth Area D. The city environment. An understanding of the changing urban environments from ancient through medieval to modern times; the relationship of the urban center to its surrounding hinterland; the interdependence of its functional parts; its problems and future.

Units: 3

Course Typically Offered: Fall - even

GEOG 161. Historical Geography of the United States

Prerequisites: G.E. Foundation and Breadth Area D. Regional settlement of the United States; peopling of physiographic regions, creation of economic (cultural) regions, and geographic factors related to broad trends in American history.

Units: 3

Course Typically Offered: Fall

GEOG 162. Political Geography

Prerequisites: G.E. Foundation and Breadth Area D. Systematic treatment of the nature and structure of states, boundary problems, political policy for the oceans, international power, air space.

Units: 3

Course Typically Offered: Fall - even

GEOG 163. World Crises

Prerequisites: G.E. Foundation and Breadth Area D. Current major political, economic, and environmental crises occurring on either a global or a regional level.

Units: 3

Course Typically Offered: Spring - odd

GEOG 164. American Ethnic Geography

Prerequisites: G.E. Foundation and Breadth Area D. Geographical analysis of selected American ethnic groups to include their cultural hearths, cultural landscapes, cultural evolutions, migrations, and current spatial distributions. Economic, social, and political correlates will be explored.

Units: 3

Course Typically Offered: Fall - odd

GEOG 165. Medical Geography

Prerequisites: G.E. Foundation and Breadth Area D. Examination of spatial patterns of diseases worldwide, with special emphasis on diffusion patterns for infectious diseases. Analysis of global health care delivery systems including health care resources, accessibility, and uses. (Formerly GEOG 155).

Units: 3

Course Typically Offered: Spring - even

GEOG 166. Geography of World Economy

Prerequisites: G.E. Foundation and Breadth Area D. An examination of the organization of world economy and human economic activities from a geographical perspective. Discussion of contemporary economic issues may include industrial restructuring, technological innovation, foreign trade and investment, Pacific Asia dynamism, Third World crisis, new international economic order, regional inequality, and local area development. (Formerly GEOG 130).

Units: 3

Course Typically Offered: Fall - odd

GEOG 167. People and Places-A Global Perspective

Prerequisites: G.E. Foundation and Breadth Area D. Contrasting characteristics of a diverse world; influence of major social, cultural, economic, and political forces on societal behavior and institutions; impacts of geographical factors including location, climate, natural resources, urbanization, diffusion/adoption of innovations, and rural/urban lifestyles on development. G.E. Multicultural/International MI.

Units: 3

Course Typically Offered: Fall, Spring

GE Area: M/I

GEOG 170T. Latin American Regions

Prerequisites: G.E. Foundation and Breadth Area D. Geography of Latin America. Relationship of cultural and natural features; social and economic development; man-land relationships. Regions to be discussed include Mexico, Central America, Caribbean Islands, and South America.

Units: 1-3, Repeatable up to 9 units

GEOG 171T. Anglo-American Regions

Prerequisites: G.E. Foundation and Breadth Area D. Examination of the physical, economic, and cultural geographic foundations of major Anglo-American regions. Regions to be discussed include Canada, the United States, the American West, the South, the Middle West, and the North East. (Formerly 166T).

Units: 1-3, Repeatable up to 9 units

GEOG 173. The American West

Prerequisites: G.E. Foundation and Breadth Area D. Physical and human geography of the western continental United States. Occupance of the region, both historically and in contemporary times, by different peoples including Indians, Hispanics, Anglos, and others. Examines population, land and resource use, urban centers, and subdivision of the American West. G.E. Integration ID. (Formerly GEOG 169).

Units: 3

Course Typically Offered: Fall, Spring

GE Area: ID

GEOG 174. European Regions
Prerequisites: G.E. Foundation and Breadth Area D. Geographic regions of Europe emphasizing the relation of human activities to physical factors areal in their distribution and influence. Regions to be discussed include Mediterranean lands, Western Europe, Eastern Europe, Central Europe, Northern Europe, the British isles.

Units: 1-3

GEOG 175T. African Regions
Prerequisites: G.E. Foundation and Breadth Area D. Study of major African regions relating to basic physical, cultural, economic, and political geographic conditions and problems. Regions to be discussed include Developing Black Africa, North Africa, West Africa, East Africa, Central Africa, and Southern Africa. (Formerly GEOG 181T).

Units: 1-3, Repeatable up to 9 units

GEOG 177T. Asian Regions
Prerequisites: G.E. Foundation and Breadth Area D. Geographic regions of Asia emphasizing physical and cultural features. Regions to be discussed include Southeast Asia, South Asia, China, and the Far East.

Units: 1-3, Repeatable up to 9 units

GEOG 178. Geography of California
Prerequisites: G.E. Foundation and Breadth Area D. Natural and cultural patterns of California; historical and regional geography of the state. (Formerly GEOG 168).

Units: 3

Course Typically Offered: Spring - even

GEOG 179. Geography of the Middle East
Prerequisites: G.E. Foundation and Breadth Area D. Comprehensive study of the physical features of the Middle East and the cultural traits of its people. The area under consideration extends from the Turkish Straits to the Pamir Knot, and from the Caucasus to the Sudan.

Units: 3

Course Typically Offered: Fall - odd

GEOG 181. Introduction to Urban Planning
Prerequisites: G.E. Foundation and Breadth Area D. Introduction to and critical analysis of theory and practice of community planning; traditional and alternative roles of planning in contemporary society; perspectives on community problems; evaluation of concepts, literature, and history.

Units: 3

Course Typically Offered: Fall

GEOG 184. Environmental Planning
Introductory course that covers the fundamental concepts of environmental planning at the federal, state, and local level. The interrelationships among residents, working landscapes, and protected areas, and society's need to protect valuable natural resources will be covered.

Units: 3

GEOG 187T. Topics in Urban Planning Techniques
Selected topics such as analytical techniques; means for management of urban development, including transportation, public facilities, and activities in the private sector; public policy concerning issues of local and regional significance. (Formerly CRP 110T).

Units: 1-3, Repeatable up to 6 units

Course Typically Offered: Spring - even

GEOG 190. Independent Study
See Academic Placement - Independent Study. Approved for RP grading.

Units: 1-3, Repeatable up to 6 units

Course Typically Offered: Fall, Spring

GEOG 191T. Topics in Geography
Prerequisites: G.E. Foundation and Breadth Area D. Selected topics in cultural, physical, environmental, or economic geography or in geographic techniques. (Formerly GEOG 188T).

Units: 1-3, Repeatable up to 9 units

Course Typically Offered: Fall, Spring

GEOG 191T. Environmental Impact Assessment
This course investigates guidelines, processes, procedures, and implementation of environmental impact assessment (EIA) used to assess a project through technical, economic, and social analysis of its effects in natural environment. The objective is to provide familiarity with EIA considered in granting permission for creation of infrastructure, public facilities, and developmental work. Topics consist of background of EIA; policy and institutional framework; public participation, screening, and scoping; forecast and appraisal of impacts; impact management and mitigation techniques; and EIA preparation decision making. Students understand to create, critique, and review EIA and the decision making processes via issue specific case studies.

Units: 3

GEOG 192. Directed Readings
Prerequisite: permission of instructor. Supervised readings in a selected field of geography. Combined units of GEOG 190 and GEOG 192 may not exceed 6 units. CR/NC grading only.

Units: 1-3, Repeatable up to 6 units

Course Typically Offered: Fall, Spring

GEOG 195. Field Geography
Prerequisite: permission of instructor. Weekend, semester break, or summer field trips. CR/NC grading only.

Units: 1-6

Course Typically Offered: Fall, Spring

GEOG 201. Foundations in Urban Planning
Introduction to and critical analysis of theory and practice of urban planning; traditional and alternative roles of planning in contemporary society; perspectives on community problems; evaluations of concepts, literature and history.

Units: 3

GEOG 202. Land Use Regulation, Law & Ethics
This course will examine the development and application of

the jurisdictions “Police Powers” to implement land development plans and policies. Historical and contemporary case studies will be examined. Topics include general plan, zoning, subdivisions, nuisance control, and growth management strategies.

Units: 3

GEOG 203. Community Planning

Introduction to basic issues of urban planning, community development, and economic development; the role of public policy in the above fields; market approaches to tackling issues in the fields; review and critique of urban renewal/housing program.

Units: 3

GEOG 204. Environmental Planning

This course is designed to familiarize the student with the fundamental concepts and mechanisms underlying environmental planning at the local, state, and federal level. The complex and embedded interactions of the build and natural environments will be examined.

Units: 3

GEOG 205. Transportation Planning

Introduction to brief history and rend of U.S. transportation planning; basic concepts and the issues in transportation; analytical skills in travel behavioral demand modeling; transportation economics, finance, and policies; sustainable transportation

Units: 3

GERMAN (GERM)

GERM 1A. Elementary German

Beginning course. Imparts basic speaking, listening, reading, and writing abilities in German as well as introduces the cultures of Germany, Switzerland and Austria. Not open to students with two or more years of high school German credit.

Units: 4

Course Typically Offered: Fall

GERM 1B. Elementary German

Prerequisite: G.E. Foundation A2; GERM 1A recommended or permission of instructor. Second semester course. Develops speaking, listening, reading, and writing abilities; broadens knowledge of German, Swiss and Austrian cultures. Not open to those with three or more years of high school German. G.E. Breadth C2.

Units: 4

Course Typically Offered: Spring

GE Area: C2

GERM 2A. Intermediate German

Prerequisite: G.E. Foundation A2; GERM 1B recommended or permission of instructor. Third semester course. Builds reading, conversational, and writing facilities in German; develops linguistic and cultural mastering of varied, increasingly complex situations. General review of grammar syntax; cultural topics. G.E. Breadth C2.

Units: 3

Course Typically Offered: Fall

GE Area: C2

GERM 2B. Intermediate German

Prerequisite: G.E. Foundation A2; GERM 2A recommended or permission of instructor. Fourth semester course. Builds further reading, conversational, and writing facilities in German; develops general linguistic and cultural competence. General review of grammar and syntax; cultural topics. G.E. Breadth C2.

Units: 3

Course Typically Offered: Spring

GE Area: C2

GERM 8T. Selected Topics in German

GERM 1A recommended or permission of instructor. Language experience outside classroom stressed in oral topics. Problem vocabulary and grammar topics. CR/NC grading only.

Units: 1, Repeatable up to 2 units

GERM 50. Conversation

GERM 2B or concurrently recommended or permission of instructor. Conversation on prepared topics, brief talks by students, short scenes from plays, sharpening of listening skills and oral expression. Preparation for “survival” in German speaking countries. (Spring semester)

Units: 3, Repeatable up to 6 units

Course Typically Offered: Spring

GERM 101. Composition

GERM 2B recommended or permission of instructor. Development of written expression through intensive practice, vocabulary building, grammar and syntax review, cooperative work on improving composition, analysis of varying styles. May be taken twice. (Fall semester)

Units: 3, Repeatable up to 6 units

Course Typically Offered: Fall

GERM 103T. German Culture and Civilization

Studies in principal aspects of German (also Austrian and Swiss) history, thought, customs, institutions, film, arts, music, folklore, contemporary life; influence on Western civilization. Taught in English.

Units: 3, Repeatable up to 6 units

GERM 112. German Literature to 1750

GERM 2B recommended or permission of instructor. In-depth studies of German literature prior to 1750: Medieval, Renaissance, Reformation, Baroque, Enlighten ment; including such authors as Wolfram, Walther von der Vogelweide, Luther, Grim melshausen. Critical analysis of texts, lecture, discussion, student reports.

Units: 3

GERM 114. German Literature through the Classical Age

GERM 2B recommended or permission of instructor. From the beginnings to Goethe’s death in 1832, concentrating on the Classical Age (Lessing, Schiller, Goethe). Critical analysis of texts, lecture, discussion, student reports.

Units: 3

GERM 116. Nineteenth Century Literature
GERM 2B recommended or permission of instructor. Investigates major 19th century authors such as Brentano, Tieck, Hoffmann, Buchner, Stifter, Keller, Raabe, Fontane. Critical analysis of texts, lecture, discussion, student reports.

Units: 3

GERM 118A. Modern Literature: 1890-1945
GERM 2B recommended or permission of instructor. Investigates Classical Modernity (1890-World War II), including such authors as Kafka, Rilke, Mann, Brecht, Musil. Critical analysis of texts, lecture, discussion, student reports.

Units: 3

GERM 118B. Contemporary Literature: 1945-Present
GERM 2B recommended or permission of instructor. Investigates the Postmodern Age (World War II to the present), including such author as Grass, Boll, Frisch, Handke, Bernhard, Wolf. Critical analysis of texts, lecture, discussion, student reports.

Units: 3

GERM 150. Advanced Conversation
GERM 2B or concurrently recommended or permission of instructor. Intensive practice in advanced oral German to cultivate ease within a number of speech situations. Emphasis on current affairs in Germany, Austria, and Switzerland. (Spring semester)

Units: 3, Repeatable up to 6 units

Course Typically Offered: Spring

GERM 160T. Topics in German Studies
Intensive analysis, discussion, and evaluation of significant facets of German life through the study of specific movements, literary problems, themes, films, cultural artifacts, music, institutions, epochs, folklore, and regions.

Units: 1-3, Repeatable up to 12 units

GERM 190. Independent Study
See Academic Placement - Independent Study. Approved for RP grading.

Units: 1-3, Repeatable up to 6 units

GERM 290. Independent Study
See Academic Placement -- Indpendent Study. Approved for RP grading.

Units: 1-3, Repeatable up to 6 units

GERONTOLOGY (GERON)

GERON 10S. Journey of Adulthood: Planning a Meaningful Life
An introduction to; theories, concepts, perspectives, and in the study of aging; psychological, physiological, sociological, cultural, ethnic issues fundamental to planning a meaningful life during the journey of adulthood. Develop a healthy lifestyle. Cultivate lifelong learning and satisfaction. G.E. Breadth E1. (Formerly GERON 10)

Units: 3

Course Typically Offered: Fall, Spring

GE Area: E1

GERON 18. Women and Aging
(WS 18 same as GERON 18.) Interdisciplinary course designed to facilitate the understanding of older women and the physiological, psychological, and social aspects of the aging process. G.E. Breadth E1. (Formerly WS 118)

Units: 3

GE Area: E1

GERON 100. Images of Aging in Contemporary Society
Prerequisites: G.E. Foundation and Breadth Area D. Explores aging theories; multicultural potrayals of aging through art, literarure, and media; examines generational/ societal perceptions of aging. Develops awareness of competence in recognizing different images, and examines the influence of these images on societal/ emotional status, resources and other elder issues. G.E. Integration ID.

Units: 3

Course Typically Offered: Fall, Spring

GE Area: ID

GERON 103. Psychology of Aging
(GERON 103 same as PSYCH 103.) Psychological study of maturity and old age; physiological and sociological considerations.

Units: 3

GERON 111. Heritage and Aging
Aging is continual from birth to death. Events throughout a person's life coincide with dates of many different historical, cultural, and humanistic occurrences. Students explore the interrelationship of events to an elder's heritage, creativity, and potential for succesful aging. G.E. Breadth E1.

Units: 3

Course Typically Offered: Fall

GE Area: E1

GERON 115. Health Issues of Aging
(PH 115 same as GERON 115.) Basic principles and concepts of the aging process; includes the physical, social, emotional and mental components of health. Benefits of health promotion and preventive action for the aging are also explored.

Units: 3

Course Typically Offered: Fall, Spring

GERON 125. Social Services for the Aging
(SWRK 125 same as GERON 125.) Students will be acquainted with the common bio-psycho social needs of the aging in the United States and the social services available to meet those needs. Within the context of social work values and problem-solving methods, attention will be given to issues of ethnicity, gender, and gaps in services.

Units: 3

Course Typically Offered: Spring

GERON 132. Alzheimer's Disease

Focuses on Alzheimer's Disease (AD) and other related dementias. Course will include a complete assessment, evaluation, and treatment of AD. (Formerly GERON 180T section)

Units: 1

GERON 134. Mental Health and Caregiving

The impact of mental disorders on older adults and their caregivers will be presented. Evidence-based guidelines for care, patient and caregiver issues, and non-pharmacologic management principles to delay institutionalization and promote caregiver peace of mind will be addressed.

Units: 3

GERON 137. Community Service in Gerontology

Prerequisite: Permission of instructor. Service oriented course designed to provide opportunities to observe, interact, and learn from elders in gerontological settings. Hour requirements are supported through writing and discussion of issues and solutions. Credit/No Credit grading. (Formerly GERON 180T)

Units: 1-3

GERON 139. Death and Dying

Exploration of personal values and beliefs as well as diverse spritual and cultural beliefs, groups regarding death, and its meaning for living. Practical matters surrounding death are also addressed. (Formerly GERON 180T)

Units: 3

Course Typically Offered: Fall

GERON 140. Aging in America: Politics & Change

An introduction to policies, politics, and programs of an aging society. The course will examine the historical, social, cultural, economic, and demographic issues affecting the elderly and will provide an overview of federal and state legislation and programs for older Americans.

Units: 3

GERON 148. Biophysical Aspects of Aging

(KINES 148 same as GERON 148) Theories of aging, biological mechanisms of the aging process, and the role of physical activity in those physiological functions influenced by age. (Spring only)

Units: 3

Course Typically Offered: Spring

GERON 150. Communication and Aging

(COMM 150 same as GERON 150.) Focusing on the communication aspects of the aging process, organized around the major communication components of intrapersonal, interpersonal, and mass communication with addition of such topics as attitudes, stereotypes, nonverbal, and the communication aspects of health care.

Units: 3

GERON 161. Multiculture/Aging

Prerequisite: G.E. Foundation and Area D. Explores diversity and commonality among older persons. Analysis of ways demographic, ethnic, cultural, location, and situation topics relate to gerontological concepts, research, and theories. Presents problems with health, socioeconomic, and minority issues. Discusses ageism, racism, and sexism. G.E. Multicultural/ International MI.

Units: 3

Course Typically Offered: Fall

GE Area: M/I

GERON 180T. Topics in Gerontology

Various topics in the field of aging; subjects such as Alzheimer's disease, health, aging, and elder abuse. Content varies from semester to semester.

Units: 1-3, Repeatable up to 9 units

GERON 185. Internship in Gerontology

Prerequisites: upper division or graduate standing and permission of instructor. Supervised work experience in gerontology. May be coordinated with student's major, e.g., business and gerontology. CR/NC grading only.

Units: 1-6

Course Typically Offered: Fall, Spring

GERON 190. Independent Study

See Academic Placement - Independent Study. Approved for RP grading.

Units: 1-3, Repeatable up to 6 units

Course Typically Offered: Fall, Spring

GEOMATICS ENGINEERING (GME)

GME 1. Introduction to Geomatics Engineering

An introduction to geomatics engineering philosophical thought; geomatics engineering profession and career opportunities; professional ethics and safety; creative and critical thinking applied to the geomatics engineering decision-making process. (Formerly SE 1)

Units: 1

Course Typically Offered: Fall

GME 5. Critical Reasoning

Fundamentals of analysis and evaluation in the context of technology. Evaluating the viewpoints of experts. Patterns of deductive and inductive arguments. Common fallacies of reasoning. G.E. Foundation A3. (Formerly S E 5)

Units: 3

Course Typically Offered: Fall, Spring

GE Area: A3

GME 15. Engineering Surveying

Prerequisite: MATH 5. Principles of surveying measurements for distance, direction, elevation, topographic and planimetric mapping, horizontal curves, vertical curves, earthwork and engineering applications. (Formerly SE 15)

Units: 2

Course Typically Offered: Fall, Spring

GME 15L. Engineering Surveying Laboratory

Prerequisite: GME 15 or concurrently. Field practice in geomatics measurement, construction stakeout, and curve alignment prob-

lems. (3 lab hours; field trips required) (Formerly S E 15L)

Units: 1

Course Typically Offered: Fall, Spring

GME 16. Municipal Surveying

Prerequisites: GME 15. Instrumentation; automated electronic survey data collection; land survey; introduction to photogrammetry, GPS, GIS, and control surveys. Astronomy for azimuth applications.

Units: 2

Course Typically Offered: Spring

GME 16L. Municipal Surveying Laboratory

Prerequisite: GME 16 or concurrently. Field and office practice in instrumentation: Automated electronic survey data collection; land survey, photogrammetry, GPS, GIS, and control surveys. Astronomy for azimuth applications. (3 lab hours; field trips required)

Units: 1

Course Typically Offered: Spring

GME 23L. Optics and Waves

Visual optics, prisms, lenses, and collimated light, electromagnetic spectrum and waves, wave properties and atmospheric interactions, optical and electromagnetic imaging systems. GPS, GIS, remote sensing, photogrammetric and EDM applications. (3 lab hours; field trips required)

Units: 1

Course Typically Offered: Fall

GME 34. Adjustment Computations

Prerequisites: GME 15, GME 61, MATH 76. Error theory, adjustment of simple survey networks, and matrix methods; digital computer solutions of geomatics computation and adjustment problems. (Formerly SE 34)

Units: 3

Course Typically Offered: Spring

GME 40. Route and Construction Surveying

Prerequisites: GME 15, GME 15L or permission of instructor. Computations and theory covering surveys for highway, irrigation, rail, pipeline, and other transportation alignment projects. Includes computer solutions and applications. (2 lecture, 3 lab hours; field trips required) (Formerly SE 40)

Units: 3

Course Typically Offered: Fall

GME 50. Land Surveying

Prerequisite: GME 15. The United States Public Land Survey System with special emphasis on California; introduction to the California Land Surveyors Act, Certified, A.L.T.A. and mortgage surveys; sectionalized land subdivision, corner restoration, resurveys, evidence, and descriptions. (Field trips required) (Formerly SE 50)

Units: 3

Course Typically Offered: Spring

GME 61. Microcomputers in Engineering

Prerequisite: GME 15 or concurrently. Microcomputer operating systems; introduction to high level computer languages, file processing, program documentation, testing, and debugging. (Formerly S E 61)

Units: 3

Course Typically Offered: Fall

GME 66. Computer-Aided Mapping

Preparing transportation alignment, topographic, property boundary, environmental, cross section, structural and GIS maps and plans. Civil and Geomatics Engineering and Construction applications. Includes comprehensive computer mapping design experience.

Units: 3

Course Typically Offered: Fall, Spring

GME 73. Geomatics

Introduction to Geographic and Land Information Systems; software and hardware issues; practical exercises. (Formerly S E 73)

Units: 3

Course Typically Offered: Spring

GME 102. Geodetic Surveying

Prerequisites: GME 16, GME 34. Horizontal and vertical geodetic networks for deformation, industrial tooling and local area applications; theory and application of State Plane Coordinate systems. (2 lecture, 3 lab hours; field trips required) (Formerly SE 101)

Units: 3

Course Typically Offered: Spring

GME 108. Geodesy

Prerequisites: MATH 77, PHYS 4A, PHYS 4AL, GME 34 or concurrently. Size and shape of the earth; three-dimensional coordinate systems; computations on the spheroid; reduction to plane coordinates; introduction to differential equations, gravity modeling and gravity measurements. (Formerly SE 108)

Units: 3

Course Typically Offered: Spring

GME 114. GPS Navigation

Prerequisite: permission of instructor. Theory and concepts of navigation systems emphasizing real-time GPS. Design of air, sea, and land navigation applications, including automatic vehicle location and navigation (AVLN). (2 lecture, 3 lab hours; field trips required) (Formerly SE 114)

Units: 3

Course Typically Offered: Fall

GME 123. Stereo-Photogrammetry

Prerequisites: GME 15, GME 34 or concurrently. Imaging systems; image quality. Theory of stereo-photogrammetry; orientation of stereo-model. Design and operating principles of stereoplotters. Photogrammetric mapping; orthophoto mapping. Project planning. (2 lecture, 3 lab hours; field trips required) (Formerly SE 123)

Units: 3

Course Typically Offered: Fall

GME 125. Analytical Photogrammetry

Prerequisites: GME 123, GME 135. Introduction to analytical photogrammetry; strip and block aerial triangulation. Design and operating principles of analytical plotters. Introduction to soft-copy photogrammetry. (2 lecture, 3 lab hours; field trips required) (Formerly SE 125)

Units: 3

Course Typically Offered: Spring

GME 126. Digital Mapping

Prerequisites: GME 123, GME 173 or concurrently. Design of data input, editing, display and processing mechanisms for digital mapping applications; hardware considerations and software design for DTM applications. (2 lecture, 3 lab hours; field trips required)

Units: 3

Course Typically Offered: Spring

GME 135. Advanced Adjustment Computations

Prerequisites: GME 34, MATH 77. Statistics, propagation of errors, advanced theory of least squares optimization algorithms. Computer programming for complex surveying and photogrammetry adjustment applications. Project design. (Formerly S E 135)

Units: 3

Course Typically Offered: Fall

GME 143. Satellite Geodesy

Prerequisites: GME 102, GME 108, GME 135 or concurrently. Motion of a satellite, orbit geometry and perturbations; time measuring systems; global geodesy model; reduction and adjustment of GPS and other satellite observation data; differential equations of orbit relaxation; GPS network optimization; data transformation. (Field trips required) (Formerly SE 143)

Units: 3

Course Typically Offered: Fall

GME 145. Geopositioning

Prerequisites: GME 102, GME 108, GME 135. Design of planning, data collection, data processing and network adjustment applications; kinematic and real-time GPS applications; case studies. (Field trips required)

Units: 3

Course Typically Offered: Spring

GME 151. Boundary Control and Legal Principles

Prerequisite: GME 50 or permission of instructor. Legal principles that control the boundary location of real property. (Formerly S E 151)

Units: 3

Course Typically Offered: Fall

GME 152. Real Property Descriptions

Prerequisite: GME 151 or permission of instructor. Theory and practice of real property descriptions and recording systems; metes and bounds, United States Public Land Survey System, lot and block and other styles investigated; practical exercises and case studies. (Field trips required) (Formerly SE 153)

Units: 3

Course Typically Offered: Fall

GME 153. Boundary Survey Design

Prerequisite: GME 151 or permission of instructor. Design of evidence gathering, resurvey, retracement, and analysis techniques for complex United States Public Land Survey System, metes and bounds, riparian, mineral, land grant and fraudulent surveys; case studies. (Field trips required) (Formerly SE 153)

Units: 3

Course Typically Offered: Spring

GME 159. Subdivision Design

Prerequisites: GME 40, GME 151. Subdivision map act, local subdivision regulations, title search, zoning study. Tentative and final subdivision layout, map drafting, computerized subdivision design, and drafting; environmental impact study. Field trips required. (Formerly S E 159)

Units: 3

Course Typically Offered: Spring

GME 161. Data Interface Design

Prerequisites: GME 16, GME 135, Development and design of data collector software; file system generation, manipulation and transfer; microcomputer interface to data collector, electronic total station, digitizer, stereo/mono comparator and stereo-plotters. (Field trips required) (Formerly SE 161).

Units: 3

GME 173. Introduction to GIS

Prerequisites: GME 15 and GME 66 or permission of instructor. Data quality and accuracy, privacy, ethics, institutional, governmental and technological issues associated with GIS; hardware and software considerations for geodetically controlled cadastral, resource and environmental GIS applications; existing system case studies. (Field trips required) (Formerly SE 173)

Units: 3

Course Typically Offered: Fall

GME 174. GIS Applications

Prerequisite: GME 173. Use of available GIS. Applications software; spatial analysis, simulation modeling and system evaluation; practical applications to specific GIS scenarios; creation, manipulations, maintenance and analysis of geodetic, cadastral, administrative resource and environmental overlays. Field trips required. (Formerly S E 174)

Units: 3

GME 175. GIS Design

Prerequisite: GME 173. Application of data quality, accuracy, ethics and liability issues to the design of integrated Geographic Information Systems; integrated data structure, algorithm, and database considerations; major design team GIS development project required. Field trips required. (Formerly S E 175)

Units: 3

GME 180. Senior Project

Prerequisites: GME 181or concurrently. UDWE or a “W” course or concurrently. Study of a problem under supervision of a faculty member; final typewritten report required. Individual project except by special permission. GME 180 and GME 181 satisfy the senior major requirement for the B.S. in Geomatics Engineering. (Field

trips required) (Formerly SE 181)

Units: 2

Course Typically Offered: Fall, Spring

GME 181. Project Design

Prerequisite: GME 108, GME 123, GME 135, GME 151, GME 173. Design of control, boundary location, and photogrammetric systems. Evaluation of design requirements, economic, and social considerations. Case Studies. Student presentations. GME 180 and GME 181 satisfy the senior major requirement for the B.S. in Geomatics Engineering. (Field trips required) (Formerly SE 181)

Units: 3

Course Typically Offered: Fall

GME 190. Independent Study

See Academic Placement - Independent Study. Approved for SP grading. (Formerly S E 190)

Units: 1-3, Repeatable up to 6 units

Course Typically Offered: Fall, Spring

GME 193. Internship in Geomatics Engineering

Prerequisite: permission of adviser. Engineering practice in a consulting, industrial, professional, or government work setting. A report will be required of the student at the termination of each implemented experience. This course cannot be uses to meed graduation requirements CR/NC grading only. (Formerly SE 193)

Units: 2-4

Course Typically Offered: Fall, Spring

GREEK (GRK)

GRK 1A. Elementary Greek

Prerequisite: G.E. Foundation A2. An introduction to the fundamentals of Classical and New Testament Greek, with practice in reading and writing the Greek language. Background study: Greek culture and its relevancy to the modern world. G.E. Breadth C2.

Units: 3

Course Typically Offered: Fall

GE Area: C2

GRK 1B. Elementary Greek

Prerequisite: G.E. Foundation A2, GRK 1A or permission of instructor. Second semester course in Classical and New Testament Greek; completion of the fundamentals of Greek grammar. Emphasis on translation practice and composition skills. Background study: Greek culture and its relevancy to the modern world. G.E. Breadth C2.

Units: 3

Course Typically Offered: Spring

GE Area: C2

GRK 10. The Rise of Rationalism: 5th C. Athens

The origins of argumentation, logic, rhetoric, inductive thinking, and the role of literature in fifth-century Athens, as reflected in selections from Plato, Thucydides, Euripides, and the orators. Discussions and lectures. Conducted in English.

Units: 3

GRK 131T. Greek Literature

Prerequisite: GRK 1B. Concentration on a major Classical Greek poet or prose author. Translation and discussion. Research reports on literary, historical, and textual problems.

Units: 3, Repeatable up to 12 units

GRK 131T. Greek Literature Survey

As an introduction to reading Greek from many periods at the intermediate or advanced level, this course will cover readings in ancient Greek from the earliest writings to works in late antiquity, using an annotated reader.

Units: 3, Repeatable up to 6 units

GRK 131T. Josephus

This upper division course will examine the literature of Flavius Josephus. The goal of this course is for students to learn how the Attic Greek language of the fifth and fourth centuries becomes emulated as a literary language under the Roman Empire.

Units: 3, Repeatable up to 12 units

GRK 190. Independent Study

See Academic Placement - Independent Study. Approved for RP grading.

Units: 1-3, Repeatable up to 6 units

GRADUATE STUDIES (GS)

GS 296. Interdisciplinary Colloquiu

An interdisciplinary area of study focusing on cognition: how we perceive the world, and how we can model the ways we think or perceive. Brings together the key fields of linguistics, psychology, philosophy and computer science.

Units: 1-3

GS 298. Interdisciplinary Project

An interdisciplinary area of study focusing on cognition: how we perceive the world, and how we can model the ways we think or perceive. Brings together the key fields of linguistics, psychology, philosophy and computer science.

Units: 2-6

GS 299. Interdisciplinary Thesis

An interdisciplinary area of study focusing on cognition: how we perceive the world, and how we can model the ways we think or perceive. Brings together the key fields of linguistics, psychology, philosophy and computer science.

Units: 2-6; max total 6 units

GS 300T.Topics in Graduate Studies

Topics related to the nature of graduate education, to the purpose and background of research and scholarly activity in the graduate enterprise, including participation in aspects of ongoing research conducted by faculty.

Units: 1-3; max total 12 units

GRADUATE STUDIES COMMUNITY COLLEGE (GSCC)

GSCC 220. The Community Collegeas an Institution
Emphasis will be on faculty responsibilities in the area of curriculum content and institutional governance, including student support services and issues of retention and matriculation methods. (Formerly GSCC 220, GSCC 320)

Units: 2

GSCC 221. The Community College Student
Explores the cultural, sociological, economic, and political factors that affect learning and success in the community college classroom. Participants learn to recognize the factors that affect student success and to implement strategies to enhance cross-cultural understanding within classrooms. (Formerly GSCC 221, GSCC 321)

Units: 2

GSCC 223. Effective Community College Teaching and ClassroomCommunication Strategies
Examines various instructional techniques specific to the community college. Also examines the unique characteristics of the classroom as a communication context. Participants will apply theory to practice of effective lecture, discussion, and collaborative lessons. (Formerly GSCC 223, GSCC 323)

Units: 2

GSCC 224. Curriculum, Instruction, and Assessment at the Community College
Introduces students to fundamental theories of curriculum, curriculum development and approval processes, transfer course curriculum, and program review. Participants will learn to use and adapt assessment instruments to meet the needs of a diverse student population. (Formerly GSCC 224, GSCC 324)

Units: 3

GSCC 225. Sponsored Experiences at the Community College
The field experience promotes adherence to high standards of professional conduct. It also promotes effective cooperation and professional development through self-assessment and collegial interactions with other members of the profession. Participants must complete all coursework prior to being approved for field placement. (Formerly GSCC 225, GSCC 325)

Units: 3

HEBREW (HEBR)

HEBR 1A. Basic Hebrew
Basic structure and pronunciation of Hebrew; practice in reading, writing, speaking, and grammar; suitable introduction to both Biblical and modern Hebrew.

Units: 3

HEBR 1B. Basic Hebrew
Basic structure and pronunciation of Hebrew; practice in reading, writing, speaking, and grammar; suitable introduction to both Biblical and modern Hebrew.

Units: 3

HOME ECONOMICS EDUCATION (HEC)

HEC 380. Topics in Home Economics
Special problems in home management, foods and nutrition, child care, housing and home furnishings, textiles and clothing, household equipment, family finances, marriage, and the family.

Units: 1-3; max total 9 units if no area repeated

HEALTH AND HUMAN SERVICES (HHS)

HHS 10. Exploring Health Careers
Explores various career choices available in the fields of health and human services. Used in conjunction with preprofessional preparation advisement program in the area of prehealth careers. (See Criteria for Thesis and Project.) (1 lecture, 2 lab hours) CR/NC grading only.

Units: 2

HHS 100T. Selected Topics in the Health and Human Services Professions
Interdisciplinary topics of current interest covering subject matter that is appropriate for all health and human services professional disciplines. Topics are rotated each semester. Field assignments may be required.

Units: 1-3, Repeatable up to 6 units

HHS 114. Collaborative Leadership in Health and Human Services
Prerequisites: Admission to the CHHS Honors Program. Introduction to collaborative leadership values, knowledge and skills in Health and Human Services interdisciplinary settings as well assessing current issues in the field of Health and Human Services.

Units: 3

HHS 115. Applied Collaborative Leadership in Health and Human Services
Prerequisites: Admission to the CHHS Honors Program and completion of HHS 114. Apply collaborative values, knowledge and skills necessary to implement a community needs assessment project in an interdisciplinary context.

Units: 3

HHS 200T. Advanced Topics in the Health and Human Services Professions
Advanced study of current issues in health and human services professions. Application of discipline specific theory and best practices to interdisciplinary and collaborative topics. Topics are rotated each semester.

Units: 1-3, Repeatable up to 6 units

HISTORY (HIST)

HIST 1. Western Civilization I
The Mediterranean and European world from prehistoric to early modern times. Social, political, intellectual, and artistic movements in the ancient Fertile Crescent, classical Greece and Rome, and in Medieval, Renaissance, and Reformation Europe. (CAN HIST 2)

Units: 3

Course Typically Offered: Fall, Spring

HIST 2. Western Civilization II
Survey of modern European culture since the 17th century. Impact of industrialization and urbanization; political revolutions and ideologies; intellectual, artistic, and religious movements; European imperialism; the two world wars and changing patterns in contemporary European life. (CAN HIST 4)

Units: 3

HIST 2Z. West Civliztn II
Units: 3

HIST 3. Colonial Americas
Examines the colonial history of North and South America. Analyzes the impact of European colonization of Native American societies, the African slave trade, the evolution of colonial societies, and the independence movements in the 18th/19th centuries.

Units: 3

HIST 4. Introduction to Historical Skills
Students receive careful guidance in basic historical skills; writing book reviews, taking notes, conducting research, quoting and documenting sources, formulating thesis statements, and presenting one's research in both oral and written forms.

Units: 3

Course Typically Offered: Fall, Spring

HIST 5. European Civilization
This course explores European Civilization, focusing on specific themes, events, and ideas that have shaped the history of Europe, and covering any aspect from Ancient to Present. Course covers social, intellectual, military, economic, and cultural aspects of European Civilization.

Units: 3

HIST 6. East Asian Civilization
Introduction to the history and cultures of the East Asian countries, particularly China, Japan, and Korea. Examination of the East Asian mind as reflected in Confucianism, Taoism, Buddhism, and in resistance to the challenges of the West.

Units: 3

HIST 7. African Civilization
Survey of African history from ancient times to the present. Emphasis is on political, economic, and religious movements which have contributed to the rich diversity and the distinctive unity of African civilization.

Units: 3

Course Typically Offered: Spring

HIST 8. Republics of Latin America
Rise of the modern Hispanic American states since 1800: political, social, economic development.

Units: 3

Course Typically Offered: Fall, Spring

HIST 9. Russian and Eurasian Civilization
Introduction to the history, culture, literature and visual and performing arts of Russia and Eurasia from the late medieval period to the present.

Units: 3

Course Typically Offered: Fall, Spring

HIST 11. American History to 1877
Examines the history of the United States through 1877, looking at the significant events from the founding of the colonies through Reconstruction, including the role of major ethnic and social groups in the formation of the American nation. G.E. Breadth D1. (CAN HIST 8)

Units: 3

Course Typically Offered: Fall, Spring

GE Area: D1

HIST 12. American History from 1877
Examines the history of the United States from 1877, looking at the significant events from the end of the Civil War to the present, including the role of major ethnic and social groups in the formation of the American nation. G.E. Breadth D1. (CAN HIST 10)

Units: 3

Course Typically Offered: Fall, Spring

GE Area: D1

HIST 15H. Trials of Century
Studies celebrated legal trials from 1896 to 2000 as windows for understanding larger historic context. Cases address issues such as racial discrimination, freedom of speech and religion, reproductive rights, consumer protection, war crimes, treason and capital punishment. G.E. Breadth D1.

Units: 3

GE Area: D1

HIST 20. World History I
The economic, political and social development in world history from the earlist times to modern period (1500). GE Bredth D3.

Units: 3

Course Typically Offered: Fall, Spring

GE Area: D3

HIST 21. World History II
The economic, political, and social development in world history from 1500 to the present. G.E. Breadth D3.

Units: 3

Course Typically Offered: Fall, Spring

GE Area: D3

HIST 100W. Historical Research and Writing

Prerequisites: HIST 4, ENGL 5B and ENGL 10, upper-division standing. Individual guidance and criticism in research, writing, argumentation, and documentation. While engaging in historical research and writing, students gain a deeper appreciation of the discipline's theoretical and methodological concerns. Meets the upper-division writing skills requirement for graduation.

Units: 3

Course Typically Offered: Fall, Spring

HIST 101. Women in History

(HIST 101 same as WS 101.) Prerequisite: G.E. Fondation and Breadth Area D. Historical survey of women's roles in history, with an emphasis on the emergence of the feminist movement. G.E. Intergration ID

Units: 3

Course Typically Offered: Fall, Spring

GE Area: ID

HIST 102T. Topics in Women's History

(HIST 102T same as WS 102T.) (See Schedule of Courses for specific topics.)

Units: 3, Repeatable up to 6 units

HIST 103. History of Early Christianity

Early Christianity from the first century to eve of Reformation.

Units: 3

HIST 104. History of Women and Men in Modern Europe

This course studies the everyday lives of modern European women and men in historical context. It examines how gender identities and relations developed and changed through industrialization, revolution, wars, and social and political movements.

Units: 3

HIST 105. Armenian Genocide in Comparative Context

(ARMS 105 same as HIST 105.) Review of theory and characteristics of genocide. Study of the Armenian Genocide as an example and show comparison with other genocides in the 20th century. Discusses role of international constituencies and prevention and lessons of genocide. (Formerly HIST 109T section)

Units: 3

HIST 106. Armenians in North America

(ARMS 106 same as HIST 106). Study of six waves of Armenian migrations to North America from 1870-1995. Topics discussed include entry, settlement, work, family, community organizations, church, politics, culture, and integration in U.S. society. (Formerly ARMS 120T section)

Units: 3

HIST 107. Modern Middle East

Analysis of Middle Eastern history since Muhammad, with emphasis upon the 19th and 20th centuries. The Middle East under European imperial domination; nationalist movements and revolutions; the Arab-Israeli conflict; the Middle East in contemporary world politics.

Units: 3

HIST 108A. Armenian History I: Ancient and Medieval

(HIST 108A same as ARMS 108A.) History of Armenia and Armenians from prehistoric times to the beginning of the modern era. The historical process will be considered from Armenia's point of view as well as from that of its neighbors: Assyria, Iran, Rome, Byzantium, the Arabs, the Seljuk Turks, the Crusades, the Mongols, and various Turkish dynasties.

Units: 3

HIST 108B. Armenian History II: Modern and Contemporary

(HIST 108B same as ARMS 108B.) Overview of modern and contemporary Armenian history, including Armenia's relations with Persian, Turkish, and Russian empires, the Armenian Renaissance, the "Armenian Question," the Genocide, the Armenian Republic, Soviet Armenia, the Second Armenian Republic, and diasporan communities in America, Europe, and the Middle East.

Units: 3

HIST 109T. Studies in Middle East and Africa

Intensive study of special topics.

Units: 1-3, Repeatable up to 6 units

HIST 110. Ancient Near East

Ancient civilizations of the Middle East. History and culture of the Sumerians, Assyrians, Babylonians, and Persians from the dawn of history to Alexander the Great and the ascendance of Greece.

Units: 3

HIST 111. Ancient Greece and Egypt

The history and culture of ancient Greece from the Minoan-Mycenaean periods through the Golden Age of Athens to the dissolution of the empire of Alexander the Great.

Units: 3

HIST 112. Ancient Rome

The early history of Rome and the evolution of Roman society, politics, and culture through the republican and imperial periods.

Units: 3

HIST 115. Ancient Israel

Ancient Israel from Abraham to the destruction of Jerusalem in 70 A.D. Jewish religious thought is discussed by placing the books of the Old Testament in their historical context.

Units: 3

HIST 116. Greek and Roman Religion

Analysis of the religious ideas, customs, and practices of ancient Greeks and Romans from the time of Homer to the establishment of Christianity.

Units: 3

HIST 117. Alexander the Great & Hellenistic World

Examines the rise of Macedon, the conquests of Alexander the Great, and his successors' establishment of Hellenistic kingdoms in the remnants of the Persian Empire. Explores cultural, social, economic, and political interactions between Greek and Near Eastern societies (Formerly Hist 119T).

Units: 3

HIST 118. Augustus & Rome
Examines the history of the rise to power, rule, and influence of Augustus. Beginning with the late republican era, the course traces Augustus' consolidation of power, transformation of Roman politics and culture, and his search for a succsor (Formerly Hist 119T).

Units: 3

HIST 119T. Studies in Ancient History
Intensive study of special topics.

Units: 1-3, Repeatable up to 6 units

HIST 121. The Middle Ages
Prerequisite: HIST 1 or permission of instructor. Medieval Europe from the fall of the Roman Empire in the West to the Renaissance.

Units: 3

HIST 122. Medieval Culture
Selected aspects of medieval life and culture such as warfare, commerce, art and architecture, learning and the university presented as manifestations of the medieval mind. Extensive use of visual materials.

Units: 3

HIST 124T. Studies in Medieval History
Intensive study of special topics.

Units: 1-3, Repeatable up to 6 units

HIST 124T. Empire, Church & Nation: Politics in the Middle Age
This course will examine the many political institutions active during the European Middle Ages, and the ways in which they emerged, manifested themselves and developed over time; it will also consider the ways in which they varied based on their individual contexts. Moreover, the course will consider the role of political, theological and philosophical ideas in their operation, as well as those key actions thought to be critical in their formation, operation and development.

Units: 3, Repeatable up to 6 units

HIST 125. Renaissance
Social, intellectual, political, and economic factors that shaped Europe in the 14th and 15th centuries; humanism, foundations of the state; secularization and dissent within the church.

Units: 3

Course Typically Offered: Fall, Spring

HIST 126. Reformation
Analysis of the political, social, and intellectual movements associated with the 16th century religious upheaval.

Units: 3

Course Typically Offered: Spring

HIST 127. Women & Power in Early Mod Europe
An exploration of the roles of European women circa 1400-1800, this course studies perceptions and representations of women, and secular/religious constraints upon them. We also investigate women's own views, and the ways in which they confronted and/or manipulated social strictures.

Units: 3

HIST 129T. Studies in Intellectual and Social History
Topics concerned with ideas and movements that have significantly shaped the course of history.

Units: 1-3, Repeatable up to 6 units

HIST 130. Europe in the 17th Century
European culture, society, and politics from 1600 to the death of Louis XIV.

Units: 3

HIST 131. Europe in the 18th Century
Intellectual, social, and political development of Europe from 1715 to the French Revolution and Napoleon Bonaparte.

Units: 3

HIST 132. Revolutionary Europe
History of Europe from the French Revolution to the Russian Revolution. Social and cultural consequences of Industrialization and the rise of Nationalism and Imperialism.

Units: 3

HIST 133. Europe in the 20th Century
Narrative and interpretive account of 20th century Europe. Stress on the impact of World War I, the Communist and Fascist Revolutions, the economic recovery of Europe, and the loss of European significance in the world after World War II.

Units: 3

HIST 134. 20th Century Dictators
This course provides an in-depth analysis of the most prominent authoritarian regimes of the 20th century. An in-depth summary of their rise to power, the fundamental aspects of their regime, their foreign policy, and the significance will be provided.

Units: 3

HIST 135. European Cultural History
Analysis of European thought from the Enlightenment to the present. Major movements in philosophy, religion, literature, art, and architecture; ideologies such as conservatism, liberalism, socialism, communism, nationalism, racism, and fascism. Emphasis on ideas of lasting and worldwide influence.

Units: 3

HIST 138. World War II: A Global Conflict
A detailed examination of the military, diplomatic, political, economic, social, and cultural impact of the Second World War. The causes, conduct, and consequences of the war are analyzed.

Units: 3

Course Typically Offered: Fall

HIST 139. European Diplomatic History 1890-1945
The conduct of foreign policy by European States, between 1890 and 1945, including alliances, conflicts, and treaties will be thoroughly examined and an understanding of the impact and limitations of foreign policy initiatives will be explored.

Units: 3

HIST 140. Holocaust
This course discusses the rise of National Socialism in Germany, the origins of the persecution and murder of Jews, ghettos, concentration and death camps in Germany and Eastern Europe, and the aftermath, including the Nuremberg Trials.

Units: 3

HIST 141. Modern Germany
Political and social developments from Bismarck to the present. Rise of Germany as a world power; failure of German democracy; Hitler and the Third Reich; politics of a divided Germany since 1945.

Units: 3

Course Typically Offered: Spring - even

HIST 142. Tsarist Russia
The political, economic, and social history of Tsarist Russia from 862 to 1917.

Units: 3

HIST 143. Russia and Eurasia in the 20th Century
The political, economic, and social history of Russia and Eurasia from the rise of communism to the present. Examines the rise of communism and its political and social structures. Explores Soviet systems, arts, literature, the dissedent policies. Looks at the fall of communism, the end of the Soviet Union, and the new states that have emerged in its wake.

Units: 3

Course Typically Offered: Spring

HIST 144. Warfare in the Western World
This course focuses on the transformation of warfare by the advent of new technology, tactics and strategy, and the increasing ability to mobilize the entire resources and population of nations at war. Course covers U.S. Civil War, WWI, and WWII.

Units: 3

HIST 145. Spain and Portugal
Development of the Iberian Peninsula from prehistoric to modern times.

Units: 3

HIST 146. Gendered Perspectives on U.S. Immigration
This course will examine how scholars have understood the concept of gender and/or womanhood in U.S. immigration. It will also explore how gendered ideals inform the family, work life, social networks, and public policy of immigrant women in America.

Units: 3

HIST 149T. Studies in Modern European History
Units: 1-3, Repeatable up to 6 units

HIST 149TZ. England from Chaucer to Shakespeare
Units: 3, Repeatable up to 6 units

HIST 150. England to 1485
Structure of the British government, society, and economic life from Roman times to The War of the Roses.

Units: 3

HIST 151. British Empire
Rise of England and the British nation; spread of the English-speaking peoples and the transfer of British institutions; from 1485 to the modern era.

Units: 3

HIST 152. British History in Film
Discussion and written historical analysis of selected cinematic masterpieces in British history, from Henry II to the modern era.

Units: 3-4

HIST 153. United States During the Cold War
Explores the political, social, cultural, military, and economic history of the U.S. during the Cold War.

Units: 3

HIST 156. U.S. Cultural History, 1877-Present
An examination of American culture from the late nineteenth century to the present, focusing on various cultural products and practices, both high and low. Formerly HIST 179T.

Units: 3

HIST 157. Modern Africa
The history of Africa since 1800. Topics given special attention include the slave trade and its abolition, European exploration, the imposition of European colonial rule, African nationalism, the struggle for independence and Africa's rise to prominence in world affairs.

Units: 3

HIST 158. The American Civil War
The causes of the Civil War (1861-1865) and its revolutionary consequences for American individuals and institutions. Attention devoted to military as well as political, economic, social, and cultural aspects of the war.

Units: 3

HIST 159. The Reconstruction of America, 1865-1900
Exploration of a critical period in which the United States sought to rebuild itself politically, socially, economically, and culturally in the thirty years after the Civil War. Topics will include emancipation, radical Reconstruction, urbanization, and the rise of the West.

Units: 3

HIST 160. The Great American Civilizations: Maya, Aztec, Inca
Historical examination of the rise and fall of the Maya, Aztec, and Inca empires. Social organization, religion, technology, art, and scientific achievements of the pre-Columbian great American civilizations.

Units: 3

HIST 161. Multicultural Brazil
(Same as CLAS 171.) This course analyzes Brazil's social,

economic, and political relations from a historical perspective. It emphasizes topics such as the contradictory legacy of slavery and its consequences, including inequality and multiculturalism. It also examines Brazil's international relations, its roles as a regional power, and its potential as a global power.

Units: 3

HIST 162. South America

The history of South American republics, with an emphasis on such themes as in stability, economic development, political parties, and revolution.

Units: 3

HIST 164. 19th Century Mexico

This course examines the political, social, and economic development of Mexico from its independence from Spain in 1821 through the Mexican Revolution of 1910.

Units: 3

HIST 165. Modern Mexico

Nineteenth century origins of Mexican nationality. Development of modern Mexican culture from the Mexican Revolution to the present as compared to that of the Mexican American. Literature and art as an expression of the new Mexican culture.

Units: 3

HIST 166. United States -- Latin American Diplomacy

History of the relations between the United States and Latin America, ranging from the Monroe Doctrine through the Good Neighbor Policy, Alliance for Progress, and the Caribbean Basin Initiative.

Units: 3

Course Typically Offered: Fall - odd

HIST 167. Social Revolution in Latin America

Highlights Mexico, Cuba, and Central America in exploring the origins, social constituencies, and consequences of the major 20th century Latin American revolutions. Examines the impact of counterrevolutionary movements, foreign intervention, and the successes and failures of each revolution.

Units: 3

Course Typically Offered: Spring - odd

HIST 168. Latin American History in Film

Analyzes the manner in which major and controversial themes (race, class, gender, revolution, the military and underdevelopment) in Latin American history are portrayed in feature length films. Emphasis is given to the historical content and accuracy of the films.

Units: 3

HIST 169T. Studies in Latin American History

Intensive study of special topics.

Units: 1-3, Repeatable up to 6 units

HIST 170. The American Colonies, 1607-1763

Social, cultural, and political developments in teh British North American colonies from the first contact between indigenous and European cultures to the eve of the American Revolution.

Units: 3

HIST 171. The American Revolution, 1763-1815

The course examines the causes, nature, and results of the American Revolution, which secured the independence of the United States and created the first republican government in the western hemisphere.

Units: 3

Course Typically Offered: Fall

HIST 172. Jacksonian America, 1815-1848

Explores the social, political, economic, and cultural developments that transformed the United States in the early nineteenth century. Topics will include the rise of mass democracy, the Second Party System, the Market Revolution, and the geographic expansion of the republic.

Units: 3

Course Typically Offered: Spring

HIST 173. United States History, 1865-1914

The development of an increasingly urban and industrialized society from Reconstruction to the eve of World War I.

Units: 3

HIST 174. United States History, 1914-1945

The United States in world affairs; political, economic, social, and cultural developments and problems from 1914 to 1945.

Units: 3

HIST 175. United States History, 1945-Present

The United States in world affairs; political, economic, social, and cultural developments, and problems from 1945 to present.

Units: 3

HIST 176. The Atlantic World, 1500 - 1800

Economic, social, political, and religious histories - Europe, Africa, North and South America between the 15th and 19th centuries.

Units: 3

HIST 177. American History in Film

Analysis of significant films and documentaries on controversial aspects of American history. Emphasis given to placing film content in an historiographical framework. Offered especially, but not exclusively, for prospective teachers.

Units: 3

HIST 178. History of African Americans

(HIST 178 same as AFRS 178.)

Units: 3

Course Typically Offered: Spring

HIST 179T. Studies in United States History

Intensive study of special topics.

Units: 1-3, Repeatable up to 6 units

HIST 179T. Jewish American Popular Culture

This course will examine the contributions of Jews in American

popular culture. Focusing on the 20th century, we will discuss music, radio, television, and film.

Units: 3

HIST 180. History and Autobiography

An examination of the uses of first-person narratives in understanding American history. Attention to a diverse collection of writers as well as the social context and narrative conventions that shaped their autobiographies. Formerly HIST 179T

Units: 3

HIST 181. Anti-Semitism from the Medieval to Modern World

Examination and critical analysis of anti-Semitic thought and ideology from the medieval world to the present day. Studies the origins and effects of anti-Semitic views and writings in a wider context.

Units: 3

HIST 182. Westward Movement Since 1848

Patterns of exploitation; role of the federal government in the West: land policy, Indian policy; problems of communication; economic growth.

Units: 3

HIST 183. The Hispanic Southwest

Exploration, conquest, and settlement of the Spanish Borderlands from 1513 to the Mexican War; contributions of Hispanic culture to the Southwest.

Units: 3

HIST 186. American Immigration and Ethnic History

Prerequisites: G.E. Foundation and Breadth Area D. Covers America, land of immigrants. American immigration policy, regulations, and implementation. Ethnic formation and heritage retention or loss. Pluralism, assimilation, and national unity: e pluribus unum. G.E. Multicultural/International MI.

Units: 3

GE Area: M/I

HIST 187. California History

Explores California history from before the Spanish conquest to the present. Themes include the cultural, social, political, and economic practices of the various immigrant and indigenous groups that have occupied the state. (Formerly Hist 188 and 189)

Units: 3

HIST 188. Regional and Local History

Regional and local history an oral history component. Students will conduct interviews focusing on the daily lives and contributions of individuals within diverse communities.

Units: 3

HIST 190. Independent Study

See Academic Placement --Independent Study. Approved for RP grading.

Units: 1-3, Repeatable up to 6 units

Course Typically Offered: Fall, Spring

HIST 191. Modern Far East, 1843-1949

Not open to students with credit in HIST 191A. History of the Far East from the conclusion of the Opium War to the eve of Chinese Communist Revolution. Particular emphasis on China, Japan, and Korea.

Units: 3

HIST 192. Modern Far East, 1949-Present

Not open to students with credit in HIST 191B. History of the Far East from the success of the Chinese Communist Revolution in 1949 to the present. Particular emphasis on China, Japan, Korea, and Vietnam.

Units: 3

HIST 193. Internship in History

Supervised work experience in a history related field, the internship relates the student's classroom studies to occupational and professional experiences.

Units: 1-3, Repeatable up to 6 units

Course Typically Offered: Fall, Spring

HIST 194. The United States and Vietnam

Explores political, social, cultural, military, and economic history of U.S. involvement in Southeast Asia, with particular emphasis on Vietnam.

Units: 3

HIST 199T. Studies in Far Eastern History

Intensive study in special topics.

Units: 1-3, Repeatable up to 6 units

HIST 199T. Guns, Pirates, and Opium

The history of gunpowder and guns, from the 8th-19th centuries, particularly in the region of Asia. The different military and revolutions, in Asia and in Europe. Examines the role of gun powder related military technology in the Mongol period, Ming unification wars, Sino-Japanese wars of 1590s, Sino-Dutch was during the 1660's, and opium wars and Taiping civil war during the mid nineteenth century. Course analyzes the historical encounters between Asians and Europeans.

Units: 3, Repeatable up to 6 units

HIST 200A. Introduction to Graduate Writing and Historiography

Introduction to the methods and skills of graduate writing. Introduction to the varieties of history writings from the ancient world to early-modern times, focusing especially on major themes, approaches, and categories of history writing and authors. (Formerly HIST 200)

Units: 3

HIST 200B. Introduction to Graduate Research and Historiography

Introduction to the methods and skills of graduate research. Introduction to the varieties of modern history writing, focusing especially on major theses, approaches, and categories of history writing, and major figures in modern historical debates. (Formerly HIST 200)

Units: 3

HIST 200C. Introduction to Graduate Research
Provides students with a working knowledge of modern historiography and various approaches to history within the discipline. Students will begin to master the skills of professional historical research.

Units: 3

HIST 210T. Topics in United States History
Intensive reading, analysis, and discussion of significant historical problems in United States history.

Units: 3

HIST 210T. American Immigration and Ethnic History
This course will provide close reading and in-depth discussion of carefully selected monographs and essays that explore the historic and current nature of immigration with emphasis on the impact of ethnicity, race, gender, and class in creating an American identity. During the semester we will discuss readings on topics such as the conditions leading to European emigration, the process of assimilation, the invention of ethnicity, the transnational experience of immigrant women and others. Reading for the course will draw from both historical and interdisciplinary frameworks to better understand how historians have studied these issues in different ways over time.

Units: 3

HIST 220T. Topics in European History
Intensive examination of methodological and theoretical issues pertaining to the advanced study of diverse topics in European history.

Units: 3

HIST 220T. The Age of Enlightenment
This course examines the principal interactions between society, politics, and culture that characterized the intellectual movement of the Enlightenment. We examine the ideas of the "enlightened" thinkers, ultimately to understand the major developments of the period, as well as the various approaches historians have taken to analyze it. To this end, this course provides a rigorous introduction to twelve important topics in the history of the Enlightenment, each seen from a different historiographical perspective.

Units: 3

HIST 230T. Topics in World History
Intensive reading, analysis and discussion of selected problems in World history

Units: 3

HIST 230T. Colonialism, PostColonialism, and Coloniality in Latin America
This course examines the impact of colonialism in Latin America from 1492 to the present.

Units: 3, Repeatable up to 6 units

HIST 290. Independent Study
See Academic Placement --Independent Study. Approved for RP grading.

Units: 1-3, Repeatable up to 6 units

HIST 292. Directed Readings
Prerequisite: permission of instructor. Readings on selected themes and topics in consultation with a faculty adviser.

Units: 1-3

HIST 296. Topics in History for Teachers
Course integrates historical theory and "best practices" with practical historical knowledge and curricular development. Introduces teachers to historical resources and discusses history pedagogy to integrate current historical scholarship into intermediate and secondary history curricula.

Units: 1-3

HIST 297. History Practicum
Supervised work experience in a history-related field. Provides occupational and professional work experience in one of the following ways: conduct and present original research; engage in archival or museum-related work; or prepare and present original lectures in a classroom setting.

Units: 1-3

HIST 298. Project
Preparation, completion and submission of an acceptable project for the MA teaching option.

Units: 3

HIST 298C. Project Continuation
Prerequisite: Project HIST 298. For continuous enrollment while completing the project. May enroll twice with department approval. Additional enrollments must be approved by the Dean of Graduate Studies.

Units: 0

HIST 299A. Thesis
Prerequisite: See Criteria for Thesis and Project. Preparation, completion, and submission of an acceptable thesis for the master's degree. (A) Thesis design. (B) Thesis writing. A and B may be taken concurrently. Approved for RP grading.

Units: 3

HIST 299B. Thesis
Prerequisite: See Criteria for Thesis and Project. Preparation, completion, and submission of an acceptable thesis for the master's degree. (A) Thesis design. (B) Thesis writing. A and B may be taken concurrently. Approved for RP grading.

Units: 3

HIST 299C. Thesis Continuation
Prerequisite: Thesis HIST 299. For continuous enrollment while completing the thesis. May enroll twice with department approval. Additional enrollments must be approved by the Dean of Graduate Studies.

Units: 0

HMONG (HMONG)

HMONG 1A. Basic Hmong
First semester course on the Hmong language, with emphasis

on basic reading, writing, speaking, and listening and on Hmong society, history, culture, traditions, and arts. G.E. Breadth C2.

Units: 4

Course Typically Offered: Fall

GE Area: C2

HMONG 1B. Basic Hmong

Prerequisite: Hmong 1A. Second semester course in conversational and written Hmong and cultural traditions of Hmong speaking people. G.E. Breadth C2.

Units: 4

Course Typically Offered: Spring

GE Area: C2

HMONG 4. Beginning Literacy for Hmong Speakers

For the native speaker of Hmong. Emphasis on basic reading and composition skills. Includes practice in reading and writing simple texts. Covers the traditions and lifestyles of the speakers of the language.

Units: 3

Course Typically Offered: Fall, Spring

HMONG 100. Intermediate Reading and Composition

Prerequisite: HMONG 4 or equivalent. Further development of reading and composition skills. Includes practice in reading expository texts and review of grammatical structures.

Units: 3

Course Typically Offered: Fall

HMONG 101. Advanced Reading and Composition

Prerequisite: HMONG 100 or equivalent. Emphasis on strategies for complex texts. Enhancement of composition fluency and grammatical accuracy.

Units: 3

Course Typically Offered: Spring

SMITTCAMP HONORS COLLEGE (HONOR)

HONOR 1. Honors Colloquium

Colloquium for students in the Smittcamp Family Honors College. Overview of the university. Presentation and discussion of current topics. Special presentations by faculty, campus guests, and senior honors project students.

Units: 1, Repeatable up to 6 units

HONOR 101. Emerging Voices After Colonialism: Revolution in Theory, Revolution in Practice

This course will explore the expanding field of postcolonial studies. Postcolonialism critically analyzes the dialectic between Western imperialism and resistance to colonialism in Africa, Asia and the Carribean. Readings will include primary sources, essays of criticism and theory, colonial literature, and a diverse selection selection of novels from formerly colonized nations.

Units: 4

HONOR 102. Revolutions in Natural and Social Sciences

This course examines fundamental changes in natural and social sciences. It focuses first on revolutions in natural sciences, particularly in physics and biology. It then surveys major changes in economic theory with an emphasis on the so-called marginal revolution.

Units: 4

GE Area: ID

HONOR 103. Ecological and Social Effects of the Industrial Revolution on the Third World

This course will examine the impact of the Industrial Revolution and the accompanying industrialzed nations' demand for tropical products on Third World nations. By integrating biological, geographical, ecological, historical, and social effects we will put the Industrial Revolution into a global perspective by intergrating biological, geographical, ecological, historical, and social effects.

Units: 4

HONOR 180. Special Projects in Honors

Individual projects in the Smittcamp Family Honors College. Projects related to Honors College courses; for example internships, research papers, community service projects, new classroom approaches and learning communities.

Units: 1-3, Repeatable up to 9 units

HORTICULTURE (HORT)

HORT 1. Introduction to Fruit Science

Not open to students with credit in upper-division HORT courses. Origin and distribution of grape and tree fruit crops. Botanical and commercial classification of grapes and tree fruits and their culture in California. (Formerly VTF 1, FR SC 1)

Units: 3

Course Typically Offered: Fall

HORT 110. Fruit Species of California

Prerequisite: BIOL 11 or HORT 1 or OH 1. Fruit and nut species common to California, their adaptation and uses. (Formerly VTF 110, FR SC 110)

Units: 3

Course Typically Offered: Spring

HORT 112. Principles of Pomology II

Prerequisite: BIOL 11 or HORT 1. Pruning, fruit and vegetative development, pollination, rootstocks, propagation, and nutrition. Crop fundamentals of spring cultural practices. (2 lecture, 3 lab hours) (Formerly VTF 112, FRSC 112)

Units: 3

Course Typically Offered: Fall

HORT 113. Citrus and Subtropical Fruits

Prerequisite: BIOL 10 or BIOL 11 or HORT 1. Geographic distribution, climatic and soil adaptation of subtropical fruit crops. Fruit and vegetative development and cultural practices for globally important fruit crops. Emphasis on citrus and olive (2 lecture, 3 lab hours) (Formerly VTF 113, FRSC 113)

Units: 3

Course Typically Offered: Fall

HUMAN RESOURCE MANAGEMENT (HRM)

HRM 150. Administration of Personnel

Prerequisites: MGT 110, and BA 105W or ENGL 160W (may be taken concurrently). Composition of labor force; acquisition and utilization of human resources; recruitment; selection; performance appraisal; motivation; compensation; communications; social issues and government influence. Individual and group projects; written and oral reports.

Units: 3

Course Typically Offered: Fall, Spring

HRM 152. Labor Relations and Collective Bargaining

Prerequisite: HRM 150 and BA 105W or ENGL 160W. Relations between employers and organized employee groups; organization, election, and certification procedures; techniques of collective bargaining; labor agreements; grievance handlings; settlement of industrial disputes. Class discussion, student presentations.

Units: 3

Course Typically Offered: Fall, Spring

HRM 153. The Staffing of Organizations

Prerequisite: HRM 150 and BA 105W or ENGL 160W. In-depth study of major staffing issues such as recruitment and selection of employees. Emphasis on practical application of issues for future managers and HRM professionals. Group projects, class discussion, guest lecturers, and experimental exercises.

Units: 3

Course Typically Offered: Fall

HRM 154. Compensation Systems and Performance Management

Prerequisite: HRM 150 and BA 105W or ENGL 160W (non-business majors only). This course provides a theoretical basis for understanding compensation and other reward systems, with particular emphasis on the psychological, economic, and strategic aspects of total reward systems and performance management. Reward practices and principles are learned through a series of hands-on exercises.

Units: 3

Course Typically Offered: Fall, Spring

HRM 157. Legal Aspects of Human Resource Management

Prerequisite: HRM 150 and BA 105W or ENGL 160W. Survey of law related to employment, including discrimination, wrongful discharge, safety and health requirements, and other government regulations. Attention given to prevention and resolution of legal complaints and to emerging public issues. Oral presentations, discussions.

Units: 3

Course Typically Offered: Fall, Spring

HRM 159. Seminar in Human Resource Management

Prerequisites: last-semester senior status; HRM150, BA 105W or ENGL 160W, and completion of at least three of the following classes: HRM 152, HRM 153, HRM 154, HRM 157. Integration of human resource management knowledge. Case analysis and discussion. Students will be required to take the PHR certification exam and to independently pay a mandatory test fee.

Units: 3

HRM 189T. Topics in Human Resource Management

Prerequisite: senior standing. Studies in personnel and labor relations, recruitment, selection, retention, compensation, employment law, and business ethics.

Units: 1-3, Repeatable up to 9 units

HRM 189T. Introduction to Industrial-Organizational Psychology

Introduction to the scientific study of human behavior in the workplace. The application of psychological principles and methodology to improve individual and organizational well-being including assessment, selection, fairness, work motivation, job attitudes, stress, and work-life balance. Emphasis placed on the scientist-practitioner model.

Units: 3, Repeatable up to 6 units

HRM 190. Independent Study

See Academic Placement - Independent Study. Approved for RP grading.

Units: 1-3, Repeatable up to 6 units

Course Typically Offered: Fall, Spring

HRM 195. Internship

Prerequisite: permission of internship coordinator. Requires 150 hours of work at a pre-qualified, academically-related work station (business, government or nonprofit agency). Reflective journal, final report, and work station evaluation. As a course substitution, prior department approval is required. Only one internship may count toward option requirements. CR/NC grading only.

Units: 3, Repeatable up to 6 units

Course Typically Offered: Fall, Spring

HUMANITIES (HUM)

HUM 1T. and HUM 10. Topics in Humanities

Selected topics in the humanities not normally covered by regular course offerings.

Units: 1-4, Repeatable up to 12 units

Course Typically Offered: Fall, Spring

HUM 10. Humanities from Antiquity to the Renaissance

Prerequisite: G. E. Foundation A2. Interrelationships among art, literature, music, and philosophy, from Greece and Rome through the Renaissance. G.E. Breadth C2.

Units: 3

GE Area: C2

HUM 10H. Intro Humanities of the Western World

Not open to students outside the Honors College. Prerequisites: G. E. Foundation A2 (ENGL 5B or ENGL 10). Accelerated survey

of the relationships between the art, literature, adn philosophy of classical antiquity, from classical Greece to the dawn of the Renaissance. G.E. Breadth C2

Units: 3

GE Area: C2

HUM 11. Humanities from the Baroque to the Modern

Prerequisite: G.E. Foundation A2. Interrelationships among art, literature, music, and philosophy, from the 17th century Age of Reason to the present. G.E. Breadth C2.

Units: 3

Course Typically Offered: Fall, Spring

GE Area: C2

HUM 15. Classical Myth and World Humanities

Prerequisite: G.E. Foundation A2. A study of classical myth and its themes and ideas in the context of modern world humanities. Study in the techniques of analyzing myth in primary works, from diverse media and cultures. Two thousand word writing requirement. G.E. Breadth C2.

Units: 3

Course Typically Offered: Fall, Spring

GE Area: C2

HUM 20. Introduction to Hispanic Literature

Prerequisite: G.E. Foundation A2. Reading of Hispanic fiction, poetry, and drama with the goal of understanding the close relationship between Hispanic literature and culture. Instruction in techniques of literary criticism. Taught in English using English translations of important works of Hispanic literature. G. E. Breadth C2.

Units: 3

Course Typically Offered: Fall, Spring

GE Area: C2

HUM 21. Introduction to the Literature of Portuguese-speaking Peoples

Readings of fiction and poetry from Portuguese-speaking (Lusophone) countries with the goal of understanding the close relationship between Lusophone literature and culture. Instruction in techniques of literary criticism. Taught in English using translations of representative works of Lusophone literature.

Units: 3

HUM 101T. Topics in Humanities

Units: 1-4, Repeatable up to 12 units

Course Typically Offered: Fall, Spring

HUM 104. Humanities in the Middle Ages and Renaissance

Prerequisites: G.E. Foundation and Breadth Area C. An examination of art, literature, philosophy, and music and their interrelationships in European culture during the Middle Ages and Renaissance. G.E. Integration IC. (Formerly INTD 104)

Units: 3

Course Typically Offered: Fall, Spring

GE Area: IC

HUM 104Z. Hum Mdl Age Ren

Units: 3

HUM 105. Cultures of the Portuguese-Speaking World

Prerequisites: GE Foundation and Breadth Area D. Interdisciplinary approach to global examination of cultural productions of the Portuguese-speaking world through readings, lectures, films, and other media. Taught in English using representative literary works in translation. Satisfies upper-division G.E. Area MI: Multicultural/International.

Units: 3

GE Area: M/I

HUM 108. Humanities in Classical Athens

Prerequisites: G.E. Foundation and Breadth Area C. An examination of the unique cultural environment of the ancient city, its art, architecture, literature, social and political structures, and their interrelationships as manifested in fifth century Athens. G.E. Integration IC. (Formerly INTD 108)

Units: 3

Course Typically Offered: Fall, Spring

GE Area: IC

HUM 110. Humanities in Republican and Imperial Rome

Prerequisites: G.E. Foundation and Breadth Area C. An examination of the unique cultural environment of the ancient city, its art, architecture, literature, social and political structures, and their interrelationships as manifested during Republican and Imperial Rome. G.E. Integration IC. (Formerly INTD 110)

Units: 3

Course Typically Offered: Fall, Spring

GE Area: IC

HUM 118. Folklore in Contemporary Life

Prerequisites: G.E. Foundation and Breadth Area C. Interdisciplinary study of the role of folklore in modern life, its power to communicate critical issues through expressive culture, e.g., jokes, legends, folksongs, graphic arts, and festival; focus on the intellectual currents influencing the study of folklore. (Formerly INTD 118).

Units: 3

Course Typically Offered: Fall, Spring

GE Area: IC

HUM 130. Latin American Cultures and Traditions

A study of Hispanic cultural and aesthetic trends and practices as seen in the popular and formal arts and other styles of Hispanic thought, feeling, and expression. (Formerly INTD 130)

Units: 3

HUM 140. Tradition and Change in China and Japan

(ANTH 125 same as HUM 140.) Examines the current aspirations and problems of the Chinese and Japanese in terms of their traditional cultures, and explains how their histories, values, world views, and intellectual traditions affect their lifestyles and their international relations today.

Units: 3

GE Area: M/I

HUM 190. Independent Study

See Academic Placement - Independent Study. Approved for RP grading.

Units: 1-3, Repeatable up to 6 units

INTERDISCIPLINARY ARTS STUDIES (IAS)

IAS 108. Interdisciplinary Arts Studies

Basic theories and techniques in art education, including interdisciplinary studies in visual art, music, drama, and dance as they apply to the elementary curriculum (GE IC for Liberal Studies majors only).

Units: 3

GE Area: IC

INTERIOR DESIGN (ID)

ID 7. Design Studio I

Basic design concepts and drafting techniques; working drawings, introduction to codes and standards; lettering; metric & imperial systems. (8 lab hours) FS

Units: 4

Course Typically Offered: Fall, Spring

ID 43. Design Graphics I

An introductory course in design graphics/visualization. Includes: conceptual/expressive sketching, analytical/diagrammatic drawing, 2D/3D drawing, and visual perception/communication for artists/designers. Includes meixed media. (6 lab hours) (Course fee $5) FS

Units: 3

Course Typically Offered: Fall, Spring

ID 70. Design History, Theory & Criticism I

Aesthetic and functional aspects of interior design. Integration of design principles: color, space planning, furniture selection, creative expression, product information, and design process.

Units: 3

Course Typically Offered: Fall, Spring

ID 71. Design Studio II

Prerequisite: ID 7, ID 43, ID 70 (or concurrently). An examination of the complex relationships between form, space, perception, culture, conduct and social activity. Studio work includes creative aesthetics, spatial arrangements, design process and programming. (8 lab hours) (Course fee, $5)

Units: 4

Course Typically Offered: Fall, Spring

ID 77. Design Graphics II

Prerequisites: ID 43. Computer graphics. Topics include 2D/3D digital graphics (digital) photographic editing and illustration, typography, computer/web graphics, presentation and communication. (6 lab hours).

Units: 3

Course Typically Offered: Fall, Spring

ID 110. Building Systems, Construction Documents & Codes

Prerequisite: ID 7, ID 71. Fundamentals of building systems and codes; construction drawings & documents, acoustics, electrical, mechanical, plumbing and HVAC. May unclude fieldtrips. (1 lecture 2 lab hours) FS

Units: 2

Course Typically Offered: Fall, Spring

ID 111. Design Graphics III

Prerequisites: ID 7, ID 43, ID 77. Topics include: Computer Aided Design, Computer Media, 2D/3D modeling, rendering, lighting and environmental effects. (6 lab hours) (Course fee $5) FS

Units: 3

Course Typically Offered: Fall, Spring

ID 112. Design Studio III

Prerequisites: ID 7, ID 71 & ID 111. Design programming, schematic planning/sequencing, code application, and anthropometrics in medium-scale, mixed-use projects. Emphasis on design research directed toward social/cultural contexts. (8 lab hours) (Course Fee $5) FS

Units: 4

Course Typically Offered: Fall, Spring

ID 113. Design History, Theory & Criticism II

A sampling of architecture and interior space. Tours include northern, central, and southern California architecture. Residential and contract showrooms visited. Expenses for required off-campus visits incurred by the student. (6 lecture-lab hours) (Course fee, $220) (Formerly GID 113)

Units: 3

Course Typically Offered: Fall

ID 116. Design Graphics IV

Prerequisite: ID 77, ID 111. Advanced topics in digital design and multi-media art. Topics include advanced modeling, materials, lighting, environmental effects & animation (6 lab hours) (Course Fee $25) FS

Units: 3

Course Typically Offered: Fall, Spring

ID 120. Design History/Theory & Tours III

Prerequisites: ID 70, ID 113. The intellectual, stylistic and cultural characteristics of art, design and architecture up to the modern times with emphasis on global contexts. Includes field trips in California. (2 lecture 2 lab hours) FS

Units: 3

Course Typically Offered: Fall

ID 130. Lighting Design

Prerequisites: ID 7, ID 70, ID 110. Lighting design and details. Includes schematic design, reflected ceiling-plans, laboratory testing and lighting calculations. (1 lecture, 2 lab hours) (Course fee, $10) FS

Units: 2

Course Typically Offered: Fall, Spring

ID 131. Design Materials & Specifications

Prerequisites: ID 70, Selection, specifications, and computations for design materials. (2 lecture, 2 lab hours) (Course fee, $10) FS

Units: 3

Course Typically Offered: Fall, Spring

ID 132T. Topics in Interior Design

Topics related to interior design. Some topics may have labs. (Formerly GID 132T)

Units: 1-4, Repeatable up to 12 units

ID 132T. Design and People

Selected topics in design and people. Supervised/directed study and application of theoretical, behavioral and/or special principles to architecture, design and the planning process. May include fieldwork, independent research and/or a culminating project/activity.

Units: 4, Repeatable up to 12 units

ID 133. Professional Practices

Prerequisites: ID 70, ID 131, ID 138. Principles and procedures of organizing and executing design projects from client contact to final billing and collecting - in collaboration with architiects, product/furniture designers and public/private organizations. Includes developing a portfolio of design work. (1 lecture 2 lab hours) (Course fee $10)

Units: 2

Course Typically Offered: Spring

ID 134. Restoration and Preservation

Prerequisites: ID 112 and permission of intructor. Principals and methods of restoration, case studies of the restoration and preservation of historically significant structures in the United States. Working drawings, details, and specifications. (6 lab hours) (Course fee, $5)

Units: 3

Course Typically Offered: Fall

ID 136. Design Studio IV: Furniture/Product Design

Prerequisite: ID 111, ID 112, ID 131. Contemporary furniture/product design in context. Studio work to include formal concepts, schematics, details, and construction drawings. Emphasis on contemporary trends in furniture/product design. (6 lab hours)

Units: 3

Course Typically Offered: Spring

ID 137. Interior Architectural Graphics and Models

Prerequisites: ID 77, ID 111; and ID 112 (or concurrently). Three dimensional interior architectural models and graphic techniques integrating color and composition and its impact of design communication; media to include illustration board, balsa wood, photography, markers, color pencil, pastel, and watercolor. (6 lab hours) (Formerly GID 137)

Units: 3

Course Typically Offered: Spring

ID 138. Design Studio V

Prerequisites: ID 112, ID 116; ID 133 (or concurrently). Design for mixed-use environments, diverse clients and budgets. Emphasis on design ideation, advanced schematics, presentations, codes/specifications. (8 lab hours) (Course fee, $25) (Formerly GID 138)

Units: 4

Course Typically Offered: Fall, Spring

ID 145. Design Studio VI-c: Human/Environmental Topics

Prerequisite: ID 138. Studio to cover topics in human and environmental design and/or healthcare facilities and systems. Projects may also engage topics such as green design, aging, illness, and wellness. (8 lab hours) FS

Units: 4

Course Typically Offered: Spring

ID 149. Design Studio VII: Advanced Design

Prerequisites: ID 137 or ID 145, ID 138. Advanced design projects covering public, civic, cultural, institutional, educational, commercial, administrative and related themes. Emphasis on critical & multidisciplinary thinking, mature communication, social responsibility, and global awareness. (8 lab hours) (Course Fee $25) F

Units: 4

Course Typically Offered: Fall

ID 150. Senior Thesis Exhibits

Prerequisites: ID 149. (ID 155 concurrently.) Discussion and gallery-presentation of senior thesis projects. Includes group discussions, and conferences with faculty on senior projects. Culminates in the Senior Exhibit (4 lab hours) (Course fee, $10) S

Units: 2

Course Typically Offered: Spring

ID 152. Design Practicum & Entrepreneurship

Prerequisites: ID 133. (ID 149 or ID 155 concurrently.) Supervised professional practice in architecture/design or related industry. Experience with diverse methods of job costing, profit/loss analysis and project management. SF

Units: 3, Repeatable up to 6 units

Course Typically Offered: Fall, Spring

ID 155. Design Studio VIII: Senior Thesis

Prerequisites: ID 149. ID 150 to be taken concurrently. Capstone design thesis studio. S

Units: 4

Course Typically Offered: Spring

ID 190. Independent Study

See Academic Placement-- Independent Study. Approved for RP grading. (Formerly GID 190)

Units: 1-3, Repeatable up to 6 units

Course Typically Offered: Fall, Spring

INTERDISCIPLINARY CAPSTONE (INTD)

INTD 50. Critical Thinking on Global Issues

Identify and critically examine the seven areas of change expected to be most "revolutionary" in the coming decades including: Population, Resources, Technological, Information, Economic Integration, Security and Conflict, and Governance. A focus will be on how these areas inter-relate and how students can enable a more preferable future. G.E. Foundation A3.

Units: 3

GE Area: A3

INTD 177. Global Challenges

This course helps students become more globally competent by looking at different countries, cultures and ethnicities through the lens of seven large global Challenges: Population, Resources, Technological, Information, Economic Integration, Security and Conflict, and Governance. G.E. Multicultural/International MI.

Units: 3

GE Area: M/I

INFORMATION SYSTEMS (IS)

IS 51. Programming Fundamentals

Prerequisite: IS 52 and IS 52L or equivalent. Structured program design using Microsoft Visual Studio. Concepts of object-oriented and event-driving programming, user interface design, algorithm development, testing and debugging, and documentation using business examples. (2 lecture, 2 lab hours)

Units: 3

Course Typically Offered: Fall, Spring

IS 52. Computer Concepts

Introduction to computer hardware and software systems, impact of computers on society, ethical issues, application of computer technology in many career fields. No credit if taken after IS 50 (Fomerly IS 50)

Units: 2

Course Typically Offered: Fall, Spring

IS 52L. Computer Concepts Lab

Hands-on study of office productivity software to include elements of word processing, electronic spreadsheets, database, and presentation software. Modules may differ by major. Some sections utilize self-paced computer-based training. No credit if taken after IS 50. (2 lab hours) CR/NC grading only. (Formerly IS 50)

Units: 1

Course Typically Offered: Fall, Spring

IS 106. Intermediate Website Design

Prerequisites: IS 52 and IS 52L. Theory and practice of Website design and authoring (HTML). Web page usability, graphic design optimization concepts, and the basics of CGI, Java, and Javascript; introduction to Internet architecture concepts and protocols. (2 lecture, 2 lab hours)(Formerly IS 156T)

Units: 3

IS 130. Management Information Systems

Prerequisites: IS 52 and IS 52L or demonstration of computer literacy; ACCT 4A, ACCT 4B; BA 105W or ENGL 160W (may be taken concurrently). Management concepts in the role/administration of information/information system functions in organizations; enhancement of management with computers; management of systems development; planning and budgeting, analysis, design, implementation and operation of computer-based systems; measurement of operating performance.

Units: 3

Course Typically Offered: Fall, Spring

IS 140. Geographic Information Systems (GIS) for Business

Prerequisites: solid computer skills. Application of geographic information systems to solution of business problems. Study of GIS concepts, software, management, ethical issues, and cases using local data and problems. (2 lecture, 2 lab hours) (Formerly IS 156T)

Units: 3

Course Typically Offered: Fall

IS 150. End-User Computing

Prerequisites: IS 51, IS 52, IS 52L. Use of data resources in business problem solving. Integration of microcomputer packages with systems development concepts to implement information systems. Topics include information centers, 4GLs, and decision support tools. (2 lecture, 2 lab hours)

Units: 3

Course Typically Offered: Summer

IS 153. Enterprise Resource Planning Systems

Introduction to the concept of Enterprise Resource Planning (ERP) as integrating process data across several functions of an organization. Fundamental techniques for the operation and configuration of ERP systems. Successful selection and implementation on ERP Systems. Hands-on practice using a leading ERP system. (2 lecture, 2 lab hours) (Formerly IS 156T)

Units: 3

Course Typically Offered: Fall, Spring

IS 156T. Topics in Emerging Information Technologies

Prerequisites: IS 52, 52L. Overview of the most recent tools and techniques in information technology, and their utilization in the business environment with specific content of the course updated and refocused every year. (2 lecture, 2 lab hours)

Units: 3, Repeatable up to 6 units

IS 158. Database Systems

Prerequisites: IS 51; IS 150 recommended. Data structures; file design; database design concepts emphasizing the relational model; data administration; application of database management system software. (2 lecture, 2 lab hours) (Formerly IS 165)

Units: 3

Course Typically Offered: Fall, Spring

IS 162. Data Communications

Resource sharing; computer traffic characterizations; multiplexing; network structure; packet switching and other switching techniques; computer network examples; routing and flow control; satellite and ground radio packet switching; transmission media

and methods; line control procedures; line capacity assignment; communication processors. (Formerly IS 109)

Units: 3

IS 166. Information Systems, Analysis and Design

Prerequisites: IS 158 with a C or higher grade, ACCT 4A, ACCT 4B, and upper-division standing. Systems approach to problem solving; systems development life cycle; systems analysis; use of system modeling tools; logical systems design, including user interfaces, database, structure, and controls; implementation and testing. (2 lecture, 2 lab hours)

Units: 3

IS 181. Computer Networks Management

Prerequisites: IS 52, IS 52L. Theory and practice of computer network design, installation, and management focusing on the role of the information communications system in a distributed business computing environment. Concepts include network operating systems, protocols, topologies, security, supporting services, applications, and disaster recovery. (2 lecture, 2 lab hours)

Units: 3

Course Typically Offered: Fall, Spring

IS 182. Advanced Network Design and Management

Prerequisites: IS 181. Design and management of advanced business telecommunications network components and services. Conceptual foundation and direct hands-on experience in designing, installing, and managing the relevant equipment, software, and services. (2 lecture, 2 lab hours) (Formerly IS 156T)

Units: 3

Course Typically Offered: Fall

IS 183. Advanced Web Site Design and Management

Prerequisite: IS 51, IS 158 (IS 158 may be taken concurrently). Theory and practice of Web site design and authoring. Dynamic HTML and cascading style sheets; Web-based e-commerce application design (client-side scripting and server-side scripting with a back-end database), Web development, project management, user interface design, interactivity design and information design. (2 lecture, 2 lab hours)

Units: 3

Course Typically Offered: Spring

IS 184. Advanced Database

Prerequisites: IS 158, IS 166. (Not open to pre-business or undeclared majors.) Advanced study of database systems. Possible topics include advanced database theory, database administration, physical design and implementation, query processing and optimization, transaction management, recovery, security, and other advanced topics.(2 lecture, 2 lab hours). Not open to pre-business or undeclared majors. (Formerly IS156T)

Units: 3

IS 186. Project Management

(Same as MGT 158.) Fundamental concepts and techniques addressing all phases, process groups, and knowledge areas in the Project Management Body of Knowledge; software tools for planning, scheduling, and control of projects; satisfies education requirements for Project Management Institute PMP and CAPM certifications. (2 lecture, 2 lab hours)

Units: 3

Course Typically Offered: Fall, Spring

IS 187. IS Practicum

Prerequisites: IS 158, IS 166, IS 186; senior standing. Integration and application of IS skills and knowledge across business functional areas. Students learn to deliver practical and strategic solutions in an integrative organizational environment. Students work in groups as consultants to solve real business problems. Course incorporates ethical considerations into decision-making. Students undergo competitive review and evaluation. (2 lecture, 2 lab hours)

Units: 3

Course Typically Offered: Fall, Spring

IS 189T. Topics in Information Systems

Prerequisite: permission of instructor. Theory or application of information systems or information management as applied to current developments in the field.

Units: 1-3, Repeatable up to 6 units

IS 189T. Cyber-Security

Prerequisites: IS 130 or consent of instructor. Comprehensive overview of the essential concepts students must know as they pursue careers in information systems security. Students will learn critical principles that enable them to plan, develop, and perform security tasks. Topics include hardware, software, processes, communications, applications, and policies and procedures with respect to organized IT security and Risk Management.

Units: 3, Repeatable up to 6 units

IS 190. Independent Study

See Academic Placement - Independent Study. Approved for RP grading.

Units: 1-3, Repeatable up to 6 units

Course Typically Offered: Fall, Spring

IS 195. Internship

Prerequisite: permission of internship coordinator. Requires 150 hours of work at a pre-qualified, academically related work station (business, government, or nonprofit agency). Reflective journal, final report, and work station evaluation. As a course substitution, prior department approval required. Only one internship may count towards option requirements. CR/NC grading only.

Units: 3, Repeatable up to 6 units

Course Typically Offered: Fall, Spring

INTERNATIONAL STUDIES ABROAD (ISA)

ISA 92. Projects in Study Abroad:

(Units variable; max total 18) Open only to students in The California State University International Programs. Study undertaken in a university abroad under the auspices of The California State University.

Units: 1-6, Repeatable

ISA 192. Projects in Study Abroad:
(Units variable; max total 18) Open only to students in The California State University International Programs. Study undertaken in a university abroad under the auspices of The California State University.

Units: 1-6, Repeatable

ISA 292. Projects in Study Abroad
One- to three-unit registrations. Prerequisite: admission to master's degree program; written plan approved by the instructor, department chair, and dean of the Division of Graduate Studies. May require one or more papers and oral or written examination on the student's return before the recording of the final grade.

Units: 1-6, Repeatable up to 18 units

INTERNATIONAL STUDIES COURSE (ISC)

ISC 93. Contemporary American Society
Introduction to contemporary American society to familiarize the student with political and social issues and ideological conflicts. (2 seminar hours)

Units: 1

INDUSTRIAL TECHNOLOGY (IT)

IT 12. Basic Vehicle Systems
Design, construction, and mechanical functions of vehicle engines, fuel systems, electrical systems, power transmission, brakes, and wheel suspension; proper use and safety of tools and equipment. (2 lecture, 2 lab hours)

Units: 3

Course Typically Offered: Fall

IT 20. Technology and Society
Critical relationship between society and technology. Technology, as it applies to contemporary issues such as technology and gender, the fate of skill and labor's power under changing conditions, technology and war, the problem of technocracy, technology and consumer culture, and technological relations to the natural environment. G.E. Breadth D3.

Units: 3

Course Typically Offered: Fall, Spring

GE Area: D3

IT 30. Exploring Technology Systems
Survey of the Technology Systems discipline including: history (medieval, apprenticeship to present), technology sub-systems (information and communications, transportation, manufacturing, construction) and relationship to other disciplines, including business, industry and education. Includes field trips to business and industrial facilities. (2 lecture, 2 lab hours; filed trips)

Units: 3

IT 41. Industrial Design Graphics
Application of the fundamentals of industrial design graphics. Sketching, lettering, orthographic projection, working drawings, auxiliary views, dimensioning, developments, pictorial drawings, duplication; interrelationship to the design process. Introduction to CAD. (6 lab hours)

Units: 3

Course Typically Offered: Fall

IT 45. Industrial Technology Exhibits and Competitions
Provides a structure for students to be involved in various industrial technology exhibits and competitions, industrial technology research and development, project management, and team work. CR/NC grading only. (6 lab hours) (Formerly I T 145)

Units: 3

Course Typically Offered: Fall

IT 52. Electricity and Electronics
(IT 52 same as MEAG 53.) Introduction to electricity including fundamentals of electrostatics, alternating and direct current electrical circuits, electrical calculations, magnetics, circuit applications, electrical measuring, and test equipment. Schematics and wiring diagrams, standards, and codes. (2 lecture, 2 lab hours) (Course fee, $5)

Units: 3

Course Typically Offered: Fall, Spring

IT 58. Applied Computer Networking I
Internet, intranet, local area network concepts, protocols, architectures, and implementation issues. Data communication in office technology and manufacturing automation. (2 lecture, 4 lab hours) (Field trips) (Formerly IT 158)

Units: 4

Course Typically Offered: Spring

IT 63. Applied Computer Networking II
Prerequisite: IT 58. Understanding complex networks, such as IP, IPX, Frame Relay and ISDN. An analysis of the technology used to increase bandwidth and quicken network response times. Network security, global intranet, custom queuing, and routed priority services. (2 lecture, 4 lab hours; field trips) (Formerly IT 163)

Units: 4

Course Typically Offered: Fall

IT 71. Metallurgical Processes
(MEAG 50 same as IT 71.) Fundamentals of metallurgy; properties and characteristics of metals; survey of metal welding processes, equipment, and procedures; theory-discussion and laboratory experience in oxygen-fuel welding, cutting, brazing, and shielded metallic arc welding. (2 lecture, 3 lab hours) (Course fee, $50)

Units: 3

Course Typically Offered: Fall, Spring

IT 74. Manufacturing Processes
Study of how consumer and industrial products are manufactured, focusing on how raw materials (primarily metal and plastic) are changed into finished products. Topics include production processes of material addition, forming, casting, removal, separation, assembly, and finishing. (2lecture, 2 lab hours) (Course fee, $20)

Units: 3

Course Typically Offered: Fall, Spring

IT 80. Wood Processing Technology
Wood properties, materials, finishing; hand, portable electric, and machine tool processing; design, production planning; safety, adhesives, and cutting principles; machine design and use. (6 lab hours) (Course fee, $10)

Units: 3

IT 92. Safety Management
Principles of safety management in an industrial and agricultural environment; safety legislation and programs; management/supervisory and employee responsibilities and attitudes; physical hazards associated with chemicals, equipment, fire, compressed gases; other topics include eye, stress, drugs, lifting office, and noise safety.

Units: 3

Course Typically Offered: Fall, Spring

IT 102. Industrial Computer Concepts and Applications
Introduction to computer systems hardware and software, operating system basics and installation, computer maintenance and troubleshooting (2 lecture, 2 lab hours)

Units: 3

Course Typically Offered: Spring

IT 103. Network Operating Systems
Prerequisite: IT 102. Introduction to multiuser, multitasking network operating systems. Characteristics of the Linux, Windows 2000, NT, and XP network operating systems. Installation procedures, security issues, back up procedures and remote access. (2 lecture, 2 lab hours)

Units: 3

IT 104. Product Design
Prerequisite: IT 114 and IT 115. Elements, principles, and methods of design. Emphasis will be placed on the development of models and prototypes with attention to standard components, productivity, and packaging. (2 lecture, 2 lab hours)

Units: 3

Course Typically Offered: Spring

IT 106. Energy Conversion and Utilization
Fundamental sources of energy, including the following energy conversion systems: direct mechanical, external combustion, internal combustion, solar power, wind power, electrical and atomic systems. Experiments and demonstrations. (2 lecture, 2 lab hours; field trips)

Units: 3

Course Typically Offered: Fall, Spring

IT 107. Facilities Planning and Materials Handling
Facility planning techniques as applied to facility location, zoning, building codes, line balancing, shipping-receiving, offices, material handling, storage, project scheduling, and computerized layout.

Units: 3

Course Typically Offered: Fall, Spring

IT 110. Fluid Power
Selective study of fluid power principles and applications; hydraulics, pneumatics, and vacuum; includes pumps, controls, transmission systems, actuators, and fluidics. In-depth study of air conditioning-heating theory and applications. (6 lab hours; field trips) (Course fee, $5)

Units: 3

IT 112. Industrial Process Control Systems I
Prerequisite: IT 52. Process control principles; components and principles; transducers, actuators, sensors, and instrumentation; computer interface software, terminologies, standards, and trends in control technologies. Programmable logic controller principles, hardware, and software. (2 lecture, 2 lab hours)

Units: 3

IT 114. Industrial Materials
Chemical and physical properties of metals, polymers, ceramics, composites. Atomic structure and phases of matter emphasizing crystalline and amorphous solids. Me chanical properties, strength and testing of materials including impact, hardness, and tensile. Metallographic, microscopic inspection of electronic, and metallic specimen. (2 lecture, 2 lab hours) (Course fee: $10)

Units: 3

Course Typically Offered: Fall, Spring

IT 115. Design and Documentation Systems
IT 41 recommended prior to enrollment. Design and documentation systems used in business and industry CAD principles and applications product development process, design process management, design review, concurrent engineering value analysis. (2 lecture, 2 lab hours)

Units: 3

Course Typically Offered: Fall, Spring

IT 116. Applied Visual Programming
Contemporary computer language used for programming automated systems and controls applied to manufacturing and precision agriculture; basic concepts on structural programming, object-oriented language, programming mechanics, user interface development, and web-based applications. (2 lecture, 2 lab hours)

Units: 3

IT 117. Quality Assurance
Prerequisites: DS 73 or Math 11. Quality assurance principles and practices in industry: quality assurance systems, acceptance sampling, testing, source surveillance; probability and statistical concepts, process control techniques and measurement procedures as applied to quality.

Units: 3

Course Typically Offered: Fall, Spring

IT 118. Production Operations
A survey of production manufacturing operations: quality assurance, work sampling, testing, time and motion study; routing, scheduling, and inventory control; flow processes, material handling, and automation. (Field trips)

Units: 3

Course Typically Offered: Fall, Spring

IT 120. Vehicle Engine Systems
Prerequisites: IT 12, IT 52 or concurrently. Advanced study of vehicle engines and support systems. Includes engine theory, fuel and electrical systems, turbochargers, LPG, diesel, computerized emission and engine controls, and dynamometer testing analysis. (6 lab hours; field trips)

Units: 3

Course Typically Offered: Spring

IT 121. Automotive Engine Machining
Prerequisites: IT 12, IT 74. Advanced study of automotive engine machining including precision measurements, principles of engine operation, machining of engine components, crack detection, assembly procedures, lubricating and cooling systems. (6 lab hours; field trips) (Course fee, $6)

Units: 3

IT 127. Vehicle Design and Development
Design and mechanical development of vehicles for intercollegiate competition events. Students will select one or more vehicle research projects: innovative future fuels, supermileage, mini baja, formula, aero design, walking robot. (6 lab hours)

Units: 3-6

Course Typically Offered: Fall

IT 129. Vehicle Diagnostic Procedures
Prerequisites: IT 12, IT 52 or concurrently. Laboratory study and analysis of mechanical, electrical, and computer control problems. Technical reports. (6 lab hours) (Course fee, $5)

Units: 3

Course Typically Offered: Spring

IT 131. Automated Systems I
Prerequisite: IT 52. Number systems, Boolean logic, and fundamentals of digital devices; basic applications of logic devices in computers and control systems. (2lecture, 2 lab hours; field trips) (Course fee, $5)

Units: 3

Course Typically Offered: Fall

IT 133. Industrial Process Control Systems II
Prerequisites: IT 52. Programmable logic controller principles and equipment; programming languages, procedures, and documentation; equipment and software selection and application. (2 lecture, 2 lab hours)

Units: 3

Course Typically Offered: Spring

IT 134. Computer-Aided Manufacturing Systems I
Prerequisite: IT 74. Study, analysis, and evaluation of robotics systems. APT programming language for numerical control and application languages for robots. Use of robot vision and the geometry of computer vision applications. (2 lecture, 2 lab hours)

Units: 3

Course Typically Offered: Spring

IT 137. International Quality Standards
Prerequisite: IT 117. ISO 9000 and related international quality systems. Implementation process. Conformance standards, quality system requirements, and the registration and audit processes.

Units: 3

Course Typically Offered: Spring

IT 146. Multimedia Development
Integration of a variety of media types: graphics, animation, digital video, and sound. Emphasis placed on development and creation of multimedia as applied to various CAD/CAM projects, the process of bringing live interactivity to the Internet, Web page development, and desktop publishing. (Formerly IT 191T)

Units: 3

Course Typically Offered: Fall, Spring

IT 147. Advanced CAD Applications
148. Project Planning and Control (3) Prerequisites: IT 115. CAD as a tool to facilitate design activities. An overview of design processes and methods. Solid modeling techniques are introduced. A team approach in system design is emphasized. (2 lecture, 2 lab hours)

Units: 3

Course Typically Offered: Spring

IT 148. Project Management and Control
Project management process and tools, planning, scheduling, organizing, and controlling projects. Project planning and control using qualitative and quantitative methods. (2 lecture, 2 lab hours)

Units: 3

Course Typically Offered: Fall, Spring

IT 156. Automated Systems II
Prerequisite: IT 52. Study and analysis of the characteristics and industrial applications of electric/hydraulic/pneumatic motor control. Special emphasis on programmable, solid state, and electromechanical motor controllers for applications in manufacturing and agriculture. (1 lecture, 4 lab hours; field trips) (Course fee, $4)

Units: 3

IT 164. Router and Internetworking I
Prerequisite: IT 63. Implementation of appropriate technologies to build a scalable routed network. Build campus networks using multilayer switching technologies, improve traffic flow, reliability, redundancy, and performance for campus LAN's, routed and switched WAN's, and remote access networks. (2 lecture, 4 lab hours)

Units: 4

IT 165. Router and Internetworking II
Prerequisite: IT 164. Create and deploy a global internet. Toubleshoot an environment that uses routers and switches for multiprotocal client hosts and services. Addresses those tasks that network managers and administrators need to perform in managing access and controlling overhead traffic over LANs, and WANs. Connecting corporate networks to an Internet Service Provider (ISP) (2 lecture, 4 lab hours)

Units: 4

IT 184. Advanced Manufacturing Technology

Prerequisite: IT 74. Production processing, using metallic and nonmetallic materials, including product design, work cells, tooling, capacity planning, material handling, scheduling and flow chart. (2 lecture, 2 lab hours; field trips) (Course fee, $10)

Units: 3

Course Typically Offered: Spring

IT 186. Applied Spatial Technology

Survey of geo-spatial technologies, e.g. geographical-information-system and global positioning system. Applications of GIS/GPS, remote sensing, imaging technology and geo-database in fields of logistics, agriculture and business. Spatial information management for precision agriculture, agriculture business, food system and public policy.

Units: 3

IT 190. Independent Study

See Academic Placement - Independent Study. Approved for RP grading.

Units: 1-3, Repeatable up to 6 units

Course Typically Offered: Fall, Spring

IT 191T. Technical Topics in Industrial Technology

Prerequisite: permission of instructor. Investigation and analysis of selected subjects in industrial technology. (2-6 lab hours)

Units: 1-3, Repeatable up to 6 units

IT 191T. Electric and Alternative Vehicles

Advanced study on electric, hybrid and alternative fuel vehicles including oxygenated fuels, propane, CNG, LNG, and synthetic fuels. This course combines essential background information with up-to-date, vehicle-specific information on the latest makes.

Units: 3, Repeatable up to 6 units

IT 194. Cooperative Education in Industrial Technology

Prerequisites: courses appropriate to the work experience; permission of department cooperative education coordinator; junior standing. Integration of work experience with academic program, individually planned through program adviser. CR/NC grading only.

Units: 1-4, Repeatable up to 12 units

Course Typically Offered: Spring

IT 196. Senior Seminar

Prerequisite: senior standing. Exploration of technology systems management trends and preparation for employment or further study in technical fields. Technology forecasting, orientation to professional certifications, employment correspondence, and interview techniques. Letter grading only.

Units: 1

Course Typically Offered: Fall, Spring

IT 198W. Technical Writing

Prerequisites: satisfactory completion (C or better) of the ENGL 5B or ENGL 10 graduation requirement; to be taken no sooner than the term in which 60 units are completed. Preparation of technical reports, research proposals, specifications, resumes, and correspondence using effective writing techniques, formats, and styles. Meets upper-division writing skills requirement for graduation.

Units: 3

Course Typically Offered: Fall, Spring

IT 199. Senior Problem in Industrial Technology

Prerequisite: successful completion of Upper-Division Writing Exam or I T 198W. Approved problem or research project, with seminar, in the area of the student's option and emphasis. Approved for RP grading.

Units: 3

Course Typically Offered: Fall, Spring

IT 223. Management of New Technology

Study of the developmental history of technology and its impact on people and their institutions. Topics focus on the consequences of rapid technological changes as they relate to adoption, implementation, management strategies, and social issues.

Units: 3

IT 280. Research Methodology

Prerequisites: MATH 11 or DS 73. Seminar in research procedures in industrial education an dtechnology; basic bibliography, research form and methods.

Units: 3

IT 282. Advanced Communication Concepts and Visual Presentations

Preparation and use of agendas, memoranda, business letters, electronic mail, fax communications. Video development and slide and transparency preparation and the incorpora tion of these media into presentations. Interview technique, resume evaluations, dictation skills, professional relations with personnel, business etiquette.

Units: 3

IT 283. Advanced Materials and Processes

Prerequisite: IT 114. Chemical and physical properties of metals, polymers, ceramics and composites. The atomic structure and phases of matter emphasizing crystalline and amorphous solids. Materials technology of metallic, polymeric, ceramic, and advanced composited are stressed.

Units: 3

IT 284T. Topics in Industrial Technology

Advanced study in technical areas; current industrial practices, developments and trends related to design, materials, and processes.

Units: 2-3, Repeatable up to 9 units

IT 284T. Quality Management Techiques

Study of total quality management principles, techniques, and skills including: auditing, design of experiment, management, quality costs, sampling, and reliability, etc. The course is completely aligned with American Society of Quality's "Certified Quality Technician" body of knowledge.

Units: 3

IT 285. Advanced Manufacturing Systems
Prerequisites: IT 115. A comprehensive study of modern manufacturing systems. Topics include plant layout, material control and transfer, operations measurement, transfer lines, CNC and DNC, machine tool network, computer-integrated manufacturing, flexible manufacturing systems, group technology, robotics, and manual assembly systems.

Units: 3

IT 286. Applied Spatial Technology
Survey of geo-spatial technologies, e.g. geographical-information-system and global positioning system. Applications of GIS/GPS, remote sensing, imaging technology and geo-database in fields of logistics, agriculture and business. Spatial information management for precision agriculture, agriculture business, food system and public policy.

Units: 3

IT 290. Independent Study
See Academic Placement - Independent Study. Approved for RP grading.

Units: 1-3, Repeatable up to 6 units

IT 298. Project
Prerequisites: IT 280; prior advancement to candidacy. Completion of an approved project appropriate to the candidate's area of specialization involving the development of a physical prototype or other similar professional problem-solving activity with extensive written documentation. Abstract required. Approved for RP grading

Units: 2-4

IT 298C. Project Continuation
Prerequisite: IT 298. For continuous enrollment while completing the project. May enroll twice with department approval. Additional enrollments must be approved by the Dean of Graduate Studies.

Units: 0

IT 299. Thesis
Prerequisites: I T 280; prior advancement to candidacy. Preparation, completion, and submission of an acceptable thesis for the master's degree. Approved for SP grading.

Units: 2-4

IT 299C. Thesis Cont
Prerequisite: IT 298. For continuous enrollment while completing the thesis. May enroll twice with department approval. Additional enrollments must be approved by the Dean of Graduate Studies.

Units: 0

ITALIAN (ITAL)

ITAL 1A. Elementary Italian
Beginning course in conversational and written Italian with special emphasis on Italian culture (literature, music, philosophy and lifestyle).. Not open to those with two or more years of high school Italian credit.

Units: 4

Course Typically Offered: Fall, Spring

GE Area: C2

ITAL 1B. Elementary Italian
Prerequisite: G.E. Foundation A2; ITAL 1A recommended or permission of instructor. Second semester course in conversational and written Italian. Not open to those with three or more years of high school Italian credit. G.E. Breadth C2.

Units: 4

Course Typically Offered: Fall, Spring

GE Area: C2

ITAL 2A. Intermediate Italian
Prerequisite: G.E. Foundation A2; ITAL 1B recommended or permission of instructor. Review of grammar and syntax; composition; oral practice, reading of short stories and plays. G.E. Breadth C2.

Units: 3

Course Typically Offered: Fall, Spring

GE Area: C2

ITAL 2B. Intermediate Italian
Prerequisite: G.E. Foundation A2; ITAL 2A recommended or permission of instructor. Oral and written composition; reading of short stories, novels, biographies. G.E. Breadth C2.

Units: 3

Course Typically Offered: Fall, Spring

GE Area: C2

ITAL 5. Conversation
ITAL 1B recommended. May be taken concurrently with ITAL 2A or ITAL 2B. Development of listening skills and oral fluency through discussion, vocabulary exercises, and conversations on assigned topics.

Units: 3, Repeatable up to 6 units

ITAL 160T. Selected Topics in Italian Studies
Topics chosen from Italian literature (genre, themes, movements, particular authors), from Italian culture or civilization, or from Italian cinema.

Units: 3, Repeatable up to 9 units

ITAL 190. Independent Study
See Academic Placement - Independent Study. Approved for RP grading.

Units: 1-3, Repeatable up to 6 units

JAPANESE (JAPN)

JAPN 1A. Elementary Japanese
Prerequisite: G.E. Foundation A2. Not open to native speakers of Japanese. First course in modern Japanese, including basic communication skills, cultural traditions of the Japanese people, and appreciation/practice of calligraphy.

Units: 4

Course Typically Offered: Fall, Spring

GE Area: C2

JAPN 1B. Elementary Japanese
Prerequisite: G.E. Foundation A2. JAPN 1A is prerequisite to JAPN 1B. Not open to native speakers of Japanese. Second course in modern Japanese, including basic communication skills, cultural traditions of the Japanese people, and appreciation/practice of calligraphy.

Units: 4

Course Typically Offered: Fall, Spring

GE Area: C2

JAPN 2A. Intermediate Japanese
Prerequisite: JAPN 1B. Further development of communicative skills in conversational Japanese. Also covers reading and writing in Kana and 200 Kanji characters.

Units: 3

Course Typically Offered: Fall

JAPN 2B. Intermediate Japanese
Prerequisite: JAPN 1B. Further development of communicative skills in conversational Japanese. Also covers reading and writing in Kana and 200 Kanji characters.

Units: 3

Course Typically Offered: Spring

JAPN 100. Advanced Japanese
Prerequisite: JAPN 2B or its equivalent. Enhancement of oral communicative fluency as well as grammatical accuracy. Includes practice in reading some expository writing. Covers 150 Kanji characters.

Units: 3

Course Typically Offered: Spring

JAPN 101. Advanced Japanese
Prerequisite: JAPN 100 or equivalent. Enhancement of fluency, accuracy, and comprehension both in conversation and in reading and writing different genres and scripts.

Units: 3

Course Typically Offered: Spring

KINESIOLOGY ACTIVITY (KAC)

KAC 4. Swimming for Beginners
An introduction to aquatic safety, swim lore, self rescue, and the following strokes: freestyle, back crawl, breast stroke, butterfly, and side stroke. (Formerly PE AC 4)

Units: 1, Repeatable

Course Typically Offered: Fall, Spring

KAC 6. Water Aerobics
Water exercises which will be the vehicle to develop improved physical fitness or a therapeutic role with pool activities ranging from walking and jogging to resistance activities and hydrotherapy. (Formerly PE AC 6)

Units: 1, Repeatable

Course Typically Offered: Fall, Spring

KAC 10. Hip Hop Dance
Observation, practice, and refinement of basic skills in the art of Hip Hop dance. Understanding and appreciation of dance in diverse cultures and as a fitness activity.

Units: 1, Repeatable

Course Typically Offered: Fall, Spring

KAC 11. Partners Club Dancing
Teaches dancing with a variety of partners in club settings. Covers analysis of rhythms associated with modern music and application of these rhythms to partner dance. (Course fee, $4) (Formerly KAC 80T)

Units: 1, Repeatable

Course Typically Offered: Fall, Spring

KAC 12. Elementary Social Dance
An introduction to a variety of dances. Includes the basic step and variations for the cha-cha, waltz, fox trot, swing, tango, and rumba. (Formerly PE AC 12)

Units: 1, Repeatable

Course Typically Offered: Fall, Spring

KAC 13. Swing Dance
Exploration of the many facets of swing dance for couples, including step patterns, rhythms and configurations.

Units: 1, Repeatable

Course Typically Offered: Fall, Spring

KAC 15. Basic Massage
Fundamental massage techniques; types of massage and their usage; physiological and psychological effects of massage, classical Swedish massage strokes and their sequence. (Formerly PE AC 15)

Units: 1, Repeatable

Course Typically Offered: Fall, Spring

KAC 17. Elementary Archery
Instruction in archery skills, including care and construction of tackle. Emphasis on fundamental skills and shooting form. (Formerly PE AC 17)

Units: 1, Repeatable

KAC 19. Elementary Badminton
Instruction in basic skills and techniques of badminton for singles, doubles, and mixed doubles play. Emphasis on basic skill development, rules, and strategy. (Formerly PE AC 19)

Units: 1, Repeatable

KAC 21. Elementary Strength Training
Basic knowledge and concepts of use of resistive exercises to increase muscular strength and endurance. The course stresses the physiological considerations of weight training, selecting exercises for basic programs, charting workouts, nutritional considerations of weight training , selecting exercises for basic programs, charting workouts, nutritional considerations, and the safety of weight training.

Units: 1, Repeatable

Course Typically Offered: Fall, Spring

KAC 22. Elementary Bowling

An introductory course which stresses fundamentals of the stance, approach and delivery, scoring, bowling terminology, etiquette, and league play. (Course fee, $25)

Units: 1, Repeatable

Course Typically Offered: Fall, Spring

KAC 24. Elementary Conditioning Exercises and Aerobics

A variety of floor and step activities to develop and improve strength, flexibility, and cardiovascular endurance.

Units: 1, Repeatable

Course Typically Offered: Fall, Spring

KAC 26. Shiatsu Massage

Fundamental principles and techniques of shiatsu (Japanese Acupressure Therapy); the physiological and psycholgoical effects of shiatsu; different techniques of pressure application, basic shiatsu points; and basic shiatsu routine.

Units: 1, Repeatable

KAC 27. Elementary Fencing

Instruction in the on-guard position, footwork, basic defensive and offensive skills, and judging a foil fencing bout. Emphasis on foil fencing.

Units: 1, Repeatable

Course Typically Offered: Fall, Spring

KAC 28. Beginning Billiards

Basic concepts, techniques, skills, and strategies associated with billiards, pool, and similar games. (Course fee, $4) (Formerly KAC 80T)

Units: 1, Repeatable

KAC 30. Elementary Golf

Beginning instruction on the techniques for putting, chipping, pitching, iron, and wood shots. Also includes rules and etiquette for golf.

Units: 1, Repeatable

KAC 31. Elementary Gymnastics

Basic skills for balancing, stunts, tumbling, trampolining and apparatus work.

Units: 1, Repeatable

Course Typically Offered: Fall, Spring

KAC 33. Fitness Walking

Designed to improve physical and emotional health through walking for pre-set duration and intensity. Includes benefits, walking technique, weight loss plan, and pre- and post-fitness levels.

Units: 1, Repeatable

Course Typically Offered: Fall, Spring

KAC 39. Jogging

Instruction in the basic principles of fitness as they apply to a jogging program. Emphasis on learning how to train/workout, cardiorespiratory endurance, and proper walking/jogging techniques and flexibility.

Units: 1, Repeatable

Course Typically Offered: Fall, Spring

KAC 40. Elementary Karate

Japanese style of Shotokan Karate.

Units: 1, Repeatable

Course Typically Offered: Fall, Spring

KAC 41. Judo

Basic instruction in techniques for throwing, grappling skills, and limited self-defense. Students should achieve technical level of yellow belt.

Units: 1, Repeatable

Course Typically Offered: Fall, Spring

KAC 42. Physical Training

Unique overall fitness program emphasizing strength and endurance training. Designed to tone muscles, promote weight loss and increase stamina. Course is tailored to individual student needs. Program includes running, weight lifting, aerobics, organized sports, and calisthenics.

Units: 2, Repeatable

Course Typically Offered: Fall, Spring

KAC 43. Taekwondo

Korean marital art and Olympic event; emphasizes self-control, balance and coordination, flexibility, speed, self-defense, and Olympic-style sparring. (Formerly KAC 80T)

Units: 1, Repeatable

KAC 44. Kendo

The art of Japanese fencing; emphasizes self-discipline, physical training, competition, and swordsmanship. (Formerly KAC 80T)

Units: 1, Repeatable

KAC 45. Basic Aikido

Basic Aikido techniques, terminology and Dojo etiquette. Facilitate the understanding and application of basic Aikido self-defense techniques, and prepare the student with basic skills necessary to comfortably train in any Aikido Dojo. (Formerly KAC 80T)

Units: 1, Repeatable

KAC 46. Elementary Racquetball

Introduction to rules, etiquette, basic strategy, and a variety of shots, including the forehand and backhand drive, lob, pinch, kill, and back-wall. Also includes a variety of serves.

Units: 1, Repeatable

KAC 47. Tai Chi

Fundamentals of history, philosophy, and practice of Tai Chi. (Formerly KAC 80T).

Units: 1, Repeatable

KAC 48. Cardiovascular Boot Camp
Course will enhance and improve the cardiovascular conditioning of individual students by applying the current training methodology of the U.S. Army. This class will be a hard driving, motivational and fun change of pace for students who want to experience the physical conditioning atmosphere and regimens that only the U.S. military can provide.

Units: 1, Repeatable

KAC 49. Kickboxing
Basic kickboxing techniques and physical conditions.

Units: 1, Repeatable

Course Typically Offered: Fall, Spring

KAC 50. Assault Avoidance Techniques
Physical training and practice to facilitate the understanding and application of basic self-defense techniques and to raise awareness for personal safety and empowerment. Explores many creative self-defense strategies. (Course fee, $4) (Formerly KAC 80T)

Units: 1, Repeatable

KAC 51. Self-defense
Instruction in the basics of personal defense and safety. Emphasis will be on awareness and prevention as well as techniques for dealing with an assailant. (Formerly PE AC 51)

Units: 1, Repeatable

KAC 53. Beginning Table Tennis
Instruction in basic skills and techniques of table tennis for singles and doubles play; emphasis upon footwork, strokes, different spins, and strategies. (Formerly KAC 80T)

Units: 1, Repeatable

KAC 54. Elementary Tennis
Designed for players with little or no experience who want to review the basics. Topics include: terminology, stroke fundamentals, game rules, basic positioning for singles and doubles play, footwork, and etiquette. Non-marking tennis-specific shoes required. (Course fee, $4)

Units: 1, Repeatable

Course Typically Offered: Fall, Spring

KAC 60. Yoga
Instruction and practice in the basics of Hatha Yoga. Includes beginning breathing patterns, relaxation techniques, physical postures, and concentration exercises.

Units: 1, Repeatable

Course Typically Offered: Fall, Spring

KAC 61. Fitness Development through Pilates Mat
Basic principles and techniques of Pilates mat excercises.

Units: 1, Repeatable

Course Typically Offered: Fall, Spring

KAC 65. Basketball
Participation-based course emphasizing basketball fundamentals such as passing, dribbling, and shooting, as well as basic fast break and offensive and defensive principles.

Units: 1, Repeatable

Course Typically Offered: Fall, Spring

KAC 68. Soccer
Instruction and practice in the basic fundamentals of soccer. Includes game rules, terminology, participation and competition drills, fundamental soccer skills, conditioning, principles of play, and appropriate sportsmanship.

Units: 1, Repeatable

Course Typically Offered: Fall, Spring

KAC 71. Elementary Volleyball
Instruction and practice in basic fundamentals of volleyball. Includes setting, serving, passing, blocking, rules and strategies, and practical applications of knowledge in game situations.

Units: 1, Repeatable

Course Typically Offered: Fall, Spring

KAC 73. Softball
Instruction and practice in playing skills, strategies, and rules of softball. Includes individual skill, offensive and defensive skills and concepts, modified game activities, and competitive opportunities.

Units: 1, Repeatable

Course Typically Offered: Fall, Spring

KAC 80T. Intermediate Fencing
Intermediate footword offensive and defensive techniques for foil and saber.

Units: 1

KAC 101. Advanced Lifesaving
Prerequisite: 300 yard continuous swim (front crawl and breaststroke), and a 20-yard swim, surface dive of 7-10 feet, retrieving a 10-pound object, 20-yard swim with the object, exiting the water using the ladder/steps within 100 seconds. (Course fee, $4)

Units: 2, Repeatable

Course Typically Offered: Fall, Spring

KAC 103. Swim for Fitness
Prerequisite: intermediate swim ability. Development of aerobic, cardiovascular fitness through swimming. Exposure to various swim programs and practice of a variety of swimming strokes.

Units: 1, Repeatable

Course Typically Offered: Fall, Spring

KAC 154. Intermediate Tennis
Prerequisite: KAC 54 or equivalent. Review of beginning level skills and introduction of intermediate level tennis strokes and strategy. Non-marking tennis-specific shoes required. (Course fee, $4)

Units: 1, Repeatable

KAC 171. Intermediate Volleyball
Prerequisite: KAC 71 or equivalent. Review of basic skills and introduction of intermediate level skills and strategies. (Formerly PE AC 171A)

Units: 1, Repeatable

KINESIOLOGY (KINES)

KINES 1. Introductory Principles and Techniques for Physical Fitness Development

Prerequisites: Kinesiology or athletic training major, or by permission of the department chair. The study of introductory concepts, principles, and techniques for the development of physical fitness. Students are strongly encouraged to complete this course during the 1st or 2nd semester on campus.

Units: 3

Course Typically Offered: Fall, Spring

KINES 20. Fitness Development

Prerequisite: Kinesiology or Athletic Training major or by permission of the department chair. Fundamental and basic principles of development of physical fitness; integration of theory and practice. Physical performance and written requirements included. Prerequisite for many other kinesiology courses. (2 lab hours)

Units: 1

Course Typically Offered: Fall, Spring

KINES 25. Conditioning and Resistance Training Techniques

Prerequisite: Kinesiology or Athletic Training major or by permission of the department chair. The foundational application, performance, supervision, and instruction of accepted strength training and conditioning techniques.

Units: 1

Course Typically Offered: Fall, Spring

KINES 31. Historical and Professional Foundations of Physical Education

Introduction to the physical education profession. Includes history, philosophy, psychology, sociology, concepts, programs, state and national standards, qualifications, career issues, and future of the discipline.

Units: 3

Course Typically Offered: Fall, Spring

KINES 32. Lifetime Fitness and Wellness

Healthy lifestyle patterns, exercise, nutrition, and physiological hygiene. Prevention of chronic diseases. Long-term behavior modification. Includes physiological measurements, nutritional anlaysis, and principle of exercise. Requires Concurrent enrollment in any Kinesiology Activity Course (KAC). G.E. Breadth E1.

Units: 2

Course Typically Offered: Fall, Spring

GE Area: E1

KINES 33. Foundation of Sport Exercise Psychology

The study and application of psychological principles and foundations to sport and exercise across the lifespan and across activity contexts. (Formerly KINES 80T)

Units: 3

Course Typically Offered: Fall, Spring

KINES 35. Human Structure and Function: Applications to Kinesiology

An introductory study of principles, concepts, and interactions of human anatomy and physiology specifically related to physical activity and directed toward kinesiologists and/or coaches. Emphasis on metabolism (bioenergetics) and respiratory, cardiovascular, neuromuscular, and skeletal systems.

Units: 3

Course Typically Offered: Fall, Spring

KINES 38. Introduction to Athletic Training

Designed for prospective coaches, athletic trainers, and health and physical educators. Aids in the recognition, evaluation, and care of athletic injuries. Techniques in taping, prevention, and rehabilitation of injuries. (2 lecture, 2 lab hours)

Units: 3

Course Typically Offered: Fall, Spring

KINES 43. Preliminary Athletic Training Laboratory

Prerequisite: PH 48, KINES 38. Designed for prospective athletic training students. A minimum of 100 hours of directed oversvation under the supervision of a certified athletic trainer is a course requirement. CR/NC grading only.

Units: 1, Repeatable up to 2 units

Course Typically Offered: Fall, Spring

KINES 45. Introduction to Sport Administration

Examination of the sport industry, including the professional, college, youth, high school, and Olympic sport sectors. Overviews the infernal ad external aspects of sport organizations as well as common sport careers, duties, and responsibilities within the sport industry. (Formerly KINES 180T)

Units: 3

Course Typically Offered: Fall

KINES 75T. Topics in Kinesiology

Introductory topics in kinesiology not available through current curricula offerings.

Units: 1-3, Repeatable up to 8 units

KINES 109. Motor Learning

Principles of motor learning. The study of various theories. Application of theories and findings in presentations and planning of movement activities. (2 lecture, 2 lab hours)

Units: 3

Course Typically Offered: Fall

KINES 110. Motor Development

Prerequisites (for Physical Education Option only): KINES 1 (or KINES 20, KINES 25), KINES 31, KINES 32, KINES 35. Comprehensive study of physical, psychological and social stages of human development through the lifespan related to motor development. Students will be prepared to recognize, assess and provide feedback related to developmental and learning sequences, and basic movement patterns.

Units: 3

Course Typically Offered: Fall, Spring

KINES 111. The Olympic Games

Prerequisites: G.E. Foundation and Breadth Area D. History, development, and significance of the Olympic Games; Olympism as a microcosm of cross-cultural, political, economic, and gender relationships.Will not meet the Upper Division GE requirement for Kinesiology or Athletic Training Majors. G.E. Integration ID.

Units: 3

Course Typically Offered: Fall, Spring

GE Area: ID

KINES 116. Fundamentals of Biomechanics

Prerequisites: KINES 35 or BIOL 33 (or BIOL 64 or PHTH 119 or PHTH 125). Study of structural and mechanical properties of musculoskeletal system, associated movement function of human body, and applied physics. (2 lecture, 2 lab hours)

Units: 3

Course Typically Offered: Fall, Spring

KINES 118. Fundamentals of Exercise Physiology

Prerequisites: KINES 35 or BIOL 33 (or BIOL 64 and BIOL 65) (or PHTH 119 and BIOL 65). The study and application of physiological bases of movement, work, response, and adaptation to exercise. Environmental conditions, gender, and age considered.

Units: 3

Course Typically Offered: Fall, Spring

KINES 119. ECG and Clinical Exercise Physiology

Prerequisites: KINES 118 (can be taken concurrently). Foundational principles and concepts of electrocardiography, and clinical applications of principles and concepts of exercise physiology. (CSU liability insurance fee, $8)

Units: 3

Course Typically Offered: Fall

KINES 120. Planning Strategies for Physical Education

Prerequisites: KINES 31, KINES 32, KINES 35, KINES 110; KAC Area A, B, and C. Organization, presentation, and evaluation of in-class demonstrations. Philosophy of teacher preparation covered and developed through practice, observation, planning and presentations. (2 lecture, 2 lab hours)

Units: 3

Course Typically Offered: Fall, Spring

KINES 121. Body Compostion: Theory, Principles and Managment

Prerequisite: KINES 32. Concepts and models of body composition. Theoretical principles underlying measurement of body composition; practical applications of principles to measurement. Behavioral strategies for optimization of body composition.

Units: 3

Course Typically Offered: Fall, Spring

KINES 122. Nontraditional Games and Outdoor Education

Prerequisites: KINES 1, KINES 31, KINES 32, KINES 33, KINES 35, KINES 110, KINES 116, KINES 118, KINES 120; KAC Area A, B, and C. Study of a variety of recreational, multicultural, and non-traditional games, as well as outdoor education for lifelong participation. (2 lecture, 2 lab hours)

Units: 3

KINES 123. Analysis and Application: Rhythmic Movement in Physical Education

Prerequisites: KINES 1, KINES 31, KINES 32, KINES 33, KINES 35, KINES 110, KINES 116, KINES 118, KINES 120; KAC Area A, B, and C. Study of a variety of recreational, multicultural, and non-traditional games, as well as outdoor education for lifelong participation. (2 lecture, 2 lab hours)

Units: 3

Course Typically Offered: Fall

KINES 125A. Coaching Football

Principles underlying participation in competitive football. (Spring only)

Units: 3

Course Typically Offered: Spring

KINES 125B. Coaching Basketball

Principles underlying participation in competitive basketball. (Fall only)

Units: 3

Course Typically Offered: Fall

KINES 125C. Coaching Track and Field

Principles underlying participation in competitive track and field.

Units: 3

KINES 125D. Coaching Baseball

Principles underlying participation in competitive baseball. (Fall only)

Units: 3

Course Typically Offered: Fall

KINES 126. Analysis and Application: Aquatics

Prerequisites: KINES 1, KINES 31, KINES 32 (with KAC 103), KINES 33, KINES 35, KINES 110, KINES 116, KINES 118, KINES 120, KINES 122, KINES 123, KINES 131; KAC Area A and B, KAC 4 or swim competence. Overview of aquatics: elementary through advanced skills (infant through adult). Emphasis on sequencing skills and water safety certification. Required to teach physical education in California public schools. (2 lectures, 2 lab hours)

Units: 3

Course Typically Offered: Fall, Spring

KINES 131. Analysis and Application: Individual, Team and Fitness Activity

Prerequisites: KINES 1, KINES 31, KINES 32, KINES 33, KINES 35, KINES 110, KINES 116, KINES 118, KINES 120; KAC Area A, B, and C. Analysis and application of strategies for teaching individual, team, and fitness activities. Principles, theory and practice of fitness and teaching in adapted or mainstream settings. (1 lecture, 4 lab hours)

Units: 3

Course Typically Offered: Fall

KINES 137. Structural Biomechanics

Prerequisites: BIOL 64 or PHTH 119. Human movement: biological and mechanical bases, application of musculoskeletal considerations, and principles of mechanics to human movements. (Offered fall semester only.) (Course fee, $150)

Units: 3

Course Typically Offered: Fall

KINES 138A. Injury/Illness Assessment I

Prerequisites: KINES 38, KINES 137. Assesssment techniques and care for injury/illness to the head, face, and upper extremity. Integration of anatomical structures and evaluative techniques to provide basis for critical decision-making in injury management. (2 lecture, 2 lab hours)

Units: 3

Course Typically Offered: Fall

KINES 138B. Injury/Illness Assessment II

Prerequisites: KINES 138A. Assessment techniques and care for injury/illness to the trunk and lower extremity. Integration of anatomical structures and evaluative techniques to provide basis for critical decision-making in injury management. (2 lecture, 2 lab hours)

Units: 3

Course Typically Offered: Spring

KINES 139. Therapeutic Modalities in Athletic Training

Prerequisites: KINES 38; BIOL 64 or PHTH 119. The theory and application of various therapeutic modalities used in the treatment of athletic injuries. (2 lecture, 2 lab hours)

Units: 3

Course Typically Offered: Fall

KINES 140A. Rehabilitation Techniques in Athletic Training II

Prerequisites: Kines 137, KINES 138A, KINES 138B, KINES 139. Clinical applications, parameters, and principles governing rehabilitation techniques prevalent in modern athletic training. (2 lecture, 2 lab hours).

Units: 3

Course Typically Offered: Fall

KINES 140B. Rehabilitation Techiques in Athletice Training II

Prerequisites: KINES 140A. Kinesiological factors for integrative application of rehabilitation techniques to spine and extremities. Post operative and rehabilitation considerations for returning active patients to a variety of settings and athletic venues will be explored. (2 lecture, 2 lab hours)

Units: 3

Course Typically Offered: Spring

KINES 141. Organization and Administration in Athletic Training

Prerequisites: KINES 38, and senior status. Current issues in sports medicine, organization, administration, and professional preparation.

Units: 3

Course Typically Offered: Spring

KINES 142. Seminar in Athletic Training

Taken concurrently with KINES 143. A seminar course designed to focus on and review athletic training competencies.

Units: 1, Repeatable up to 4 units

Course Typically Offered: Fall, Spring

KINES 143A. Athletic Training Practicum

Prerequisite: Admission into Athletic training Education Program. Students are instructed and evaluated performing athletic training proficiencies on patients under the direct supervision of Approved Clinical Instructors. Involves approximately 250 to 300 hours. CR/NC grading only.

Units: 2, Repeatable up to 8 units

Course Typically Offered: Fall

KINES 143B. Athletic Training Practicum

Prerequisite: Admission into Athletic training Education Program. Students are instructed and evaluated performing athletic training proficiencies on patients under the direct supervision of Approved Clinical Instructors. Involves approximately 250 to 300 hours. CR/NC grading only.

Units: 2, Repeatable up to 8 units

Course Typically Offered: Spring

KINES 143C. Athletic Training Practicum

Prerequisite: Admission into Athletic training Education Program. Students are instructed and evaluated performing athletic training proficiencies on patients under the direct supervision of Approved Clinical Instructors. Involves approximately 250 to 300 hours. CR/NC grading only.

Units: 2, Repeatable up to 8 units

Course Typically Offered: Fall

KINES 143D. Athletic Training Practicum

Prerequisite: Admission into Athletic training Education Program. Students are instructed and evaluated performing athletic training proficiencies on patients under the direct supervision of Approved Clinical Instructors. Involves approximately 250 to 300 hours. CR/NC grading only.

Units: 2, Repeatable up to 8 units

Course Typically Offered: Spring

KINES 144. Field Experience in Teaching

Prerequisites: KINES 1, KINES 31, KINES 32, KINES 33, KINES 35, KINES 110, KINES 116, KINES 118, KINES 120, KINES 122, KINES 123, KINES 131; KAC Area A, B, and C. Open only to kinesiology majors with options in physical education. Supervised placement in physical education instructional settings at the elementary, middle, and high school levels. Includes a variety of practical learning experiences and seminar discussions. CR/NC grading only. (3 hours undergraduate seminar education workshop) (CSU liability insurance fee, $8)

Units: 3

Course Typically Offered: Spring

KINES 146. Risk Management of Sport & Exercise

Prerequisites: Kinesiology Exercise Science Option major, or B or better in KINES 45. Examination of common risk management issues and principles in the sport and exercise industries, including contracts, torts, constitutional law, intellectual property, employment law, agency law, sport legislation. (Formerly KINES 180T)

Units: 3

Course Typically Offered: Spring

KINES 147. New Vent Sport

Examination of new ventures are created in the sport industries. Covers planning, self-assessment, idea generation, development and operating strategies required to start a new venture in exercise sport. (Formerly KINES 180T course).

Units: 3

Course Typically Offered: Spring

KINES 148. Biophysical Aspects of Aging

(KINES 148 same as GERON 148) Theories of aging, biological mechanisms of the aging process, and the role of physical activity in those physiological functions influenced by age. (Spring only)

Units: 3

Course Typically Offered: Spring

KINES 150. Internship in Sport Administration

Prerequisites: Completion of General Education courses and approval from Kinesiology Sport Administration Coordintor. Supervised work experience in a sport administration setting, directed and evaluated by a qualified faculty member with supervision by an on-site sport administration professional.

Units: 12

Course Typically Offered: Fall, Spring

KINES 152. Physical Education for Children

Prerequisite: minimum of junior standing. Theory, analysis, and study of movement experiences, skills and materials, appropriate for elementary level school children. (2 lecture, 2 lab hours) (CSU liability insurance fee, $8)

Units: 3

Course Typically Offered: Fall, Spring

KINES 157. Adapted and Inclusive Physical Education

Prerequisites: KINES 1, KINES 31, KINES 32, KINES 110, KINES 120, KINES 126 and proof of current First Aid and CPR/AED for adult and child. The design, implementation, and evaluation of individually prescribed adapted physical education programs for the handicapped in school and special settings for students with disabling conditions. The philosophy and techniques of successful inclusion of individuals with disabilities in regular class settings. (2 lecture, 2 lab hours) (CSU liability insurance fee, $8)

Units: 3

KINES 159. Measurement and Evaluation

Prerequisite (for Physical Education Option only): KINES 1, KINES 31, KINES 32, KINES 33, KINES 35, KINES 110, KINES 116, KINES 118, KINES 120, KINES 122, KINES 123, KINES 131; KAC Area A, B, and C. Selection, adaptation and development of appropriate measurement instruments and strategies based on physical, motor, and fitness attributes and needs of individuals and classes. Application and interpretation of basic statistical methodology. Offered Spring semester only. (2 lecture, 2 lab hours)

Units: 3

Course Typically Offered: Spring

KINES 162. Coaching Concepts

Current problems of coaches in the school setting; techniques of motivation, organization, and public relations. (Fall only)

Units: 3

Course Typically Offered: Fall

KINES 163. Fitness and Wellness

Prerequisite: KINES 32, KINES 118 (may be taken concurrently). Study, analysis, development, and practice of health related fitness and weight control programs for various populations. (2 lecture, 2 lab hours)

Units: 3

Course Typically Offered: Fall, Spring

KINES 165. Performance Related Fitness

Prerequisites: KINES 118 and KINES 116 or KINES 137 (all may be taken concurrently). Physiological and biomechanical principles related to implementation of conditioning programs for athletic performance. Practical applications. Discussion of skill and performance-related components of physical fitness. (2 lecture, 2 lab hours)

Units: 3

Course Typically Offered: Fall, Spring

KINES 167. Integrative Exercise Science

Prerequisites: KINES 116 and KINES 118 (both may be taken concurrently). Integration of humanistic, physiological, and biomechanical aspects of exercise science through lectures, readings, discussions, and writing assignments. (Spring only)

Units: 3

KINES 180T. Topics in Kinesiology

Topics relating to analysis, performance, theory, current trends, and research in kinesiology not available through current curricula offerings.

Units: 1-3, Repeatable up to 12 units

KINES 190. Independent Study

See Academic Placement - Independent Study. Approved for RP grading.

Units: 1-3, Repeatable up to 6 units

Course Typically Offered: Fall, Spring

KINES 199. Supervised Work Experience

Prerequisites: upper-division status, GPA 2.5 last 30 units, permission of department chair and instructor. CR/NC grading only. (CSU liability insurance fee, $8)

Units: 1-2, Repeatable up to 4 units

Course Typically Offered: Fall, Spring

KINES 222. Biomechanics

Prerequisites: KINES 116 or KINES 137 or equivalent. Study of physical and mechanical bases of human movement. Mechanical properties of tissues, relation to function. Application of principles of physics and mechanics to human movement and sport. Kinematic analysis of sport performances.

Units: 3

KINES 230. Statistical Inference in Kinesiology

Theory and nature of statistical inference; study of statistical methodology relating to the selection of the most appropriate statistical technique, and the interpretation of findings. Required of all M.A. candidates.

Units: 3

KINES 231. Research Methods in Kinesiology

Seminar in research methods appropriate for physical education, exercise science, and related professions: use of information retrieval technology; critiquing, conducting and reporting research. Required of all M.A. candidates. (Formerly P E 231)

Units: 3

KINES 233. Metabolic and Neuromuscular Exercise Physiology

Prerequisites: KINES 118 or equivalent. Advanced study of biochemistry of energy metabolism; structure, function, performance and training adaptation of the neuromuscular system; effects of exercise, training and aging on musculoskeletal and neuromuscular health. fitness and performance. (2 lecture, 3 lab hours)

Units: 3

KINES 234. Cardiovascular and Respiratory Exercise Physiology

Prerequisites: KINES 118.Advanced study of the cardiovascular and respiratory systems related to exercise, training, health, disease, and aging. Theoretical concepts are supported by extensive practical experience in the Human Performance Lab. (2 lecture, 3 lab hours)

Units: 3

KINES 237. Design and Implementation of Resistance Training Programs

Study of research findings and established scientific principles of resistance training for development of muscular strength, power, and endurance. Practical applications to technique, program development, and competition. (Formerly P E 237)

Units: 3

KINES 238. Exercise Testing, ECG, and Prescription

Prerequisite: KINES 118 or equivalent. Study of American College of Sports Medicine Guidelines for Exercise Testing and Prescription. Concepts of Screening, exercise testing, and prescribing exercise for apparently healthy and special needs populations, supported by extensive practical laboratory testing experiences. (CSU liability insurance fee, $8)

Units: 3

KINES 241. Sport Leadership

This course explores the importance of leadership in sport, how to lead and sovle problems, and how to build organizations from the bottom up. The culmination of the class is a personal leadership development plan formulated by each student.

Units: 3

KINES 242. Program Development in Physical Education

Study of the current education scene to provide students with an understanding of the role that school physical education plays in today's education. Identification of sound procedure and practice in organizing and conducting relevant programs of physical education.

Units: 3

KINES 244. Sport Law

The study and application of the law to sport organizations and its implications for sport leaders. (Formerly PE 244)

Units: 3

KINES 245. Sport Career Development

Study of sport career development. Students undergo a career analysis to determine their current market value, build a personal brand, and develop a strategic sport career plan to differentiate themselves from others in the sport industry. (Formerly KINES 250T).

Units: 3

KINES 246. Sport Revenue Streams

Examination of sport revenue streams, with emphasis on how to increase revenue via sport fundraising, sales, sponsorshop, promotion, and licensing. (Formerly KINES 250T).

Units: 3

KINES 247. Title IX Compliance

Examination of the issues and principles related to Title IX compliance as they apply to interscholastic and intercollegiate athletics. (Formerly KINES 250T).

Units: 3

KINES 250T. Topics in Kinesiology

Advanced studies in theoretical research in selected topics. (Formerly P E 250T)

Units: 1-3, Repeatable up to 6 units

KINES 261. Professional Ethics

Examination of ethical issues, practices, and values in sport. Emphasis on developing professional values in relation to one's chosen profession.

Units: 3

KINES 262. Social Implications of Sport

Cultural and social factors related to play, games, and athletic contests; social parameters in the conduct and management of school athletic programs; emphasis on research studies. (Formerly P E 262)

Units: 3

KINES 263. Psychology of Sport: Mental Training

An examination of the concepts in sports psychology, motivation-

al variables, emotional states and personality variables; mental states, behavioral techniques and strategies; and issues in sports psychology. (Formerly P E 263)

Units: 3

KINES 264. Psychology of Coaching: Talent Development

Examination of psychological components of the coaching and talent development. Explores coaching development, coaching models, as well as strategies for dealing with athletes and different coaching contexts. Discussion of talent development theories including influence of genetic and environmental factors.(Formerly KINES 250T)

Units: 3

KINES 265. Psychobiology of Sport and Exercise

Investigation of the relationship between sport, exercies, physical activity and anxiety, arousal, burnout, causal attributions, cognitive functioning, exercise adherence, group cohesion, mood states, motivation, negative behavior, personality, public health, quality of life, self-confidence, and youth development.

Units: 3

KINES 266. Psychology of Injury in Sport and Physical Activity

An examination of psychological theories and applied considerations related to injuries and the subsequent rehabilitation of the physically active.

Units: 3

KINES 285. Internship in Kinesiology

Work experience within the physical education, health-fitness industry, or sport administration setting, directed and evaluated by a qualified faculty member with appropriate supervision by an on-site professional. CR/NC grading only.

Units: 3-6

KINES 290. Independent Study

See Academic Placement - Independent Study. Approved for SP grading. (Formerly P E 290)

Units: 1-3, Repeatable up to 6 units

KINES 298. Project

Prerequisite: See Criteria for Thesis and Project. Preparation, completion, submission, and/or demonstration of an original project. Creativity shall be a prime factor. Abstract required, e.g., choreograph gymnastic performance, organize square/folk dance program, compose audiovisual representation of sport forms. Approved for RP grading.

Units: 3-6

KINES 298C. Project Continuation

Prerequisite: Project KINES 298. For continuous enrollment while completing the project. May enroll twice with department approval. Additional enrollments must be approved by the Dean of Graduate Studies.

Units: 0

KINES 299. Thesis

Prerequisite: See Criteria for Thesis and Project. Preparation, completion, and submission of an acceptable thesis for the master's degree. Approved for SP grading. (Formerly P E 299)

Units: 2-6

KINES 299C. Thesis Continuation

Prerequisite: Thesis KINES 298. For continuous enrollment while completing the thesis. May enroll twice with department approval. Additional enrollments must be approved by the Dean of Graduate Studies.

Units: 0

LATIN (LATIN)

LATIN 1A. Elementary Latin

Prerequisite: G.E. Foundation A2. An introduction to the fundamentals of the Latin language, grammar, and its practical relation to Romance languages and English. Background study: Roman culture and its relevance to the modern world. G.E. Breadth C2.

Units: 3

Course Typically Offered: Fall, Spring

GE Area: C2

LATIN 1AH. Honors Elementary Latin

Honors Latin 1A. Not open to students outside the Smittcamp Family Honors College. An accelerated introduction to the Latin language, its practical relation to Romance Languages and English, with study of Roman culture and its enduring influence. G.E. Breadth C2

Units: 3

GE Area: C2

LATIN 1B. Elementary Latin

Prerequisites: G.E. Foundation A2, LATIN 1A or permission of instructor. Second semester course in Latin; completion of the fundamentals of Latin grammar. Emphasis on translation practice and composition skills. Background study: Roman culture and its relevance to modern world. G.E. Breadth C2.

Units: 3

Course Typically Offered: Fall, Spring

GE Area: C2

LATIN 131T. Latin Literature

Prerequisite: LATIN 1B. Concentration on a major Latin poet or prose author. Translation and discussion. Research reports on literary, historical, and textual problems.

Units: 3, Repeatable up to 12 units

LATIN 131T. Latin Poetry Survey

This upper division course will consist of close readings of the works of a selection of the major Roman poets: Catullus, Horace, Virgil, Ovid, Lucretus, Juvenal, Propertius, Tibulus, Syatius. Review of grammar as needed.

Units: 3, Repeatable up to 6 units

LATIN 132. Classical Mythology

Greco-Roman myths, emphasis on their impact on the fine arts and literatures of the Western World. Illustrated lectures. Taught in English.

Units: 3

LATIN 190. Independent Study

See Academic Placement - Independent Study. Approved for RP grading.

Units: 1-3, Repeatable up to 6 units

LITERACY AND EARLY EDUCATION (LEE)

LEE 80T. Academic Reading

This course focuses on academic reading skills needed for college success and lifelong learning. Specifically, it will address academic language, critical reading, information literacy through readings of a variety of text and genres.

Units: 3

GE Area: E1

LEE 120CL. Problems in Education - Childrens Literature

In-depth study of Childern's Literature in education. Might require activities.

Units: 2-3, Repeatable up to 6 units

Course Typically Offered: Fall, Spring

LEE 120ST. Problems in Education - Storytelling

In-depth study of storytelling in education. Might require activities.

Units: 2-3, Repeatable up to 6 units

LEE 129. Hmong in Bilingual Schools: BCLAD

Prerequisite: HMONG 101 or equivalent. Emphasis on Hmong language development for bilingual teachers. Includes basic content area instruction in Hmong, evaluation of teaching materials, and conferencing with parents. (Formerly HMONG 104)

Units: 3

Course Typically Offered: Fall

LEE 135. Teaching Content in Hmong

Prerequisites: Hmong language fluency or permission of instructor. L1 methods and materials used to teach content i bilingual classrooms. Designed for BCLAD candidates. Students will deliver lessons in the Hmong language in bilingual classrooms i nlocal schools under university supervisor. (Formerly LEE 139)

Units: 3

Course Typically Offered: Spring

LEE 136. Teaching Content in Spanish

Prerequisites: Spanish Language fluency or permission of instructor. L1 methods and materials used to teach content in bilingual classrooms. Designed for BCLAD candidates. Students will deliver lessons in the Spanish language in bilingual classrooms in local schools under university supervisor. (Formerly LEE 139)

Units: 3

Course Typically Offered: Fall

LEE 144S. Service-Learning Pedagogy and Practice

Prepares students to design and implement service-learning in K-12 schools and community settings. Examines theoretical roots, methods of effective teaching practice, and academic, social, emotional outcomes for student learning. Practical experiences involves implementing project with local school districts.

Units: 3

LEE 146. Teaching Reading in K-3 Classrooms

Prerequisites: (1) admission to the Multiple Subject Credential Program or the Special Education Credential Program (2) CI 130 and CI 140, and CI 150 or LEE 148 (or Concurrent enrollment); (3) Concurrent enrollment in EHD 110 or EHD 112 (if Option II) is highly recommeded. LEE 146 and LEE 149 must be taken concurrenty with EHD 110 (except for option II and Special Education.) Balanced reading/ writing program for grades K-3, assessment strategies to guide literacy instruction, explicit skills teaching in a literacy instruction, explicit skills teaching in a literature-based classroom, and techniques for culturally/ linguitically diverse learners.

Units: 3

LEE 148. Integrated Curriculum

Concurrent enrollment with EHD 114. Integrated curriculum design, facilitation, and assessment in early childhood programs, including preschool, kindergarten, and grades 1-6. Lecture supported by curriculum development activities.

Units: 3

Course Typically Offered: Fall

LEE 149. Teaching Reading in 4-8 Classrooms

Prerequisites: (1) admission to the Multiple Subject Credential Program or the Special Education Credential Program; (2) CI 130 and CI 140, and CI 150 or LEE 148 (or Concurrent enrollment); (3) Concurrent enrollment in EHD 110 or EHD 112 (if Option II) is highly recommended. LEE 146 and 149 must be taken concurrently with EHD 110 (except for Option II and Special Education). Balnaced reading/ writting program for grades 4-8; assessment techniques to guide instruction, emphasizing comprehension and strategy teaching; integration language arts with content area instruction; and techniques for culturally/ linguitically diverse students. (Formerly LEE 156M)

Units: 3

LEE 154. Content Area Language and Literacy Instruction

Prerequisite: Admission to the Single Subject credential program and prior or Concurrent enrollment in EHD 155A or EHD 155B. Educational issues, methodologies, and materials to improve students' listening, speaking, reading and writing in content areas at the secondary level (7-12). Special emphasis on skills necessary to deliver comprehensive instruction to English learners. (Formerly LEE 180T)

Units: 5

Course Typically Offered: Fall, Spring, Summer

LEE 156. Content Area Literacy and Communication in Secondary Classrooms

Research-based literacy strategies; vocabulary development; academic language; reading comprehension; writing using discipline-specific formats. Teaching content-based reading and writing skills to a full range of students.

Units: 3

LEE 157. Teaching English Learners in Secondary Classrooms

Prerequisites: Admission to the Single Subject Credential Program and Concurrent enrollment in EHD 155A or EHD 155B. Educational issues, methodologies, and materials to improve students' listening, speaking, reading, and writing in content areas at the secondary level (7-12). Special emphasis on skills necessary to deliver comprehensive instruction to English learners.

Units: 3

LEE 170. Social-Emotional Learning: Anti-Bullying and Classroom Intervention

This is an active learning course for teachers, counselors, psychologists, social workers and other school personnel interested in creating psychologically and physically safe learning environments through anti-bullying prevention and intervention activities and by establishing conflict resolution programs.

Units: 3

LEE 171. Trends and Issues in Early Childhood Education

A comprehensive study of the field of early childhood education, including principles of early childhood education, parent relations, use of community resources, and organization of programs in early childhood education.

Units: 3

Course Typically Offered: Fall, Spring

LEE 172. Cultural & Language Context of the Classroom

Prerequisite: Admission to the Multiple Subject Credential Program. CI 171 or Concurrent enrollment. Students not concurrently enrolled in EHD 174 need to make special arrangements with instructor. The impact of culture on teaching and learning in the elementary school. Language acquisition theory and instructional strategies for English Learners. Promoting student success, including achievement of state-adopted content and language-development standards.

Units: 3

Course Typically Offered: Fall, Spring, Summer

LEE 172ECES. Cultural Contexts of Teaching and Learning

Prerequisites: Admission to Multiple Subject Credential, Early Childhood Education Program; completion or Concurrent enrollment in CI 171ECE. Culture is interpreted broadly including: student family, ethnicity, language, the culture of the profession, and classroom culture.

Units: 3

Course Typically Offered: Fall, Spring

LEE 173. Teaching Reading and Social Studies in Grades 4-8

Prerequisite: Admission to the Multiple Subject Credential Program. CI 171, LEE 172 (or Concurrent enrollment). Concurrent enrollment in EHD 174. Teaching state-adopted English-Language Arts (4-8) and history-social science (K-8) content standards using research-based methods. Use of a variety of assessments to determine students' progress. Organizing, managing, and planning instruction for reading and social studies. Developmentally appropriate practices to make content accessible to all students

Units: 3

Course Typically Offered: Fall, Spring, Summer

LEE 173ECE. Teaching Literacy and English Language Development in Grades 4-8

Prerequisites: Admission to Multiple Subject Credential, Early Childhood Education Program; Concurrent enrollment in EHD 174ECE; completion or Concurrent enrollment in CI 171ECE and LEE 172ECE. Teaching reading, writing, language arts, and English language development in grades 4-8, and making content area reading (e.g. in history/social studies) accessible.

Units: 3

Course Typically Offered: Fall, Spring, Summer

LEE 177. Teaching Reading and the Arts in K-3

Prerequisite: CI 171, LEE 172, LEE 173, EHD 174, CI 175, CI 176 (or Concurrent enrollment). Concurrent enrollment in EHD 178. Assessment and instructional approaches for the balanced teaching of reading/language arts in the primary grades: using developmentally appropriate practices, studying state standards for literacy development and component strands for visual and performing arts, and selecting techniques for culturally/linguistically diverse learners

Units: 3

Course Typically Offered: Fall, Spring

LEE 177ECE. Language and Literacy Development and Instruction

Prerequisites: Completion of Phase I Multiple Subject Credential, Early Childhood Education Program (CI 171ECE, LEE 172ECE, LEE 173ECE, EHD 174ECE, CI 176); Concurrent enrollment in EHD 178ECE. Early literacy instruction from birth, including a comprehensive literacy program for pre K through grade 3, first and second language acquisition, family literacy, and early intervention.

Units: 3

Course Typically Offered: Fall, Spring

LEE 180T. New Teachers Writing Collaborative

Participants will learn strategies to improve their writing instruction, consider how to integrate writing into the curriculum, and explore how to use writing as a tool for learning. Participants also will expand their knowledge about writing instruction and develop their writing skills. SJVWP is devoted to improving the quality of literacy instruction in schools and to fostering teachers as writers.

Units: 3, Repeatable up to 9 units

LEE 180T. Music in the Classroom

This course will help future teachers learn how to integrate music into classroom teaching in effective ways. Children really come alive and remember when they are taught to read and write with

music. Music also helps students remember key concepts in science, social studies and math. Finally, music provides another way of remembering information for students wit special needs.

Units: 1, Repeatable up to 3 units

LEE 180T. Principles of Resources-based Literacy and Learning Assessment

participants are incited to put theory into practice by serving as tutors for K-5 Native Americans students. They will design activities emphasizing literacy, cultural content, and connections to the K-5 curriculum. Participants will develop resource-based assessment models that seek to honor mulitingual/mutilcultural/multimodal ways of knowing. Structured as a collaborative inquiry, the course examines issues is assessment, such as its relationship to instruction, policy, and equity.

Units: 3, Repeatable up to 9 units

LEE 180T. Writing in the K-8 Classroom

This course will explore the writing done by K-8 educators and teaching of writing in the K-8 classroom. Students will engage in genre analysis and the writing process to construct their own written texts, including literacy narratives focused on writing, lesson plans connected to standards, and a research paper on am educational issue. While reflecting on their own experiences as writers, students will read current relevant literature regarding the teaching of writing in K-8 settings

Units: 3, Repeatable up to 9 units

LEE 180T. Literacy Development through Outreach in Schools

Learn principles of targeted literacy development and assessment through supervised tutoring experiences in local schools.

Units: 3, Repeatable up to 9 units

LEE 180T. Early Learning for School Success

This course looks at experiences for young children ages birth to grade three the support academic success in school with a focus on early literacy, parent-child interaction and early learning environments.

Units: 3, Repeatable up to 9 units

LEE 180T. Reading Institute for Academic Preparation II

This course is designed for the seconfary and post-secondar teacher, and it will present educational reserach regarding literacy in the content areas, writing, vocabulary development, and reading comprehension at higher levels.

Units: 1, Repeatable up to 9 units

LEE 180T. Literature & Music: Singing the Classics

Through the use of literature (The 3 Bears, The Little Red Hen, Chicken Little, etc.) and music, learn how to incorporate activities and ideas that encourage and excite primary children to read and write. Take home a free CD and abundant handouts ready to use on Monday. A make it/ take it session will allow participants to copy clients and develop materials. Participants need to bring 2 art samples and a work caddy (glue, scissors, marking pens, etc.) for Friday's session.

Units: 1, Repeatable up to 9 units

LEE 180T. From Phonics to Reading

This workshop wil provide a combination of lecture-discussion and make-it-take-it activities that enable teachers to help their students become better readers. Know the 6 components that make a Balanced Reading Program and what it takes to teach children to "want" to read. Teachers need to bring two aret samples and a work caddy with marking pens, scissors, glue, etc. on Friday. Handouts available. Abudant charts for copying available. Seasonal ideas to be shared.

Units: 1, Repeatable up to 9 units

LEE 180T. Certificate Award in Translating/Interpreting in School Environment

With the significant growth of the Spanish-speaking population in the Central Valley, the demand for professionals and paraprofessionals who can help meet the needs of Spanish-speaking students and parents is increasing. Quality interpretation and translating are essential. This program is designed for practicing interpreters/translators and those desiring to enter the field. To participate in the program, one must be bilingual in Spanish and English and have at least a high school educaiton or its equivalent.

Units: 3, Repeatable up to 9 units

LEE 180T. Topics in Literacy and Early Education

Issues and topics in reading, bilingual/cross-cultural education, reading, and language development.

Units: 1-3, Repeatable up to 9 units

LEE 190. Independent Study

See Academic Placement - Independent Study. Approved for RP grading.

Units: 1-3, Repeatable up to 6 units

Course Typically Offered: Fall, Spring

LEE 213. Teaching the Language Arts K-12

Seminar on integrated language arts, reading-writing connections, and using language arts in literature-based reading programs and theme cycles.

Units: 3

LEE 214. Literature for Children and Adolescents

Prerequisite: admission to program or permission of instructor. Survey of genre, authors, and illustrators; critical interpretation and classroom application of books; the impact of social and cultural patterns in literature.

Units: 3

LEE 215. Language Issues in Reading

Prerequisite: admission to program or permission of instructor. Seminar exploring issues related to language acquisition and literacy development with special emphasis on culturally and linguistically diverse learners.

Units: 3

LEE 216. Strategic Writing K-12

This course focuses on strategies for effective writing for students in grades K - 12. Topics include planning writing experiences based on audience, purpose, and form, writing across the curriculum and scaffolding students through processes of prewriting,

drafting, revising, editing, and publishing.

Units: 3

LEE 221. Early Childhood Curriculum for Children with Special Needs

Modification in mainstreamed or special settings to adapt early education curriculum for young children with special needs. Study of theoretical models, research, teaching techniques, criteria for selection of appropriate materials and provisions for adapting physical classroom environments.

Units: 3

LEE 224. Assessment and Development of Reading Abilities

Analysis of reading performance utilizing portfolio and performance based assessments and diagnostic instruments. Consideration of methods and materials for instruction.

Units: 3

LEE 230. Supervised Teaching in Reading/Language Arts

The first of two supervised field work courses required for the Reading Specialist Credential. Provides supervised practice in research-based methodologies and intervention approaches for beginning readers, English learners and students with reading difficulties. A combination of practica and seminars required. (CSU liability insurance fee, $8)

Units: 3

LEE 232. Literacy in Early Childhood Education

Prerequisite: admission to program or permission of instructor. Examines development of oral and written language in young children. Explores theories, curricula, and strategies for teaching literacy.

Units: 3

LEE 233. Curriculum and Assessment in Early Childhood Education

Prerequisites: admission to program or permission of instructor. Design of appropriate curriculum and assessment for young children. Includes standards, planning, project approach, integration of play, and materials. Use of observation, rubrics, and portfolios to document development and learning. Organizing environments in early childhood settings, infants through grade three. (2 lecture, 2 lab hours)

Units: 3

LEE 234. Clinical Experiences in Reading Assessment and Instruction

Prerequisite: LEE 224. Clinical experiences in the supervised application of principles learned in LEE 224. Emphasis on individual and small group evaluation and instructional procedures. (2 lecture, 2 lab hours) (Instructional materials fee, $10)

Units: 3

LEE 235. Concept Development in Early Childhood Education

Prerequisite: admission to program or permission of instructor. Study of how young children develop concepts. Analysis of existing curriculum and design of relevant curriculum. (2 lecture, 2 lab hours)

Units: 3

LEE 241. Fieldwork in Early Childhood Education

Prerequisite: admission to program or permission of instructor. Supervised experiences in work with young children and their families. (CSU liability insurance fee, $8)

Units: 3

LEE 244. Research for Reading Professionals

Prerequisites: LEE 213, LEE 215, LEE 278, and permission of instructor. Study of past and current research in reading related to instructional issues; planning and analysis of curricula in light of current re search; application of research skills.

Units: 3

LEE 250. Leadership in Early Childhood Education

Leadership in creating, improving and expanding ECE programs, resources and services in schools and community settings. Includes leadership roles, planning for positive educational change, partnerships and networking to at the local, state, national, and international levels.

Units: 3

LEE 254. Supervised Field Experiences in Reading

Prerequisite: LEE 224, LEE 244, and permission of instructor. Intensive varied supervised field experiences in settings with reading specialists, consultants, or staff development personnel involving diagnosis and treatment of reading difficulties; development or refinement of reading programs; evaluation of reading instruction; application of interpersonal communications and group process skills. (CSU liability insurance fee, $8)

Units: 3

LEE 271. Diversity and Inclusion in Early Childhood Education

Understanding and responding to cultural, ethnic and linguistic diversity and the ways they affect personality, language, cognitive development and socialization. Creating inclusive learning environments and curriculum in early childhood education. (2 lecture, 2 lab)

Units: 3

LEE 278. Literacy Processes and Practices

Prerequisite: LEE 154 for Multiple Subject Credential holders; LEE 156 for Single Subject Credential holders; or permission of instructor. Understanding literacy processes through the investigation of current theories, issues, and practices.

Units: 3

LEE 280T. Advanced Topics in Literacy and Early Education

Prerequisite: permission of instructor. Advanced, in-depth analysis of issues and problems related to literacy, bilingualism, and early childhood education. Emphasis placed on advanced research.

Units: 1-3

LEE 280T. San Joaquin Valley Writing Project: Summer

Institute I
This course is designed for teachers of grades K-college, who have been accepted into the San Joaquin Valley Writing Project (SJVWP) Invitational Summer Institute (ISI) through an application and interview process. The SJVWP focuses on improving the quality of literacy instruction in schools in addition to helping teachers improve their writing. Upon successful completion of the Invitational Summer Institute, Fellows will become Teacher Leaders (TLs) and continue their professional networking with other professionals in California's Central Valley and throughout the country.

Units: 3

LEE 281. Critical Pedagogy for Diverse Learners
This course examines crucial pedagogy to the educational practices of teaching linguistically and culturally diverse students. It will reflect on critical pedagogy in terms of collaborating and transforming relationships between teachers, students and schools in a multilingual and multicultural society.

Units: 3

LEE 282. Research Topics in Second Language Acquisition
This course examines the qualitative and quantitative research in second language acquisition. Students will critique published research and investigate topic development, the various methods of collecting and analyzing qualitative data in multilingual and multicultural education.

Units: 3

LEE 283. Cultural Competency for Educators
Designed to focus on curriculum development for linguistically and culturally diverse students, identification of teaching strategies for the multilingual classroom, theories of teaching the culturally diverse students, and overview of methods of bilingual, English language development, and content area instruction.

Units: 3

LEE 284. Collaborative Leadership for Educational Diversity
Designed to view issues from multiple perspectives within the context of linguistically and culturally diverse populations in K-18 settings. Focus on analysis of leadership roles in public, school, and agency settings examining research of diverse communities regionally, nationally, and internationally.

Units: 3

LEE 290. Independent Study
See Academic Placement - Independent Study. Approved for RP grading.

Units: 1-3, Repeatable up to 6 units

LEE 298A. Project Literacy
Prerequisite: advancement to candidacy for the master's degree; B average on 24 units of the master's program including ERE 220. See Criteria for Thesis and Project. A project consists of a significant undertaking appropriate to education. An approved proposal is required for enrollment. Approved for RP grading.

Units: 3

LEE 298B. Project: Early Childhood Education
Prerequisite: advancement to candidacy for the master's degree; B average on 24 units of the master's program including ERE 220. See Criteria for Thesis and Project. A project consists of a significant undertaking appropriate to education. An approved proposal is required for enrollment. Approved for RP grading.

Units: 1-3

LEE 298C. Project Continuation
Prerequisite: Project LEE 298. For continuous enrollment while completing the project. May enroll twice with department approval. Additional enrollments must be approved by the Dean of Graduate Studies.

Units: 0

LEE 298D. Project - Multilingual & Multicultural Education
Prerequisite: advancement to candidacy for the Master's degree; B average on 24 units of the Master's program including ERE 220. A project consists of a significant undertaking appropriate to education. An approved proposal is required for enrollment. Approved for RP grading.

Units: 1-3

LEE 299. Thesis
Prerequisite: advancement to candidacy for the master's degree; B average on 24 units of the master's program including ERE 220 and completion of an acceptable thesis proposal. See Criteria for Thesis and Project. Preparation, completion, and submission of an acceptable thesis proposal. See criteria for Thesis and Project. Preparation, completion, and submission of an acceptable thesis for the master's degree. Approved for RP grading.

Units: 1-3

LEE 299C. Thesis Cont
Prerequisite: Thesis LEE 298. For continuous enrollment while completing the thesis. May enroll twice with department approval. Additional enrollments must be approved by the Dean of Graduate Studies.

Units: 0

LEE 380T. Nonfiction Matters
Units: 1

LINGUISTICS (LING)

LING 5. College Reading and Academic Language
College reading and academic language competencies necessary for success in academic subject course work, including active reading and vocabulary development strategies, summarizing, and elements of academic culture.

Units: 3

Course Typically Offered: Fall, Spring

LING 6. Advanced English Strategies
Meets the university remediation requirement. Introduces strategies that ease transition to college reading and writing. Assists

multilingual students with paraphrasing, summarizing, and essay writing; helps them build academic reading strategies. Credit cannot be used toward the linguisitics major or minor.

Units: 3

Course Typically Offered: Fall, Spring

LING 10. Introduction to Language

Prerequisite: G.E. Foundation A2. The study of language - including its nature, structure, use, history, and acquisition - with the goal of imparting (1) an understanding of the importance of language in human affairs, including social and cultural functions and (2) an appreciation of its complexity and diversity. G. E. Breadth C2.

Units: 3

Course Typically Offered: Fall, Spring

GE Area: C2

LING 11. Linguistics for Teachers

Open to liberal studies majors only. Prerequisite: G.E. Foundation A2. Basic linguistic analysis methods, introducing the subjects of phonetics, phonology, morphology, syntax and semantics exemplified by English and other languages. This class meets the linguistic educational needs of K-6 teachers as mandated by state policy.

Units: 3

Course Typically Offered: Fall, Spring

LING 30. Language through the Lifespan

Physiological, psychological, and social aspects of language development and use during infancy, childhood, adolescence, adulthood, and old age. First and second language acquisition, language and identity, and language and relationship. G.E. Breadth E1.

Units: 3

Course Typically Offered: Fall, Spring

GE Area: E1

LING 40T. Topics in Linguistics

Topics to be offered at the discretion of the department.

Units: 1-4, Repeatable up to 12 units

LING 100. General Linguistics

Linguistics methodology: phonology, morphology, syntax, and semantic anal ysis. Language history: variation and change.

Units: 3

Course Typically Offered: Fall, Spring

LING 110W. Advanced Composition for Foreign Students

Prerequisite: C or better in ENGL 10 or ENGL 5B. Review of English usage. Conventions of writing essays and formal research reports. Practice in paraphrasing and summarizing. Writing complex sentences in concise form. Meets the upper-division writing skills requirement.

Units: 3

Course Typically Offered: Fall, Spring

LING 111W. Academic Writing Workshop

Designed to increase language awareness, and focus on punctuation, usage, and the conventions of writing academic prose using style manuals. Credits may not be used toward the linguistics major or minor. Meets the upper-division writing skills requirement for graduation.

Units: 3

Course Typically Offered: Fall, Spring

LING 115. Language, Culture, and Society

Prerequisites: G.E. Foundation and Breadth Area C. Studies the relationship between language, culture, and thought; cultural traditions and language arts; cultural norms and interactional styles; language and the development of ethnic and national identity; meanings of social variation in language; discourse styles, and social variation in language; discourse styles and social roles/relations. G. E. Integration IC.

Units: 3

Course Typically Offered: Fall, Spring

GE Area: IC

LING 120. Japanese Language and Culture

Understanding of the Japanese language in relation to the culture and society. Historical and sociocultural background, origin of Japanese, development of writing system, language variation, vocabulary, idioms and proverbs, discourse functions, levels of politeness, male-female speech, and cross-cultural communication. (Formerly LING 14T section)

Units: 3

Course Typically Offered: Spring

LING 121. Hmong Language, Culture, and Identity

Prerequisites: GE Foundation and Breadth Area D. Studies Hmong language and culture in their various multicultural environments in Asia (China, Southeast Asia) and in the Diaspora (Americas, Europe, Australia). The course takes a comparative approach, examining the various Hmong communities worldwide with the purpose of better understanding the formation of the modern Hmong identity.

Units: 3

Course Typically Offered: Fall, Spring

LING 130. Language and Gender

Prerequisites: G.E. Foundation and Breadth Area C. A critical examination of the relationship between language and gender; sexism in linguistic structure and oral and written discourse; gender-based variation in linguistic norms and practices in different cultures and social groups; and social, educational, and political implications. G.E. Integration IC.

Units: 3

Course Typically Offered: Fall, Spring

GE Area: IC

LING 132. Linguistics and Reading

Current theory, research, and methods of teaching first and second language reading in English with focus on the linguistic knowledge, language arts and ESL teachers needs.

Units: 3

Course Typically Offered: Fall, Spring

LING 138. History of the English Language

The changes in English pronunciation, vocabulary, and grammar from its prehistoric roots to its modern-day global diversity through an examination of literary and historical texts and other cultural artifacts. This course satisfies G.E. Integration IC.

Units: 3

GE Area: IC

LING 139. General Phonetics

Prerequisite: LING 100 Introduction to the phonetic properties of human languages; descriptive analysis of the speech sounds in a wide variety of languages; articulatory and acoustic aspects of speech; practice in production, perception, and transcription of speech sounds. Introduction to experimental techniques. (2 lecture, 2 lab hours)

Units: 3

Course Typically Offered: Fall, Spring

LING 140T. Topics in Linguistics

Topics to be offered at the discretion of the department.

Units: 1-4, Repeatable up to 12 units

LING 141. Teaching English to Speakers of Other Languages

Theories and methods of teaching English to speakers of other languages.

Units: 3

Course Typically Offered: Fall, Spring

LING 142. Phonology

The sound patterns of human language. Phonemic theory and analytical techniques. Distinctive feature theory and analysis. Major phonological processes and their description.

Units: 3

Course Typically Offered: Fall, Spring

LING 143. Syntax

Prerequisite: LING 100. Theory and practice in the description of grammatical systems. Comparison of approaches. Practical experience with data.

Units: 3

Course Typically Offered: Fall, Spring

LING 144. Discourse Analysis

Prerequisite: LING 100. Basic concepts in the study of discourse, including conversational structure; structure of narrative and expository texts; information flow; differences between spoken and written language and implications for the study of grammar and for language teaching.

Units: 3

LING 145. Historical Linguistics

Prerequisite: LING 100. Explanation of similarities among languages; methods of reconstructing past languages and investigating relationship and grouping among languages. Comparison of approaches to language change.

Units: 3

Course Typically Offered: Spring

LING 146. Practical English Grammar for Language Teachers

English grammar from the perspective of the teacher. Format designed to be compatible with classroom needs of language arts and ESL teachers. By analyzing English structures, students gain confidence in their ability to teach English grammar to ethnically diverse students.

Units: 3

Course Typically Offered: Fall, Spring

LING 147. Bilingualism

Prerequisites: G.E. Foundation and Breadth Area D. Examines bilingualism as an individual and societal phenomenon. Looks at language and identity; bilingual language acquisition and bilingual education. Survey of bilingual and multilingual situations and current issues associated with language diversity in the United States and elsewhere in the world. G. E. Multicultural/International MI.

Units: 3

Course Typically Offered: Fall, Spring

GE Area: M/I

LING 148. Sociolinguistics

Prerequisite: Ling 100 Methods of investigation and major findings in the study of the relationship among languages of the world and social class, race, age, sex, and other social subcategories. Political and educational implications. Interaction between linguistic and social factors in linguistic variations.

Units: 3

Course Typically Offered: Fall, Spring

LING 149. Corpus Linguistics

Prerequisite: LING 100. This course will cover the development and use of large language corpora as they are used in theoretical and empirical research in Linguistics. Corpus linguistics is useful for students with interest in ESL, syntax, semantics, computational linguistics, forensic linguistics, language variation, spelling, and reading.

Units: 3

LING 151. Languages of the World

Prerequisite: LING 100. A survey of the linguistic features of the languages and language families of the world with an introduction to sound patterns, word structures, and sentence constructions.

Units: 3

LING 153. Psycholinguistics

An overview of basic theories and findings in the study of the psychological processes of language use, with a focus on the comprehension, production, acquisition, and representation of language.

Units: 3

LING 154. Field Linguistics

Prerequisite: LING 100. First-hand practice in methods of linguistic data collection, analysis, and presentation.

Units: 3

LING 155. Computer Assisted Language Learning

Prerequisite: LING 100. Current theory, research, and practice in computer-assisted language learning. Some minimal experience in using computers is assumed. (2 lecture, 2 lab hours)

Units: 3

Course Typically Offered: Fall

LING 165. Language Acquisition

Prerequisite: LING 100. An examination of first and second language acquisition. Overview of current research in the field and implications for areas of applied linguistics, psychology, education, and sociology.

Units: 3

Course Typically Offered: Fall, Spring

LING 171. Practicum in TESOL

Prerequisite: LING 141 or concurrently. Provides practice in teaching English as a Second Language listening, speaking, reading and writing; includes class visitations, demonstrations and lesson planning. Introduces students to cross-cultural communications issues.

Units: 3

Course Typically Offered: Fall, Spring

LING 190. Independent Study

See Academic Placement - Independent Study. Approved for RP grading.

Units: 1-3, Repeatable up to 6 units

Course Typically Offered: Fall, Spring

LING 231T. Seminar in Linguistics

Prerequisite: LING 100 and permission of instructor. Topics to be offered at the discretion of the department.

Units: 3, Repeatable up to 12 units

LING 232T. Seminar in English Linguistics

Prerequisite: LING 100 and permission of instructor. Topics to be offered at the discretion of the department.

Units: 3, Repeatable up to 12 units

LING 236. Teaching Listening, Speaking & Pronunciation to Speakers of Other Languages

An overview of theory, research and practice in the teaching of listening, speaking and pronunciation in a second language. Topics also include introduction to basic instrumental analysis of speech data in teaching LS pronunciation.

Units: 3

LING 237. Teaching Reading and Writing to Speakers of Other Languages

An overview theory, research, and practice in the teaching and learning of vocabulary, reading, and writing in a second language.

Units: 3

LING 238. Hist Linguistics

Historical survey of scientific ideas , terms, techniques, and theoretical positions in the study of language from ancient time to the present day, including traditional grammar, comparative philology, and modern linguistics. Overview of general scholarly concern and intellectual climate during each period.

Units: 3

LING 239. Phonetics

Prerequisite: LING 100 or consent of instructor. A graduate class on phonetics which provides advanced instruction and entry to the primary literature on two topics: the phonetics of English and acoustic phonetic analysis. No previous phonetics course is assumed of students.

Units: 3

LING 241. Seminar in Teaching English as a Second/ Foreign Language

Prerequisite: LING 141. Overview of research, theory, and pedagogy in the field; includes culture, second language acquisition, and professional issues.

Units: 3

LING 242. Seminar in Phonology

Prerequisite: LING 142. Covers current theories of how to structure sounds and syllables; the relation of sound structure to other parts of the grammar (words, sentences) and to first and second language acquisition. Data from a wide variety of languages.

Units: 3

LING 243. Seminar in Syntax

Prerequisite: LING 143. Current theories of how sentences are structured; the relation of sentence structure to other part of the grammar (words, meaning) and to first and second language acquisition. Data from a wide variety of languages.

Units: 3

LING 244. Curriculum Design and Classroom Evaluation

Covers techniques for designing language courses including assessment of needs, formulation of objectives, and evaluation of student learning; includes theory and methods of designing effective instruments for L2 classroom assessment.

Units: 3

LING 245. Seminar in Historical Linguistics

Prerequisite: LING 145. Contributions of recent work in general linguistics, sociolinguistics, and language acquistion studies to our understanding of diachronic grammar and its recronstuction. Other topics include the insights provided by language variation, language universals and typology, and discourse analysis.

Units: 3

LING 248. Seminar in Sociolinguistics

Prerequisite: LING 148 or consent of instructor. A critical survey of current research in sociolinguistics; research methodologies; theoretical issues concerning the relationship between linguistics variation and social variables, such as social class, ethnicity, gender, and social relations; bilingualism, multilingualism, world Englishes, and language planning; implications for language teaching. (Formerly LING 231T)

Units: 3

LING 249. Field Methods
Prerequisite: LING 142 or LING 143 or consent of instructor. First-hand experience in collecting and analyzing linguistic data. Exact nature of data varies by semester and include less well-known languages, children's language, interlanguage, classroom interaction, etc.

Units: 3, Repeatable up to 6 units

LING 251. Seminar in Discourse Analysis
Prerequisite: LING 144 or permission of instructor. Exploration and anaysis of the functional and other linguistic bases for the organization of units larger than the sentence.

Units: 3

LING 265. Seminar in Language Acquisition
A critical survey of current research in both first and second language acquisition; research methodologies; major theoretical issues in first and second language acquisition; first-hand experience in collecting and analyzing L1 and L2 acquisition data; implications for language teaching.

Units: 3

LING 290. Independent Study
See Academic Placement - Independent Study. Approved for RP grading.

Units: 1-3, Repeatable up to 6 units

LING 299A. Thesis
Prerequisite: See Criteria for Thesis and Project. Preparation, completion and submission of an acceptable thesis for the master's degree. (A) Thesis design. (B) Thesis writing. A and B may be taken concurrently. Approved for RP grading.

Units: 3

LING 299B. Thesis
Prerequisite: See Criteria for Thesis and Project. Preparation, completion and submission of an acceptable thesis for the master's degree. (A) Thesis design. (B) Thesis writing. A and B may be taken concurrently. Approved for RP grading.

Units: 3

LING 299C. Thesis Continuation
Prerequisite: Thesis LING 299A or LING 299B. For continuous enrollment while completing the thesis. May enroll twice with department approval. Additional enrollments must be approved by the Dean of Graduate Studies.

Units: 0

MATHEMATICS (MATH)

MATH 1RA. Developmental Mathematics I
The first semester in a two semester sequence preparing students for college level mathematics. See the online Schedule of Courses for restrictions on enrollment based on the Entry Level Math test. Properties of ordinary arithmetic, integers, rational numbers and linear equations. CR/NC grading only; not applicable towards baccalaureate degree requirements.

Units: 3

Course Typically Offered: Fall

MATH 1RB. Developmental Mathematics II
Prerequisite: MATH 1RA. The second semester in a two semester sequence preparing students for college level mathematics. Systems of linear equations, exponents, rational expression, polynomials and quadratic equations. CR/NC grading only; not applicable toward baccalaureate degree requirements.

Units: 3

Course Typically Offered: Spring

MATH 3. College Algebra
Prerequisite: students must meet the ELM requirement. Equations and inequalities; rectangular coordinates; systems of equations and inequalities; polynomial, rational, exponential, and logarithmic functions and their graphs; complex numbers.

Units: 3

Course Typically Offered: Fall, Spring

MATH 4R. Transition to College Mathematics
Prerequisite: See the online Schedule of Courses for restrictions on enrollment based on the Entry Level Math test. Covers radicals, rational exponents, quadratic equations, simultaneous linear equations, graphing, inequalities, and complex numbers. Not applicable toward baccalaureate degree requirements. (3hr lecture, 2hr Activity)

Units: 4

MATH 4RA. Intermediate Algebra
Focuses on arithmetic review, linear equalities, and graphing. Note: MATH 4RA together with MATH 4RB is equivalent to MATH 4R. Enrollment is limited to first-time freshmen who score 30 or below on the ELM exam. CR/NC grading only; not applicable toward baccalaureate degree requirements.

Units: 3

MATH 5. Trigonometry
Prerequisite: students must meet the ELM requirement. Concept of a function, sine and cosine functions, tables and graphs, other trigonometric functions, identities and equations. Trigonometric functions of angles, solution of triangles. (See Duplication of Courses) (CAN MATH 8)

Units: 3

Course Typically Offered: Fall, Spring

MATH 6. Precalculus
Prerequisite: students must meet the ELM requirement. Basic algebraic properties of real numbers; linear and quadratic equations and inequalities; functions and graphs; polynomials; exponential and logarithmic functions; analytic trigonometry and functions; conics; sequences and series. (CAN MATH 16)

Units: 4

Course Typically Offered: Fall, Spring

MATH 10A. Structure and Concepts in Mathematics I
Prerequisite: students must meet the ELM requirement. Designed for prospective elementary school teachers. Development of real numbers including integers, rational and irrational numbers, computation, prime numbers and factorizations, and problem-solving

strategies. Meets B4 G. E. requirement only for liberal studies majors.

Units: 3

Course Typically Offered: Fall, Spring

GE Area: B4

MATH 10B. Structure and Concepts in Mathematics II

Prerequisite: MATH 10A. Designed for prospective elementary school teachers. Counting methods, elementary probability and statistics. Topics in geometry to include polygons, congruence and similarity, measurement, geometric transformations, coordinate geometry, and connections between numbers and geometry with selected applications.

Units: 3

Course Typically Offered: Fall, Spring

MATH 11. Elementary Statistics

Prerequisite: students must meet the ELM requirement. Illustration of statistical concepts: elementary probability models, sampling, descriptive measures, confidence intervals, testing hypotheses, chi-square, nonparametric methods, regression. It is recommended that students with credit in MATH 75 or MATH 75A and B take MATH 101. (CAN STAT 2) G.E. Foundation B4.

Units: 3

Course Typically Offered: Fall, Spring

GE Area: B4mktg 100s

MATH 45. What Is Mathematics?

Prerequisite: students must meet the ELM requirement. Covers topics from the following areas: (I) The Mathematics of Social Choice; (II) Management Science and Optimization; (III) The Mathematics of Growth and Symmetry; and (IV) Statistics and Probability. G. E. Foundation B4.

Units: 3

Course Typically Offered: Fall, Spring

GE Area: B4

MATH 45H. Exploring Math

Prerequisites: Students must meet the ELM requirement. Covers topics fromt the following areas: 1 .The mathematics fo Social Choice, 2. Management Science and Optimizations, 3. The mathematics fo Growth and Symmetry, and 4. Statistics and Probability. G. E. Foundation B4, Quantitiative Reasoning.

Units: 3

GE Area: B4

MATH 70. Calculus for Life Sciences

No credit if taken after MATH 75 or MATH 75A and B. Prerequisite: students must meet the ELM requirement. Functions and graphs, limits, derivatives, antiderivatives, differential equations, and partial derivatives with applications in Life Sciences.

Units: 4

Course Typically Offered: Fall, Spring

GE Area: B4

MATH 75. Calculus I

Prerequisites: elementary geometry, intermediate algebra, and trigonometry; or precalculus. Passing score on the department's Calculus Readiness Test required prior to enrollment. In addition, students must meet the ELM requirement. Functions, graphs, limits, continuity, derivatives and applications, definite and indefinite integrals. G.E. Foundation B4. FS (CAN MATH 18).

Units: 4

Course Typically Offered: Fall, Spring

GE Area: B4

MATH 75A. Calculus with Review IA

Prerequisites: elementary geometry, intermediate algebra, and trigonometry; or precalculus. Passing score on the department's Calculus Readiness Test required prior to enrollment. In addition, students must meet the ELM requirement. Functions, graphs, limits, continuity, derivatives, and applications, with extensive review of algebra and elementary functions. With MATH 75B, equivalent to MATH 75. G.E. Foundation B4. FS

Units: 4

Course Typically Offered: Fall, Spring

GE Area: B4

MATH 75B. Calculus with Review IB

Prerequisite: MATH 75A. Further applications of derivatives, and definite and indefinite integrals, with extensive review of algebra and elementary functions. With MATH 75A, equivalent to MATH 75.

Units: 4

Course Typically Offered: Fall, Spring

MATH 76. Calculus II

Prerequisite: MATH 75 or MATH 75A and B. Techniques and applications of integration, improper integrals, conic sections, polar coordinates, infinite series. (CAN MATH 20).

Units: 4

Course Typically Offered: Fall, Spring

MATH 77. Calculus III

Prerequisite: MATH 76. Vectors, three-dimensional calculus, partial derivatives, multiple integrals, Green's Theorem, Stokes' Theorem. (CAN MATH 22).

Units: 4

Course Typically Offered: Fall, Spring

MATH 81. Applied Analysis

Prerequisite: MATH 77. Introduction to ordinary linear differential equations and linear systems of differential equations; solutions by Laplace transforms. Solution of linear systems of equations; introduction to vector spaces; eigenvalues and eigenvectors. Using computer software as an exploratory tool.

Units: 3

Course Typically Offered: Fall, Spring

MATH 90. Directed Study

Independently arranged course of study in some limited area of mathematics either to remove a deficiency or to investigate a topic in more depth. (1-3 hours, to be arranged)

Units: 1-3

MATH 100. Exploring Mathematics
Prerequisite: MATH 10B. The development of mathematical reasoning, problem solving, and communication skills for effective teaching of mathematics in elementary school.

Units: 3

Course Typically Offered: Fall, Spring

MATH 101. Statistical Methods
Prerequisite: MATH 70 or MATH 75, or MATH 75A and B; no credit if taken after MATH 108. Application of statistical procedures to examples from biology, engineering, and social science; one- and two-sample normal theory methods; chi-square, analysis of variance, and regression; nonparametric methods. Computerized statistical packages are used.

Units: 4

Course Typically Offered: Fall, Spring

MATH 107. Introduction to Probability and Statistics
Prerequisite: MATH 77 (may be taken concurrently). Basic concepts required for applications of probability theory; standard discrete and continuous models; random variables; conditional distributions; limit theorems.

Units: 3

Course Typically Offered: Fall

MATH 108. Statistics
Prerequisite: MATH 107. Criteria used for selecting particular procedures of data analysis; derivation of commonly used procedures; topics from sampling, normal theory, nonparametrics, elementary decision theory.

Units: 3

Course Typically Offered: Spring

MATH 109. Applied Probability
Prerequisite: MATH 107. Introduction to stochastic processes and their applications in science and industry. Markov chains, queues, stationary time series.

Units: 3

Course Typically Offered: Spring

MATH 110. Symbolic Logic
(Similar to PHIL 145; consult department.) Prerequisite: MATH 75 or MATH 75A and B. An informal treatment of the theory of logical inference, statement calculus, truth-tables, predicate calculus, interpretations applications.

Units: 3

Course Typically Offered: Spring

MATH 111. Transition to Advanced Mathematics
Prerequisite: MATH 76. Introduction to the language and problems of mathematics. Topics include set theory, symbolic logic, types of proofs, and mathematical induction. Special emphasis is given to improving the student's ability to construct, explain, and justify mathematical arguments.

Units: 3

MATH 114. Discrete Structures
Prerequisite: MATH 111. Counting techniques, matrix algebra, graphs, trees and networks, recurrence relations and generating functions, applied modern algebra.

Units: 3

Course Typically Offered: Fall

MATH 116. Theory of Numbers
Prerequisite: MATH 111. Divisibility theory in the integers, primes and their distribution, congruence theory, Diophantine equations, number theoretic functions, primitive roots, indices, the quadratic reciprocity law.

Units: 4

Course Typically Offered: Fall, Spring

MATH 118. Graph Theory
Prerequisite: MATH 111. Trees, connectivity, Euler and Hamilton paths, matchings, chromatic problems, planar graphs, independence, directed graphs, networks.

Units: 3

Course Typically Offered: Spring - even

MATH 121. Numerical Analysis I
Prerequisites: MATH 77 and CSCI 40. Zeros of nonlinear equations, interpolation, quadrature, systems of equations, numerical ordinary differential equations, and eigenvalues. Use of numerical software libraries.

Units: 3

Course Typically Offered: Spring

MATH 123. Topics in Applied Mathematics
Prerequisite: MATH 77. Vector spaces and linear transformations, eigenvalues and eigenfunctions. Special types of linear and nonlinear differential equations; solution by series. Fourier transforms. Special functions, including gamma, hypergeometric, Legendre, Bessel, Laguerre, and Hermite functions. Introduction to partial differential equations.

Units: 3

Course Typically Offered: Spring - odd

MATH 128. Applied Complex Analysis
Prerequisite: MATH 77. Analytic functions of a complex variable, contour integration, series, singularities of analytic functions, the residue theorems, conformal mappings; emphasis on engineering and physics applications.

Units: 3

Course Typically Offered: Fall

MATH 133. Number Theory for Liberal Studies
Prerequisite: MATH 10B or permission of instructor. The historical development of the concept of number and arithmetic algorithms. The magnitude of numbers. Basic number theory. Special numbers and sequences. Number patterns. Modular arithmetic.

Units: 3

Course Typically Offered: Fall

MATH 134. Geometry for Liberal Studies
Prerequisite: MATH 10B or permission of instructor. The use of computer technology to study and explore concepts in Euclidean

geometry. Topics include, but are not restricted to, properties of polygons, tilings, and polyhedra.

Units: 3

Course Typically Offered: Spring

MATH 137. Exploring Statistics

Prerequisite: MATH 10B or permission of instructor. Descriptive and inferential statistics with a focus on applications to mathematics education. Use of technology and activities for student discovery and understanding of data organization, collection, analysis and inference.

Units: 3

Course Typically Offered: Fall

MATH 138. Exploring Algebra

Prerequisite: MATH 10B or permission of instructor. Designed for prospective school teachers who wish to develop a deeper conceptual understanding of algebraic themes and ideas needed to become competent and effective mathematics teachers.

Units: 3

Course Typically Offered: Spring

MATH 139. Advanced Algebra for Middle School Teachers

Prerequisite: MATH 6 or MATH 138. Basic structures of modern algebra from a middle school mathematics curriculum perspective. Algebraic structures, polynomial equations, and elementary linear algebra.

Units: 4

Course Typically Offered: Fall

MATH 143. History of Mathematics

Prerequisite: MATH 75 or MATH 75A and 75B. History of the development of mathematical concepts in algebra, geometry, number theory, analytical geometry, and calculus from ancient times through modern times. Theorems with historical significance will be studied as they relate to the development of modern mathematics.

Units: 4

Course Typically Offered: Spring

MATH 145. Problem Solving

Prerequisite: MATH 111; EHD 50 (may be enrolled concurrently). A study of formulation of problems into mathematical form; analysis of methods of attack such as specialization, generalization, analogy, induction, recursion, etc. applied to a variety of non-routine problems. Topics will be handled through student presentation.

Units: 3

Course Typically Offered: Fall

MATH 149. Capstone Mathematics for Teachers

Prerequisites: MATH 151, MATH 161, and MATH 171 (MATH 161 and MATH 171 may be taken concurrently). Secondary school mathematics from an advanced viewpoint. This course builds on students' work in upper division mathematics to deepen their understanding of the mathematics taught in secondary school. Students will actively explore topics in number theory, algebra, analysis, geometry.

Units: 4

MATH 151. Principles of Algebra

Prerequisite: MATH 111. Equivalence relations; groups, cyclic groups, normal sub-groups, and factor groups; rings, ideals, and factor rings; integral domains and polynomial rings; fields and field extensions.

Units: 4

Course Typically Offered: Fall, Spring

MATH 152. Linear Algebra

Prerequisite: MATH 77. Vector spaces, linear transformations, matrices, determinants, eigenvalues and eigenvectors, linear functions, inner-product spaces, bilinear forms, quadratic forms, orthogonal and unitary transformations, selected applications.

Units: 4

Course Typically Offered: Fall, Spring

MATH 161. Principles of Geometry

Prerequisite: MATH 111. The classical elliptic, parabolic, and hyperbolic geometries developed on a framework of incidence, order and separation, congruence; coordinatization. Theory of parallels for parabolic and hyperbolic geometries. Selected topics of modern Euclidean geometry.

Units: 3

Course Typically Offered: Spring

MATH 165. Differential Geometry

Prerequisite: MATH 77 and MATH 111. Study of geometry in Euclidean space by means of calculus, including theory of curves and surfaces, curvature, theory of surfaces, and intrinsic geometry on a surface.

Units: 3

Course Typically Offered: Fall

MATH 171. Intermediate Mathematical Analysis I

Prerequisite: MATH 111. Natural and rational numbers, real numbers as a complete ordered field, its usual topology, sequences and series of real numbers, functions of a real variable, limits, continuity, uniform continuity, differentiability, generalized mean value theorem, Riemann integrals, and power series.

Units: 4

Course Typically Offered: Fall, Spring

MATH 172. Intermediate Mathematical Analysis II

Prerequisite: MATH 77 and MATH 171. Pointwise and uniform convergence of sequences and series of functions, convergence of sequences in higher dimensions, continuity and differentiability of functions of several variables. The inverse and implicit function theorems; topics in integration theory in higher dimensions.

Units: 4

Course Typically Offered: Spring

MATH 181. Differential Equations

Prerequisite: MATH 81 or MATH 123. Definition and classification of differential equations; general, particular, and singular solutions; existence theorems; theory and technique of solving certain

differential equations: phase plane analysis, elementary stability theory; applications.

Units: 3

Course Typically Offered: Fall

MATH 182. Partial Differential Equations

Prerequisites: MATH 81 or MATH 123. Classical methods for solving partial differential equations including separation of variables, Green's functions, the Riemann-Volterra method and Cauchy's problem for elliptic, parabolic, and hyperbolic equations; applications to theoretical physics.

Units: 3

Course Typically Offered: Spring

MATH 190. Independent Study

See Academic Placement - Independent Study. Approved for RP grading.

Units: 1-3, Repeatable up to 6 units

Course Typically Offered: Fall, Spring

MATH 191T. Proseminar

Prerequisites: Permission of instructor. Presentation of advanced topics in mathemathics in the field of the student's interest.

Units: 1, Repeatable up to 9 units

MATH 191T. Statistical Programming and Data Analysis

Prerequisite: MATHH 11 or equivalent. Introduction to data management, statistical programming, and data analysis using SAS and R.

Units: 3, Repeatable up to 6 units

MATH 198. Senior Project

Prerequisites: Senior standing or permission of instructor; MATH 151, MATH 171, and MATH 152. Independent investigation and presentation of an advanced topic in mathematics. Satisfies the senior major requirement for the B.A. in Mathematics.

Units: 3

MATH 202. Fundamental Concepts of Mathematics

Prerequisites: MATH 151, MATH 161 and MATH 171. Fundamental notions regarding number theory, number systems, algebra of number fields; functions.

Units: 3

MATH 216T. Topics in Number Theory

Prerequisite: MATH 116. An investigation of topics having either historical or current research interest in the field of number theory. (Formerly MATH 216)

Units: 3, Repeatable up to 6 units

MATH 220. Coding Theory

Prerequisites: MATH 151 and MATH 152. Basic concepts in coding theory, properties of linear and on-linear codes, standard decoding algorithms, cyclic codes, BCH-codes.

Units: 3

MATH 223. Applied Operator Theory

Prerequisite: graduate standing or permission of instructor. Fundamentals of abstract spaces and spectral theory of operators with applications. Resolvent set and spectrum of a linear operator. Bounded and unbounded linear operators. Compact operators and the Fredholm alternative. Symmetry and self-adjointness.

Units: 3

MATH 228. Functions of a Complex Variable

Prerequisite: MATH 128. Representation theorems of Weierstrass and Mittag-Leffler, normal families, conformal mapping and Riemann mapping theorem, analytic continuation, Dirichlet problem.

Units: 3

MATH 232. Mathematical Models with Technology

Prerequisite: graduate standing in mathematics or permission of instructor. A technology-assisted study of the mathematics used to model phenomena in statistics, natural science, and engineering.

Units: 3

MATH 250. Perspectives in Algebra

Prerequisite: graduate standing in mathematics or permission of instructor. Study of advanced topics in algebra, providing a higher perspective to concepts in the high school curriculum. Topics selected from, but not limited to, groups, rings, fields, and vector spaces.

Units: 3

MATH 251. Abstract Algebra I

Prerequisite: MATH 151. Direct and semi-direct products of groups; quotient/factor groups; isomorphism theorems. Group actions; Sylow theorems; classification of groups; finitely generated Abelian groups. Domains (ED, PID, UFD); polynomial rings. Quotient/factor rings; field extensions; automorphisms of fields.

Units: 3

MATH 252. Abstract Algebra II

Prerequisite: MATH 251. Rings and ideals, modules, linear and multilinear algebras, representations.

Units: 3

MATH 260. Perspectives in Geometry

Prerequisite: graduate standing in mathematics or permission of instructor. Geometry from a transformations point of view. Euclidean and noneuclidean geometries in two and three dimensions. Problem solving and proofs using transformations. Topics chosen to be relevant to geometrical concepts in the high school curriculum.

Units: 3

MATH 263. Point Set Topology

Prerequisite: MATH 172. Basic concepts of point set topology, set theory, topological spaces, continuous functions; connectivity, compactness and separation properties of spaces. Topics selected from function spaces, metrization, dimension theory.

Units: 3

MATH 270. Perspectives in Analysis

Prerequisite: graduate standing in mathematics or permission of instructor. An overview of the development of mathematical analysis, both real and complex. Emphasizes interrelation of the

various areas of study , the use of technology, and relevance to the high school mathematics curriculum.

Units: 3

MATH 271. Real Variables

Prerequisite: MATH 172. Theory of sets; cardinals; ordinals; function spaces, linear spaces; measure theory; modern theory of integration and differentiation.

Units: 3

MATH 290. Independent Study

See Academic Placement - Independent Study. Approved for RP grading.

Units: 1-3, Repeatable up to 6 units

MATH 291T. Seminar

Prerequisite: graduate standing. Presentation of current mathematical research in field of student's interest.

Units: 1-3, Repeatable up to 6 units

MATH 291T. Teaching Workshop for Graduate Students

The goal of this course is for graduate student instructors to develop and refine their teaching. While many consider teaching an art, it is also a science. Teaching is not just presentation, but includes planning, assessment, decision-making, and post-instruction reflection. We will work on these skills directly, by doing some of the work in this class to prepare for the classes you will teach, and indirectly, through readings and discussion of articles by both teachers and reaerarchers.

Units: 3, Repeatable up to 6 units

MATH 298. Research Project in Mathematics

Prerequisite: graduate standing. Independent investigation of advanced character as the culminating requirement for the master's degree. Approved for RP grading.

Units: 3

MATH 298C. Project Continuation

Prerequisite: Project MATH 298. For continuous enrollment while completing the project. May enroll twice with department approval. Additional enrollments must be approved by the Dean of Graduate Studies.

Units: 0

MATH 299. Thesis in Mathematics

Prerequisite: See Criteria for Thesis and Project. Preparation, completion, and submission of an acceptable thesis for the master's degree. Approved for RP grading.

Units: 3

MASTER OF BUSINESS ADMINISTRATION (MBA)

MBA 200. Managerial Economics

Prerequisites: finite mathematics, admission to graduate business program or permission of director. Logic and method of economic analysis for business decisions. Production, cost, supply; buyer behavior, consumer demand, derived demand,; forecasting; market structure, pricing, negotiation; government regulation; risk, uncertainty, macroeconomic concepts.

Units: 3

MBA 201. Accounting and Information Systems

Prerequisites: electronic spreadsheet literacy, and either admission or permission of director. Concepts and terminology of financial and managerial accounting and information systems. Transaction processing systems and planning and control systems integrated with data capture, data classification, information storage and organization, information access and display/reporting.

Units: 3

MBA 203. Methods of Decision Sciences

Prerequisites: linear functions, familiarity with PC-based microcomputing and spreadsheets, and either admission to the graduate business program or permission of director. Statistical concepts, inferential statistical methods, management science techniques. Descriptive statistics; discrete random variables; expected value decision theory; continuous distributions; sampling distributions; estimation; hypothesis testing; analysis of variance; linear regression and correlation; chi-square tests; time series analsys and forecasting; simulation. (2 seminar, 2 lab hours)

Units: 3

MBA 204. Global Environment of Business

Prerequisite: admission to the graduate business program or permission of director. Introduction to global business environment. Cultural, economic, political, and legal systems. Advances in global trade, marketing, production, accounting, taxation, financial and payment systems. Impact of technological advances, multinational corporations, and nation-states on the performance and competitiveness of businesses. Lecture and case.

Units: 3

MBA 205. Production and Operations Management

Prerequisites: MBA 203 or concurrently, admission to the program or permission of director. Production and operations systems; product development; process selection; facility location and design; transportation management; method analysis; job design; work measurement; planning and control; project management; inventory control; just-in-time philosophy; total quality management.

Units: 3

MBA 206. Business Communication

Investigation and analysis of the communication process as it relates to managerial effectiveness. Business communication theory; analysis of communication alternatives; effective business writing and speaking; case studies.

Units: 3

MBA 210. Leadership and Organizational Behavior

A seminar that examines management functions and behavioral processes as they relate to complex problems in today's dynamic organizations. Special emphasis on leadership, organizational change, and motivational issues. Lectures, discussions, case studies, and experiential exercises.

Units: 3

MBA 211. Management Information Systems
Prerequisites: MBA 200 and MBA 201. Management and technical aspects of computer-based information systems. Emphasis is on issues for non-IS managers in the areas of inter- and intra-organizational systems; system development, acquisition, and implementation; software, hardware, and data resource management and control.

Units: 3

MBA 212. Financial Management
Prerequisites: MBA 200, MBA 201, and MBA 203. Theories, concepts, and techniques in financial management; financial analysis, planning, forecasting, and working capital; risk and return analysis, valuation models, cost of capital budgeting; capital structure, dividend policy and long-term financing. Special contemporary topics in financial management.

Units: 3

MBA 213. Managerial Accounting
Prerequisites: MBA 200 and MBA 201. In-depth consideration of several topical areas in accounting analysis related to both profit and not-for-profit organizations, with emphasis on currently controversial issues. Analysis includes budgetary planning, cost analysis, internal control and case studies.

Units: 3

MBA 214. Marketing Management
Prerequisites: MBA 200, MBA 201, MBA 204; MBA 203 or concurrently. Analysis of the concept of marketing, the marketing strategy development process at strategic business unit level, and segmentation and positioning strategies. The development of product, price, promotion, and distribution strategies. Examination of product, price, promotion, sales, and distribution management topics and issues through case analysis.

Units: 3

MBA 215. Regulatory and Ethical Environment of Business
Prerequisites: MBA 210, MBA 211, MBA 212, MBA 213, MBA 214 or concurrently. Relationships among personal ethics, corporate social responsibility, and regulatory policy on business decision making. Evaluation of business decisions, corporate goals, and regulatory statutes and process in terms of their ethical quality and adherence to sound policy.

Units: 3

MBA 216. Business Research
Prerequisites: MBA 200, MBA 201, MBA 203, MBA 204, MBA 205. Logic and methods of survey and experimental research methods for business. Multivariate analytical methods for interpretation of survey and experimental results. Research using secondary data for business decisions. Preparation of a plan for thesis, project, or other business research.

Units: 3

MBA 220. Sermianr in Cost Accounting
Prerequisites: MBA 200, MBA 201, MBA 203, MBA 204, MBA 205 and MBA 213. The development, interpretation, and uses of accounting reports for management planning, control, and decision-making. Cost-volume-profit analysis; linear programming; capital budgeting; inventory models; standars, budgets, and analysis variance for planning and control purposes; divisional performance; and transfer pricing issues. (Formerly BUS 263)

Units: 3

MBA 221. Seminar in International and Nonprofit Accounting
Prerequisites: MBA 200, MBA 201, MBA 203, MBA 204, MBA 205 and MBA 213. Accounting for various types of funds as applied to governmental and other not-for-profit organizations. Global practices and accounting standards. Managerial problems of multinational enterprises. International auditing standards and taxation issues.

Units: 3

MBA 230. Seminar in Advanced Financial Management
Prerequisite: MBA 212. An applied case-method analysis of theories, concepts, and analytical techniques of financial management, financial analysis and planning, capital budgeting, leasing, refunding, mergers and acquisitions, corporate restructuring, financial engineering, derivative securities. Lecture and cases.

Units: 3

MBA 231. Seminar in International Finance
Prerequisite: MBA 212. An advanced study of theories and techniques in global finance and investment. The international financial system; currency markets; risks and exposure management; balance of payments; political risks; international banking and capital markets; euro-currencies; portfolio and foreign direct investment.

Units: 3

MBA 232. Seminar in Investments and Portfolio Management
Advancement analysis of equity and fixed income securities and mutual funds; operation of financial markets and investment environments; contemporary theories and techniques of security selection and management available to the institutional portfolio manager; and portfolio performance evaluations. Lecture and cases.

Units: 3

MBA 233. Seminar in Management of Financial Institutions
Prerequisite: MBA 212. Comprehensive analysis of the role of financial institutions and markets in allocating capital. Application of economic and financial analytical techniques to the managerial problems of financial institutions. Lecture and cases.

Units: 3

MBA 234. Seminar in Options, Futures, and Other Derivatives
Introduction to the use and pricing of derivative assets such as option, futures, swaps, and option-like features embedded in corporate securities. It covers mathematical concepts underlying derivative markets and contracts and basic pricing models. The use of derivatives for speculative purposes, hedging purposes, and arbitrage will be discussed. Lecture and cases. (Formerly MBA 289T)

Units: 3

MBA 235. Urban Economics with UrbanPlan

Prerequisites: Current MBA student or by permission from instructor. This course will cover the fundamentals of real estate analysis at a graduate level and is developed around the Urban Land Institute's UrbanPlan project.

Units: 3

MBA 240. Managing Human Capital-Applications of Human Resource Management Theory to Practice

Analysis of theories and application of the major human resource management functions that affect managerial decisions. Particular emphasis on strategy, program evaluation, legal issues, employee and labor relations, and managing human resources in a global environment. Lecture and cases.

Units: 3

MBA 241. Seminar in Comparative - Human Resource and Indutrial Relations Systems

Analysis of human resource and industrial relations practices of transnational and multinational corporations operating in the global environment. Particular emphasis on the emergence, evaluation, structures, functions and challenges of labor movements in developed and less developed countries. Lecture and cases.

Units: 3

MBA 242. Seminar in Human Resourc Planning, Recruitment, and Selection

Prerequisite: MBA 240. Analysis of theories/techniques for "getting the right people into the right jobs at the right time." Specifically, recruiting, selecting, and placing employees to meet strategic goals, while developing/maintaining a diverse workforce, addressing legal issues, and staffing in an evolving environment. Lecture and cases.

Units: 3

MBA 243. Seminar in Training, Compensation, and Performance Appraisal

Prerequisite: MBA 240. Analysi of the behavioral, social, legal, and economic issues involved in designing, administering, and evaluating effective orientation and training programs, and employee performance management systems to maintain a qualified and motivated workforce. Lecture and cases.

Units: 3

MBA 244. Seminar in Applications of Technology in Human Resource Management

Analysis of the use and implications of technology in human resource management. Topics include human resource information systems, employee monitoring and telecommuting.

Units: 1-2, Repeatable up to 3 units

MBA 245. Seminar in Negotiation and Conflict Resolution Topics

Analysis of resolving conflicts in the workplace. Address the behavior of individuals, groups and organizations in the context of organizational conflict. Topics include negotiation, dispute resolution systems in the workplace, and employee relations.

Units: 3

MBA 246. Seminar in Workforce Issues

Analysis of special topics as they relate to the current workforce such as empowered work teams, virtual teams, changing demorgraphics, and the human resource professional acting as a change agent.

Units: 1-2, Repeatable up to 3 units

MBA 247. The Context of Human Resource Management

Analysis of current human resource management trends, including workplace safety, ergonomics/workplace design, and genetic testing.

Units: 1-2, Repeatable up to 3 units

MBA 250. Seminar in End User Computing

Prerequisite or concurrent MBA 211. Use of database and geographic information systems in the analysis and solution of business problems; management of end-user computing; innovative application of cutting-edge technologies.

Units: 3

MBA 251. Serminar in Information Systems in a Global Environment

Analysis of systems through study and application of systems theory; special emphasis on information systems. Application of systems theory in national and international environments; lecture and case analysis.

Units: 3

MBA 252. Seminar in Information Systems Management

Prerequisite: MBA 211. Study of information systems management from the viewpoint of the chief information officer. Study of the strategic and innovative use of technology and the managerial, political, legal, ethical, financial, and behavior issues involved in managing the IS function.

Units: 3

MBA 253. Seminar in Information Technology

In-depth analysis of a selected information technology with application to business problem solving and decision making. Topics from database; telecommunications; decision support systems; expert systems; artificial intelligence. Lecture and cases.

Units: 3

MBA 260. Seminar in Market Research and Analysis

Prerequisite: MBA 214. Traditional as well as hi-tech research methodology. Research project management from conception of research ideas and design to data analyses and presentation of findings. Blending art and science of research, qualitative and statistical interpretations, and leveraging the information in decision-making. (Formerly BUS 240)

Units: 3

MBA 261. Seminar in Global Marketing and E-Business

Prerequisite: MBA 214. Analysis of problems of produce design, channel structure, promotion, and inter-organization cooperation and control in international marketing. Negotiation, bargaining, and contracting across national boundaries. Special emphasis on the importance of logistics in generating customer satisfaction in

both domestic and international markets.

Units: 3

MBA 262. Strategic Market Planning

Prerequisite: MBA 214 or permission of instructor. Strategic market planning and decision making in both start-up and existing businesses. Emphasis on detailed planning, clear strategy articulation, and good marketing plan preparation. Actual consulting projects and/or case analysis.

Units: 3

MBA 263. Seminar in "X" Marketing

Prerequisites: MBA 214. With approval of instructor, students explore a current hot topic in marketing and prepare a major investigative paper and presentation for professional critique. Example topics include relationship marketing, e-marketing, societal marketing, green marketing, non-profit marketing, and database marketing.

Units: 3

MBA 264. E-Marketing

Prerequisite: MBA 214. Examines the impact of the Internet on marketing processes and the marketing mix. Emphasis on the Internet as a content, communication, and distribution resource. Role of customer service, fulfillment, and customer relationship management in achieving long run customer satisfaction.

Units: 3

MBA 270. Seminar in Business Ventures

Overview of the entrepreneurial process beginning with the initial idea thorugh start-up, growth, and harvesting the business. Using the business plan as a primary learning vehicle, students learn to manage all elements of a business in the entrepreneurial context. Course is team taught.

Units: 3

MBA 272. Seminar in New Venture Management

Prerequisite: MBA 270 or permission of professor. Study of the management adn growth of a new firm. Skill and knowledge building through case analysis, interaction with community entrepreneurs, and readings. Students are encouraged to do an internship with an entrepreneurial firm while enrolled in the course. Course is team taught.

Units: 3

MBA 273. New Venture Creation

Prerequisite: MBA 270, MBA 272, or permission of instructor. Through team projects emphasizing real world experience, this course covers the process by which business ideas are developed, screened, and tested. Topics include business idea generation, techniques for screening ideas, the development of product and busines concepts, prototype development, and feasibility analysis. This course is team taught.

Units: 3

MBA 274. New Venture Launch

Prerequisite: MBA 270, MBA 272, and MBA 273, or permission of instructor. Through team projects emphasizing real world experience and hands-on instruction, this course provides an understanding of the process of starting-up, growing, and harvesting a new business. Case analysis, and a heavy emphasis on practical exercises. This course is team taught.

Units: 3

MBA 279. Seminar in Business Policy and Strategy

Prerequisite: completion of Group II or concurrently. Evolution of strategic management, globalization of strategy, role of multinationals, competitive advantage strategy formulation; implementation; control issues; role of top and middle management; ethics; and culture.

Units: 3

MBA 281. International Business

Examination of current topics related to international business. Areas of study will include but are not limited to international marketing, finance, logistics, regulatory environments, trade including import/export concerns, the transition of economies, and relevant political environments. Lecture and cases.

Units: 3

MBA 289T. Seminar in Business Topics

Theory and developments in accounting, administration and organization, business education, communication, consumer economics, finance, industrial and regional studies, real estate and urban economics, information systems, decision sciences, resource economics, risk and insurance, or transportation.

Units: 1-3

MBA 290. Independent Study

Prerequisite: Advanced to Candidacy; permissior of director and instrucor. Approved for SP grading.

Units: 1-3, Repeatable up to 6 units

MBA 292. Readings in Business

Prerequisite: Advanced to Candidancy; permission of director. Approved for SP grading.

Units: 2-3

MBA 295. Internship

Prerequisite: permission of internship coordinator and the graduate program director. Requires at least 150 hours of work at a pre-qualified, academically-related work site. Final report and presentation of findings also required. Only one internship may count toward the Group III requirements.

Units: 1-3

MBA 298. Management Project

Prerequisite: MBA 216. Advanced to Candidancy, and permission of director. See Criteria for Thesis and Project. Examination of the work and problems general managers of business units face as chief strategists and organization builders. Independent analysis of an operating industry, business, or a principals functional area of an organization. Case studies and field research project. Approved for SP grading.

Units: 3

MBA 298C. Project Continuation

Prerequisite: Project MBA 298. For continuous enrollment while completing the project. May enroll twice with department approval.

Additional enrollments must be approved by the Dean of Graduate Studies.

Units: 0

MBA 299. Thesis

Prerequisites: MBA 216, Advanced to Candidancy, and permission of director. See Criteria for Thesis and Project. Preparation, completion, and submission of an acceptable thesis for the master's degree. Approved for SP grading.

Units: 3

MBA 299C. Thesis Continuation

Prerequisite: Thesis MBA 298. For continuous enrollment while completing the thesis. May enroll twice with department approval. Additional enrollments must be approved by the Dean of Graduate Studies.

Units: 0

MASS COMMUNICATION AND JOURNALISM (MCJ)

MCJ 1. Mass Communication and Society

Examines the political, economic, cultural, and behavioral impacts of mass media in national and international contexts. Analyzes the historical factors that have shaped the structures, practices, and products of mass media industries, and assesses contemporary trends in media-society relations. G.E. Breadth D3.

Units: 3

Course Typically Offered: Fall, Spring

GE Area: D3

MCJ 5. Basic Editing

Application of basic language skills to media writing and Editing. Recommended for all majors who must take an approved English language course prior to attempting the Department Qualification Exam a third and final time; course does not substitute for passing DQE.

Units: 3

Course Typically Offered: Fall, Spring

MCJ 10. Media Writing

Prerequisites: pass Department Qualification Exam. Study and practice in the basics of good writing. Emphases will be placed upon grammar, factual accuracy, clarity, conciseness, media styles, fairness, human interest, and writing to length and deadline. (2 lecture, 2 lab hours)

Units: 3

Course Typically Offered: Fall, Spring

MCJ 17. Photojournalism

Introduction to the theory and practice of photojournalism. Study of the characteristics and role of the journalistic photograph in news communications. Lectures and laboratory Practical experiences in the use of digital still cameras and basic digital production techniques. (2 lecture, 2 lab hours)

Units: 3

MCJ 30. Introduction to Multimedia Production

Fundamentals of multimedia production. Exploration of cross media production theories and techniques. Emphasis on digital storytelling using text, graphics, audio, video, and the Web. (2 lecture, 2 lab hours).

Units: 3

Course Typically Offered: Fall, Spring

MCJ 102W. Reporting

Prerequisites: pass Department Qualification Exam, MCJ 10. To be taken no sooner than the term in which 60 units of coursework are completed. Analysis of news sources; techniques of interviewing applied to specific reporting situations; coverage of campus and community functions in the preparation of articles for the media. Meets the upper-division writing skills requirement for graduation. (2 lecture, 2 lab hours)

Units: 3

Course Typically Offered: Fall, Spring

MCJ 104. Editing of Publications

Prerequisites: pass Department Qualification Exam, MCJ 10, 70 units completed or permission of instructor. Preparation of copy, headlines, and photos for newspapers and other publications; advanced concepts of grammar and style; legal and ethical issues of publications; basic publications layout and graphic design. (2 lecture, 2 lab hours)

Units: 3

Course Typically Offered: Fall, Spring

MCJ 105. Newspaper Workshop

Prerequisites: MCJ 10, MCJ 30, or permission of instructor. Practice in editorial leadership, writing and editing development of multimedia content, and Campus newspaper production techniques. Department newspaper used for laboratory purposes. (1 lecture, 4 lab hours)

Units: 3

Course Typically Offered: Fall, Spring

MCJ 106. Publication Design

Survey, design, and editing of specialized publications such as newsletters, brochures, and other materials for editorial, advertising, and public relations purposes. Emphasis on computerized production techniques. (2 lecture, 2 lab hours)

Units: 3

Course Typically Offered: Fall, Spring

MCJ 108. In-Depth Reporting

Prerequisites: pass Department Qualification Exam, MCJ 10, MCJ 102W, ENGL 5B or ENGL 10, and 70 units completed or permission of instructor. Advanced reporting for the media with emphasis on community journalism. Capstone course. (2 lecture, 2 lab hours)

Units: 3

Course Typically Offered: Fall, Spring

MCJ 112. Audio Production

Prerequisite: MCJ 30. Introduction to the art of audio storytelling and basic digital audio production techniques. Design and execu-

tion of audio-based projects. (2 lecture, 2 lab hours)

Units: 3

Course Typically Offered: Fall

MCJ 113. Studio Video Production

Prerequisite: MCJ 30. Television studio production principles and techniques. Design and execution of multi-camera video productions. (2 lecture, 3 lab hours)

Units: 3

Course Typically Offered: Fall

MCJ 115. Field Video Production

Prerequisite: MCJ 30. Field video production and post-production principles and techniques in visual storytelling to include single-camera filmmaking, pre-production planning, production execution, post-production, and digital distribution techniques. (2 lecture, 2 lab hours)

Units: 3

Course Typically Offered: Fall

MCJ 116. Advanced Video Production

Prerequisites: MCJ 30, MCJ 113 and MCJ 115 or equivalents, with B or better. Advanced study of field and studio production. Exploration of narrative and non-fiction visual storytelling using single and multi-camera approaches. Advanced instruction in directing, lighting, sound, camera operation and post-production. Projects are intended for public distribution. (1 lecture, 4 lab hours)

Units: 3

Course Typically Offered: Fall

MCJ 118S. Corporate and Nonprofit Media Projects

Prerequisites: MCJ 30 and MCJ 115. Advanced study of the planning, organization, and execution of media production techniques for informational and educational communications projects for corporations and nonprofits; a service learning approach provides practical experience working in production teams with clients. (2 lecture, 2 lab hours)

Units: 3

Course Typically Offered: Spring

MCJ 120. Multimedia Production Studio Practicum

Prerequisites: MCJ 30. Supervised professional practice in producing media for clients and operation of media production facilities. Provides experience in production planning and management, field and studio production, post-production, and providing production services and technical assistance to students, faculty, and members of the public. 1-3 units, repeatable up to 6 units maximum.

Units: 1-3, Repeatable up to 6 units

Course Typically Offered: Fall, Spring

MCJ 124. Broadcast and Online News Writing

Prerequisites: pass Department Qualification Exam, MCJ 10, MCJ 102W. Gathering, writing, and editing news for distribution via the broadcast and online news media. (2 lecture, 2 lab hours)

Units: 3

Course Typically Offered: Fall, Spring

MCJ 126. Media Performance

Prerequisites: pass Department Qualification Exam; DRAMA 22, COMM 3, or COMM 8 or equivalents; and permission of instructor; MCJ 113 recommended. Exploration of the basic theories and techniques of media performance involved in announcing, hosting, reporting, and narrating of audio and visual programming. Emphasis on vocal and visual aspects of performance and preparation of material for media presentation. (2 lecture, 2 lab hours)

Units: 3

Course Typically Offered: Fall

MCJ 128. Broadcast News Reporting and Production

Prerequisites: MCJ 30, MCJ 124, MCJ 126 and permission of instructor; MCJ 113 recommended. Practical experience in news producing, reporting, and anchoring intended for distribution via broadcast, cable and/or online. Lecture and lab experiences focus on all aspects of production of weekly news and public affairs programs including news editorial and field video and TV studio production. Capstone course. (2 lecture, 3 lab hours)

Units: 3

Course Typically Offered: Spring

MCJ 131S. Online Media Design

Prerequisites: MCJ30, MCJ106 and MCJ115, or permission of instructor. Fundamentals of multimedia storytelling and online media design. Production of multimedia packages for online distribution that incorporate text, graphics, images, audio, and video. A service learning approach provides practical experience working in production teams with Community Benefit Organizations (CBOs) (see Community Engagement and Service Learning in the General Catalog). (2 lecture, 2 lab hours)

Units: 3

Course Typically Offered: Spring

MCJ 142. Advertising Procedures

Overview of all aspects of the field of advertising. Study of history, agent-client relationships, media, relationship to the behavioral sciences, production of copy and layouts, and advertising legislation and responsibility.

Units: 3

Course Typically Offered: Fall, Spring

MCJ 143. Advertising Sales

Prerequisite: MCJ 142. Advertising sales, account service, and account management for today's competitive marketplace; practical experience selling, creating, and producing advertisements for campus media operations. Practical experience working with "real world" clients. (2 lecture, 2 lab hours)

Units: 3, Repeatable up to 6 units

Course Typically Offered: Fall, Spring

MCJ 144. Advertising Copy Writing

Prerequisites: pass Department Qualification Exam, MCJ 10, MCJ 142. Develops print and broadcast copy writing for magazine, direct mail, outdoor, newspaper, radio, television, and new advertising media. Examines the role of the copy writer, creative strategies, research target marketing, copy styles,a nd laws regulating advertising.

Units: 3

Course Typically Offered: Spring

MCJ 146. Advertising Media

Prerequisite: MCJ 142. Media planning and buying for advertising media. Evaluating and selecting media to meet specific marketing and communication goals; designing specific media plans and making buys in various media.

Units: 3

Course Typically Offered: Fall, Spring

MCJ 148. Advertising Campaigns

Prerequisites: MCJ 142 and MCJ 144 or MCJ 146. Background, research, planning, and preparation of a national and local advertising campaign as advertising agency with client-agency set-up; marketing plan and creative execution. (2 lecture, 2 lab hours)

Units: 3

Course Typically Offered: Fall, Spring

MCJ 152S. Public Relations

Development of public relations practice; principles and methods; application in business, education, and other fields.

Units: 3

Course Typically Offered: Fall, Spring

MCJ 158S. Public Relations Writing

Prerequisites: MCJ 10, MCJ 102W, MCJ 152. Creating messages tailored to multiple groups via a range of media, including mass media and organizational media such as employee newsletters and annual reports. Practice writing news releases, opinion articles, direct mail pieces and so on. (2 lecture, 2 lab hours)

Units: 3

Course Typically Offered: Fall, Spring

MCJ 159S. Public Relations Cases and Campaigns

Prerequisites: MCJ 10, MCJ 102W, MCJ 152S, MCJ 158S, MCJ 164. Public relations teams plan a public relations campaign. Covers use of research findings, setting measurable objectives, identifying key publics, defining strategies, setting budgets, and evaluating results. Analyses and application of recent cases to solve public relations problems. (Formerly MCJ 159)

Units: 3

Course Typically Offered: Spring

MCJ 163. Media As Pop Culture

A consideration of the media as part of popular cultural through study of program forms and social influences.

Units: 3

Course Typically Offered: Fall, Spring

MCJ 164. Applied Media Research

Introduces various mass communication research methods. Emphasis on learning elements involved in the study of planning, designing, and executing mass communication research.

Units: 3

Course Typically Offered: Fall, Spring

MCJ 172. Media Law

Study of federal and state laws and regulations that apply to the media, covering such topics as freedom of information, libel, right to privacy, fair trial-free press, copyright, obscenity and indecency, advertising regulation, and broadcast law and regulation, and broadcast law and regulation.

Units: 3

Course Typically Offered: Fall, Spring

MCJ 173. Media Ethics

Study of ethical choices in the context of the political, social, and economic structure of U.S. communications systems. Also emphasizes applying traditional ethical theories to current media issues and problems.

Units: 3

Course Typically Offered: Fall, Spring

MCJ 174. History of Mass Media

Historical background of American media from colonial to modern times.

Units: 3

MCJ 175. Multicultural Mass Communication and Media Stereotypes

Prerequisites: G. E. Foundation and Breadth Area D. Explores psychological, social, economic, institutional, and political factors related to media stereotypes. Analyzes specific media stereotypes involving gender, sexual orientation, race, ethnicity, age, and physical conditions; looks at their behavioral and cultural effects. reviews strategies for improving media portrayals. G. E. Multicultural/International MI.

Units: 3

Course Typically Offered: Fall, Spring

GE Area: M/I

MCJ 176. International Mass Communication

Assesses complex international forces shaping global media. Examines ways mass media of North American countries and other nations affect international relations. Focuses on impacts of international news flows, role of media in national development, effects of transnational entertainment, and advertising content. G. E. Multicultural/International MI.

Units: 3

Course Typically Offered: Fall, Spring

GE Area: M/I

MCJ 177T. Media Topics

Prerequisite: upper-division standing. Topics explore various aspects of the relationships between media and society in national and international arenas.

Units: 3, Repeatable up to 6 units

MCJ 177T. Learning to Write in a Professional Film & Motion Picture Format

Students will learn how to write a Motion Picture Film using professional formats. The development of the class will include how to choose subjects for writing, dialog construction, character development, and how to write a short description of your film for submission to agents, producers and production companies.

Units: 3, Repeatable up to 9 units

MCJ 177T. Public Relations Agency Practicum

This course will provide students with an in-depth and hands-on exploration into the creation of public relations products for real world clients and the management of a public relations agency

Units: 3, Repeatable up to 6 units

MCJ 177T. Mass Communication Strategy

The objective of this course is to introduce students to the concepts and activities that comprise mass communication strategy. Students gain insight into the complex and interdependent variables involved in developing successful integrated marketing communication (IMC) strategies. Through a broad overview of advertising, PR, and marketing concepts, students will be challenged to understand sound business strategy and its relationship to mass communication.

Units: 3, Repeatable up to 6 units

MCJ 177T. Radio/Multimedia Journalism Writing and Reporting

Prerequisites: MCJ 124 and MCJ 102W with B or better. Intermediate broadcast news reporting and writing with an emphasis on audio. Laboratory goal: air-worthy stories for broadcast distribution on campus radio station.

Units: 3, Repeatable up to 6 units

MCJ 177T. Entrepreneurial Media-making and Producing for Film

This course teaches the fundamentals of entrepreneurial concepts, business management, and career opportunities as they relate to filmmakers and media producers. Lecture and laboratory experiences emphasize entrepreneurship, independent financing and distribution of work, self-employment, marketing, outreach, and dialogue with media professionals working in the field.

Units: 3, Repeatable up to 6 units

MCJ 178. New Media Technologies

Prerequisites: G.E. Foundation and Breadth Area D. Addresses the social, political, economic, and philosophical implications of new digital media, as well as the corporate, government, and institutional forces that have shaped the new digital media landscape. Particular attention is given to uses of the technologies and the dynamic relationship linking technology, culture, and social change. G.E. Integration ID.

Units: 3

Course Typically Offered: Fall, Spring

GE Area: ID

MCJ 179. Cineculture

Explores a wide range of socio-cultural-political topics through a series of film and lectures. Emphasis on critical analysis of diverse cultures as they are represented in film. Students develop a global awareness and understanding of cultural diversity. G. E. Multicultural/International MI.

Units: 3

Course Typically Offered: Fall, Spring

GE Area: M/I

MCJ 190. Independent Study

See Academic Placement - Independent Study. Approved for RP grading.

Units: 1-3, Repeatable up to 6 units

Course Typically Offered: Fall, Spring

MCJ 191. Internship

Prerequisites: permission of instructor. Applied practical experience in an appropriate media outlet, recording studio, production company, advertising agency, or public relations firm with on-the-job and faculty supervision/instruction. Conferences and reports required. Only one internship may count towards option requirements.CR/NC grading only.

Units: 3, Repeatable up to 12 units

Course Typically Offered: Fall, Spring

MCJ 203. Mass Media Industry and Issues

(Core) Examination of the ownership structure, economics, content, and effects of mass media. Contemporary media controversies are examined from both societal and industry points of view. Papers required. (Formerly MCOM 203)

Units: 3

MCJ 204. Introduction to Mass Comm Graduate Studies

Introduces students to the field of mass communication. Discussion includes an overview of various research methods in the field, the process and production of research proposals, and the process of planning a program of study. Emphasizes a scholarly style of writing.

Units: 3

MCJ 205. Mass Communication Theory

This course examines the history and development of prominent mass communication theories and their application in the field of mass communication research.

Units: 3

MCJ 206. Quantitative Methods in Mass Communication

Introduction in quantitative research designs and statistical procedures. Areas of examination include various statistical tests used in mass communication research, criteria for evaluating scientific research, and computer assisted (SPSS) statistical procedures. Students will design and complete a research project.

Units: 3

MCJ 207. Qualitative Methods in Mass Communication

This course examines various qualitative methods used in mass communication research, such as historical analysis, legal research, cultural analysis, content analysis, and participant/observer analysis. Students will design and complete a research project.

Units: 3

MCJ 214. Media Technology and Systems

Seminar in emerging communications media. Technological developments, corporate and governmental policies, and the sociopolitical implications of current and projected applications. (Formerly MCOM 214)

Units: 3

MCJ 215. Media Ethics and Regulation
Seminar in the law and ethics of mass communication, with emphasis on current social and ethical controversies and the impact of regulatory trends on media professionals. (Formerly MCOM 215)

Units: 3

MCJ 216. Global Media and International Relations
Focus on mass communication and international relations by examining global flow and impact of news, entertainment content, transnational advertising, and information technologies. Issues discussed in the context of international mass communication theory and research. (Formerly MCOM 216)

Units: 3

MCJ 240T. Seminar in Media Industry Practices and Management
Exploration of current challenges and advanced practices in the media or management in a particular media-related industry: advertising, broadcasting, public relations, journalism, Internet. (Formerly MCOM 240T)

Units: 3, Repeatable up to 9 units

MCJ 240T. Cultural Criticism of Media
An introduction to the analysis and interpretation of media texts. The student will learn theories and methodologies to understand and explain the cultural significance of mass media texts within a mass-media-saturated society.

Units: 3, Repeatable up to 9 units

MCJ 290. Independent Study
See Academic Placement - Independent Study. Approved for RP grading. (Formerly MCOM 290)

Units: 1-3, Repeatable up to 6 units

MCJ 298. Project
Prerequisites: permission of instructor; see Criteria for Thesis and Project. Completion of a significant project appropriate to the student's area of specialization. A written report and a presentation to the faculty are required. Approved for RP grading. One or two semesters, depending upon project complexity. (Formerly MCOM 298)

Units: 6

MCJ 298C. Project Continuation
Prerequisite: Project MCJ 298. For continuous enrollment while completing the project. May enroll twice with department approval. Additional enrollments must be approved by the Dean of Graduate Studies.

Units: 0

MCJ 299. Thesis
Prerequisite: See Criteria for Thesis and Project. Preparation, completion, and submission of an acceptable thesis for the master's degree. Presentation to the faculty is required. Approved for RP grading. (Formerly MCOM 299)

Units: 6

MCJ 299C. Thesis Continuation
Prerequisite: Thesis 298. For continuous enrollment while completing the thesis. May enroll twice with department approval. Additional enrollments must be approved by the Dean of Graduate Studies.

Units: 0

MCJ 429T. Filmmaking
Units: 3

MCJ 629T. 35MM Filmmkng
Units: 3

MECHANICAL ENGINEERING (ME)

ME 1. Introduction to Mechanical Engineering
Required of all freshmen and transfer students during their first or second semester of study. Introduction to engineering design; case studies in mechanical engineering; problem-solving using the engineering approach; introduction to engineering code of ethics, mechanical engineering profession, and career opportunities.

Units: 1

Course Typically Offered: Fall

ME 2. Computer Applications in Mech Engineering Lab
Prerequisites: MATH 75 (or concurrently). Students develop fundamental skills in basic analytical and design tools used in mechanical engineering. Topics covered include spreadsheet applications, graphing data, technical communication, programming concepts, and computer-aided design (CAD). (1 2-hr laboratory).

Units: 1

Course Typically Offered: Fall, Spring

ME 26. Engineering Graphics
Prerequisites: MATH 75 (or concurrently). Basic computer literacy required. Principles of orthographic projection, dimensioning, and descriptive geometry. Applications to the solution of engineering problems including the use of interactive computer graphics. (Two 3-hour lecture labs) (CAN ENGR 2)

Units: 3

Course Typically Offered: Fall, Spring

ME 29. Engineering Mechanics
Same as CE 29: Prerequisites: MATH 77 (or concurrently); PHYS 4A. Not open to mechanical or civil engineering majors. Study of fundamental priciples of statics and synamics by scalar and vector methods.

Units: 3

Course Typically Offered: Fall, Spring

ME 31. Engineering Materials
Prerequisites: CHEM 1A. and MATH 75 (or concurrently). Fundamental nature and properties of engineering materials; structure of matter and its effect on mechanical, electrical, magnetic, and thermal properties.

Units: 3

Course Typically Offered: Fall, Spring

ME 32. Engineering Materials Laboratory

Prerequisite: ME 31 and MATH 75 completed or concurrent. Application of experimental methods to engineering materials. Study of stress and strain in metals; fatigue; hardness; toughness. (3 lab hours)

Units: 1

Course Typically Offered: Fall, Spring

ME 95. Product Development

Prerequisites: ME 2 (or concurrently), ME 26, ME 31, and ME 32 (or concurrently) and MATH 75 (or concurrently). Examines the overall process of product development including preliminary design, drafting, material selection, fabrication, inspection, assembly, and testing. Laboratory component introduces basic machining and fabrication skills. (1 lecture, 3 lab hours)

Units: 2

Course Typically Offered: Fall, Spring

ME 112. Engineering Mechanics: Dynamics

Prerequisite: CE 20; MATH 81 or ENGR 101. Development of principles of kinematics and kinetics in engineering.

Units: 3

Course Typically Offered: Fall, Spring

ME 115. Instrumentation and Measurement Lab

Prerequisites: ECE 71, ECE 91, ECE 91L. Application of different measuring devices and techniques used in engineering systems. Calibration and response characteristics of instruments will be examined. Use of data acquisition system in the recording and analyzing of experimental data. Technical reports are required. (3 lab hours)

Units: 1

Course Typically Offered: Fall, Spring

ME 116. Fluid Mechanics

(ME 116 same as ENGR 116). Prerequisites: CE 20, MATH 81 or ENGR 101, and ME 112 (or concurrently). Fundamentals of fluid mechanics as applied to engineering problems.

Units: 3

Course Typically Offered: Spring

ME 118. Fluid Mechanics Laboratory

Prerequisites: ENGR 105W or successful completion of university writing exam, ME 115 (or concurrently); ME 116 (or concurrently). Applications of experimental methods used in engineering practice to fluid systems. (One 3-hour lab)

Units: 1

Course Typically Offered: Fall, Spring

ME 122. Dynamic Systems and Controls

Prerequisites: ME 112 and ME 115. Modeling of mechanical systems; mechanical feedback systems; time domain analysis; stability, frequency response, and root locus plots; performance criteria, and system compensations; applications of different measuring devices and techniques used in engineering systems. Lecture/lab.

Units: 3

ME 125. Engineering Statistics and Experimentation

Prerequisites: MATH 77 completed or concurrent. Provides fundamentals of statistical and uncertainity analysis applied to engineering measurements, experimental methods, product design, and manufacturing processes. Includes probability distributions, data sampling, confidence intervals, quality control, reliability, life testing, and analysis of uncertainity in experimental measurements.

Units: 3

Course Typically Offered: Fall

ME 134. Kinematics of Machinery

Prerequisites: ME 26, ME 112, CE 121; MATH 81 or ENGR 101. Analytical, graphical, and computer solutions applied to design problems in machinery, mechanisms. Cam design, different types of followers, cam manufacturing considerations. Gear design, different types of gears, gear trains. Students will be assigned class projects related to the topics covered in class. (2 lecture, 3 lab hours)

Units: 3

Course Typically Offered: Spring

ME 135. Introduction to Design - Senior Capstone Design I

Prerequisites: ME 134 (or concurrently), ME 145 (or concurrently), ME 154 (or concurrently), ME 156 (or concurrently). Senior standing required. Introduction to engineering design process with consideration given to economic, safety, quality, aesthetics, environmental, liability, and patent law issues. First semester of a two semester senior capstone design experience that culminates in a working prototype.

Units: 3

Course Typically Offered: Fall

ME 136. Thermodynamics

Prerequisites: CHEM 1A; PHYS 4A, MATH 77, and upper division standing. Fundamentals of thermodynamics and heat transfer as applied to engineering problems.

Units: 3

Course Typically Offered: Fall, Spring

ME 137. Turbomachinery

Prerequisites: ME 116 and ME 136. Applications of fluid mechanics and thermodynamics and rotor fluid energy interchange. Steady flow problems of pumps, compressors, and turbines with incompressible and compressible fluids. Both closed and open ended homework problems.

Units: 3

ME 140. Advanced Engineering Analysis

Prerequisites: CE 121; ECE 71; ME 112 (or concurrently), ME 116 (or concurrently). Development of finite element method of engineering analysis; applications to heat flow, fluid flow, vibrations, and stresses in mechanical design using appropriate numerical techniques and closed-form solutions of partial differential equations.

Units: 3

Course Typically Offered: Spring

ME 142. Mechanical Vibration

Prerequisites: ME 112. Mathematical and physical basis of vibra-

tion theory with applications to engineering analysis and design. Includes transient and steady state phenomena, distributed and lumped parameter systems, coupled systems, and computer solutions.

Units: 3

Course Typically Offered: Spring

ME 144. Advanced Mechanics of Materials

Prerequisites: CE 121, ME 125, MATH 81. Advanced topics in mechanics of materials. Statistical considerations in design, stress and strain theories; contact stresses, strain energy, Castigilano's theorem; failures resulting from static and dynamic loading; static and fatigue theories of failure; stress concentrations.

Units: 3

ME 145. Heat and Mass Transfer

Prerequisites: ME 116, ME 136, ME 140 or concurrently. Analytical, numerical, and electrical analogy methods are used to solve a variety of heat transfer and mass transfer problems. Advanced topics in radiation, boundary layer flow, and heat exchanger design.

Units: 3

Course Typically Offered: Fall

ME 146. Air Conditioning

Prerequisites: ME 116, ME 136. Theory and practice in air conditioning including psychrometrics, load estimating, heating and cooling systems, fluid design and controls. (lecture, 3 lab hours)

Units: 3

Course Typically Offered: Spring

ME 154. Design of Machine Elements

Prerequisites: ME 31, CE 121. Design of machine elements and components using theory learned in prerequisite courses. Both individual and team-type open-ended design projects are required. Use of computers for design is required. (2 lecture, 3 lab hours)

Units: 3

Course Typically Offered: Fall

ME 155. Senior Capstone Design II

Prerequisites: ME 135 and completion of Upper Division Writing Requirement, Engineering design process with consideration given to economic, safety, quality, aesthetics, environmental, liability, and patent law issues. Meeting client-based specifications; optimizing designs, working in a team environment, and developing project management skills form the basis for the course. second semester of a two-semester capstone design experience.

Units: 3

Course Typically Offered: Spring

ME 156. Advanced Thermodynamics

Prerequisites: ME 136. Advanced topics in thermodynamics including analysis of conventional and alternative energy conversion processes.

Units: 3

Course Typically Offered: Fall

ME 159. Mechanical Engineering Laboratory

Prerequisites: ME 118, ME 125, ME 145, ME 156 (or concurrently), and senior standing. Analysis of mechanical engineering and measurement systems. Students conduct experiments dealing with advanced thermal and mechanical systems. Using knowledge and experience gained from experimentation, students design and conduct their own group experiments. Both written and oral technical reports are required.

Units: 1

Course Typically Offered: Fall, Spring

ME 162. Computer-Aided Design

Prerequisites: ME 2, ME 26, ME 140, ME 145 (or concurrently). Survey of computer applications for design, analysis of mechanical systems, and manufacturing of mechanical components. Typical programming language software packages used in industry (CAD/CAM and FEA) will be introduced.

Units: 3

Course Typically Offered: Fall

ME 164. Mechanical Systems Engineering Design

Prerequisites: ME 135 and successful completion of university writing requirement. Open ended design problems of complete machine systems. Integration of prerequisite course material into final design project. Team project report/presentation required.

Units: 3

Course Typically Offered: Spring

ME 166. Energy Systems Design

Prerequisites: ME 135 and successful completion of university writing requirement. Design of conventional and alternative energy conversion systems i.e. solar; selection and integration of components of the system; use of codes and standards. Group project report required. Satisfies the senior major requirement for B.S. in Mechanical Engineering.

Units: 3

Course Typically Offered: Spring

ME 180. Special Projects

Prerequisites: senior standing in mechanical engineering, approved subject, department apporved writing course or successful completion of writing exam. Study of a problem under supervision of a faculty member; final typewritten report required. Individual project except by special permission.

Units: 1-3

Course Typically Offered: Fall, Spring

ME 190. Independent Study

See Academic Placement - Independent Study. Approved for RP grading.

Units: 1-3, Repeatable up to 6 units

Course Typically Offered: Fall, Spring

ME 191T. Topics in Mechanical Engineering

Prerequisite: permission of instructor. Investigation of selected mechanical engi neering subjects not in current courses.

Units: 1-3, Repeatable up to 6 units

ME 193. Mechanical Engineering Cooperative Intern-

ship
Prerequisite: permission of adviser. Engineering practice in an industrial or government installation. Each cooperative internship period usually spans a summer-fall or spring-summer interval. This course cannot be used to meet graduation requirements. CR/NC grading only.

Units: 1-6, Repeatable up to 12 units

Course Typically Offered: Fall, Spring

ME 211. Advanced Dynamics
Prerequisite: ME 134 or permission of coordinator. Dynamics of mechanical systems with emphasis on equations of motion. Kinematics of particles, energy and momentum methods, variational methods, LaGrange's method, kinematics and plane motion of rigid bodies, kinetics of rigid bodies in three dimensions, mechanical vibrations.

Units: 3

ME 215. Design Optimization of Engineering Systems
This course provides students with the ability to conceptualize and formulate design optimization problems and to utilize the best algorithms for a given class of problems. Topics include constraints, monotonicity, and methods to optimally design unconstrained and constrained engineering systems.

Units: 3

ME 220. Compressible Fluids
Prerequisite: ME 156 or permission of coordinator. Review of the foundations of fluid mechanics and thermodynamics. The velocity of sound, mach number and angle, differences between incompressible, subsonic, and supersonic flow. Isentropic flow, working charts and tables, choking operations of nozzles. Normal shock waves, ducts, shock tube analysis. Fanno and Rayleigh analysis, oblique shock waves, the PrandtlMeyer equation. Lift and drag on bodies in supersonic flow. Method of characteristics.

Units: 3

ME 221. Incompressible Fluids
Prerequisite: ME 156 or permission of coordinator. The kinematics of liquids and gases, the LaGrangian and Eulerian methods, streak lines, stream tubes. Geometry of the vector field, stokes, and Gauss's theorems, acceleration of a fluid particle, homogenous fluids and the equations of continuity. Integration of Eutor's equation, Bernoulli's equation. Potential motion and potential functions, source and sink potentials, the stream function. Vortex theory, surfaces of discontinuity.

Units: 3

ME 223. Gas Turbine Engines
First-year graduate course in mechanics and thermodynamics of jet engine propulsion. Thermodynamics of fluid flow and engines, boundary layer theory, subsonic and supersonic inlets, combustors, fans, compressors, turbines, nozzles, inlet distortion, fuel controls, noise reduction, ramjets adn scramjets.

Units: 3

ME 225. Heat Transfer
Conduction, convection, and radiation. One and two dimensional steady-state conduction, LaPlace's equation, numerical techniques. Transient heat transfer. Heisler charts, multiple-dimensional systems, boundary layers, Reynold's analogy. Forced and natural convection radiation heat transfer. Kirchoff's and Wien's laws, radiation shields.

Units: 3

ME 227. Advanced Thermodynamics
Prerequisite: ME 156 or permission of coordinator. Review of classical thermodynamics, Maxwell relations, equations of state, nonideal gases, experimental methods. Entropy and exergy analysis with applications to energy conversion devices and thermodynamic cycles, single- and multi-phase systems, and irreversibility in thermodynamics.

Units: 3

ME 229. Advanced Gas Dynamics
Review of supersonic flow. Vibrational and chemical rate processes, nonequilibrium chemical rate equations, rate equations for dissociation and recombination. Flow with vibrational or chemical nonequilibrium. Nonequilibrium kinetic theory; evaluation of collison cross sections. Flow with translational nonequalibrium. Radiative transfer in gases, and approximate solutions of the equation of radiative transfer.

Units: 3

ME 232. Advanced Aircraft Stability and Control
Prerequisite: ME 230. Continuation of ME 230. Validity of small disturbance theory, nonlinear equations of motion, steady state and dynamic stability and control of elastic airplanes. Frequency response methods, response to turbulence. Automatic flight control analysis adn design, the human pilot in te control loop, stability augmentation, digital flight control systems, state vector methods.

Units: 3

ME 241. Structural Analysis
Prerequisite: ME 134 or permission of coordinator. Graduate-level course in the principles of structural mechanics. Stress, strain and displacements, static and dynamic loads, energy methods, virtual work, discrete and continuous system analysis, finite element analysis elastic beams, plates, and frames; single and multi degree -of-freedom modal analysis.

Units: 3

ME 243. Structural Dynamics
Prerequisite: ME 241 or permission of instructor. Condinuation of ME 241. Von Karman theory, shear deformation, geometry and equilibrium of shells, theory of vibrations, vibrations of aircraft structures, coupling with the aerodynamic equation, flutter, ground and flight structural test techniques.

Units: 3

ME 290. Independent Study
Prerequisite: graduate status in engineering or permission of instructor. Approved for RP grading.

Units: 1-3, Repeatable up to 6 units

ME 291T. Topics in Mechanical Engineering
Prerequisite: graduate status in engineering or permission of instructor. Selected mechanical engineering subjects not in current courses.

Units: 1-3, Repeatable up to 6 units

ME 291T. Electron Microscopy and Microanalysis

This course is an introduction in the methods of electron Microscopy and Micro-analysis of inorganic solids including nano-materials, minerals and synthetic materials. The lecture focuses on the physical principles, strengths, and limitations of electron microscopy. This course provides insights on scanning electron microscopy, Energy Dispersive spectroscopy and sputtering techniques.

Units: 3, Repeatable up to 6 units

ME 291T. Power Systems and Renewable Energy

This course includes power plant technology, power plant engineering, and energey conversion. In this course you wil learn about the variety of power generation technologies. From novel technologies to traditional ones. From fossil fues to renewable energy. From nuclear fission to nuclear fusion. From renewable solar and wind energy to novel plasma processing of organic fuels. From hydrogen power in fuel cells to geothermal and hydro-electrical power. Learn about plants and new fusion projects to clean power generation of the future. Learn about Magneto-Hydro-Dynamic (MHD) generators; nuclear batteries; about the traditional power generation with coal, gas, and oil, and clean coal gasification technologies and coal to liquid fuels trends; how to protect the environment knowing the physics behind the power generation; energy environment; Energy Conservation and Energy Storage; several applications using present and future technologies including Plasma processing of organic components, among others.

Units: 3

ME 298. Project

Prerequisite: graduate status in engineering. See Criteria for Thesis and Project. Independent investigation of advanced character such as analysis and/or design of special engineering systems or projects; critical review of state-of-the-art special topics, as the culminating requirement for the master's degree. Abstract required. Approved for RP grading.

Units: 3

ME 298C. Project Continuation

Prerequisite: Project ME 298. For continuous enrollment while completing the project. May enroll twice with department approval. Additional enrollments must be approved by the Dean of Graduate Studies.

Units: 0

ME 299. Thesis

Prerequisite: see Criteria for Thesis and Project. Preparation, completion, and submission of an acceptable thesis for master's degree. Approved for RP grading.

Units: 3, Repeatable up to 6 units

ME 299C. Thesis Continuation

Prerequisite: Thesis ME 298. For continuous enrollment while completing the thesis. May enroll twice with department approval. Additional enrollments must be approved by the Dean of Graduate Studies.

Units: 0

MECHANIZED AGRICULTURE (MEAG)

MEAG 1. Introduction to Agricultural Mechanics

Selection, care, and use of common farm tools, projects of wood and metal; mechanical skills in the field of agriculture. (2 lecture, 3 lab hours) (Course fee, $35)

Units: 3

Course Typically Offered: Fall, Spring

MEAG 3. Agricultural Tractors

Study of functions physical capabilities, applications, economics and improvement of tractors. Testing and analysis of tractors in laboratory and field conditions to maximize efficiencies. (2 lecture, 3 lab hours; 5 hours field operation)

Units: 3

Course Typically Offered: Fall

MEAG 5. Power Equipment Safety

Safety training for operation of power equipment. Meets requirements of Senate Bill 198 and University Agricultural Laboratory (UAL) for classroom safety instruction on using tractors and similar power equipment. Satisfactory completion meets safety training portion requirement of the UAL Tractor License. (16 hours, meets four consecutive times) CR/NC grading only. (FOrmerly PLANT 170T)

Units: 1

Course Typically Offered: Fall, Spring

MEAG 20. Agricultural Machinery and Equipment

The study of functions and applications of machinery and equipment. Setup, and calibration, analysis and adjustment of agricultural machinery common to the San Joaquin Valley under field conditions will be emphasized. Equipment will be evaluated for efficiency and effective performance. (2 lecture, 3 lab hours)

Units: 3

Course Typically Offered: Spring

MEAG 50. Metallurgical Processes

(MEAG 50 same as IT 71.) Fundamentals of metallurgy; properties and characteristics of metals; survey of metal welding processes, equipment, and procedures; theory-discussion and laboratory experience in oxygen-fuel welding, cutting, brazing, and shielded metallic arc welding. (2 lecture, 3 lab hours) (Course fee, $50)

Units: 3

Course Typically Offered: Fall, Spring

MEAG 53. Electricity and Electronics

(IT 52 same as MEAG 53.) Introduction to electricity including fundamentals of electrostatics, alternating and direct current electrical circuits, electrical calculations, magnetics, circuit applications, electrical measuring, and test equipment. Schematics and wiring diagrams, standards, and codes. (2 lecture, 2 lab hours) (Course fee, $5)

Units: 3

Course Typically Offered: Fall, Spring

MEAG 103. Electro-Hydraulics

Prerequisites: MEAG 3. Theory and practice in the operation, service, adjustment, and function of the component parts of fluid power systems. Design application of systems to agricultural equipment. Major emphasis is on computerized electronic controls of hydraulic systems. (2 lecture, 3 lab hours)

Units: 3

Course Typically Offered: Spring

MEAG 112. Power Systems Technology

Prerequisite: MEAG 3. Principles of the internal combustion engine; overhauling, repairing, and adjusting of gasoline, diesel, and LPG farm engines. Practices in repair technology and engine replacement as well as cost analysis decisions. (2 lecture, 3 lab hours)

Units: 3

Course Typically Offered: Spring

MEAG 113. Power Transmissions

Prerequisite: MEAG 3. Theory and operation of electro-hydraulic assist transmissions, synchronized transmissions; gear transmissions; clutches; brakes; final drives, selecting devices, mechanical front wheel drives, four wheel drive, and rubber/steel track drives. (2 lecture, 3 lab hours)

Units: 3

Course Typically Offered: Fall

MEAG 114. Small Gasoline and Compact Diesel Engines

Prerequisite: MEAG 1. Theory of operation, maintenance, and repair of small gasoline and diesel internal combustion engines. Emphasis on use of small engines in agricultural education. (2 lecture, 3 lab hours)

Units: 3

Course Typically Offered: Fall, Spring

MEAG 120. Advanced Farm Machinery

Prerequisite: MEAG 3. Theory, operation, and management economics of planters, tillage tools, harvesting and spraying equipment. Managerial responsibilities under State and Federal mandates will be emphasized. (2 lecture, 3 lab hours)

Units: 3

Course Typically Offered: Fall

MIDDLE EAST STUDIES (MES)

MES 10. Introduction to Modern Middle East

A thematic introduction to the Middle East through examination of its geography, ethnicities, nationalities, cultures, art, literature, architecture, religions, history, politics, and economy.

Units: 3

GE Area: D3

MANAGEMENT (MGT)

MGT 104. Administrative Principles of Management

Prerequisite: BA 105W or ENGL 160W (may be taken concurrently). Not open to students with credit in MGT 110. Business majors need department consent to tkae this course. Focus on planning techniques, organization theory, and ethical control processes in domestic and international business. Case analysis, management simulations, and written projects.

Units: 3

Course Typically Offered: Fall, Spring

MGT 106. Behavioral Principles of Management

Prerequisite: BA 105W or ENGL 160W (may be taken concurrently). Not open to students with credit in MGT 110. Business majors need department consent to take this course. Focus upon the human dimensions and interpersonal skills of management, including motivation, job design, leadership, conflict, communication networks, and organizational change. Case analysis, written projects, small group exercises, and development of communication and interpersonal skills.

Units: 3

MGT 110. Administration and Organizational Behavior

Prerequisite: BA 105W. Not open to students with credit in MGT 104 or MGT 106. Development of management skills with emphasis on organization, communication networks, leadership, reward systems, conflict management, change, ethics, and stress. Case analysis, written projects, small group exercises. (3 unit lecture; 3 unit lab)

Units: 6

Course Typically Offered: Fall, Spring

MGT 124. Production/Operations Management

Prerequisites: DS 123 (may be taken concurrently); BA 105W or ENGL 160W; MGT 110. Production/operations systems and problems in manufacturing and service organizations, including product development and process selection; facility location and design; operations planning and control; materials handling; inventory and quality control; project management. Lecture discussion; computer simulation.

Units: 4

Course Typically Offered: Fall, Spring

MGT 127. Contemporary Leadership

Prerequisites: MGT 110 and BA 105W or ENGL 160W (may be taken concurrently). Individual and team leadership development. Leadership potential assessment, contemporary leadership theories, and oral and written communications skill development. Guest speakers, experiential exercises, and case studies.

Units: 3

MGT 131. International Management

Prerequisites: MGT 110. A review of the unique issues, problems, and challenges of managing enterprises in an international environment. Comparative analysis of management styles and cultures, managerial processes and strategy formulation. Focuses on American, European, and Japanese enterprises. Seminar discussion and cases.

Units: 3

Course Typically Offered: Fall, Spring

MGT 133S. Managing Nonprofit and Socially Responsi-

ble, Sustainable Organizations

Prerequisites: MGT 104 and MGT 106, or MGT 110 and BA 105W or ENGL 160W (may be taken concurrently). Examination and analysis of the critical features of nonprofit and socially responsible, sustainable organizations in the private sector. Topics include ethics issues in management, governance, managing and motivating volunteers and employees in nonprofit context, sustainability approaches and practices. Lecture, case studies, field experience, and research.

Units: 3

Course Typically Offered: Fall, Spring

MGT 158. Project Management

(Same as IS 186.) Fundamental concepts and techniques addressing all phases, process groups, and knowledge areas in the Project Management Body of Knowledge; software tools for planning, scheduling, and control of projects; satisfies education requirements for Project Management Institute PMP and CAPM certifications. (2 lecture, 2 lab hours)

Units: 3

Course Typically Offered: Fall, Spring

MGT 180. Seminar in Management Theory and Organization Design

Prerequisites: MGT 110 and BA 105W or ENGL 160W (may be taken concurrently). Organizations as open systems functioning in the external environment; organization development as a planned intervention emphasizing effective implementation of system changes, integrating mechanisms in response to perceived contingencies; and strategic issues of organizational life cycles.

Units: 3

Course Typically Offered: Fall, Spring

MGT 182. Seminar in Applied Conflict Management Techniques

Prerequisites: MGT 110 and BA 105W or ENGL 160W (may be taken concurrently). Sources of conflicts and how to resolve them in organizations; theory and practice of negotiation, alternative conflict resolution techniques, mediation, employee voice, and employee deviance. Experiential exercises and case analyses will be used to enhance the application of the course material.

Units: 3

MGT 187. Seminar in Strategic Management

Prerequisites: last-semester senior, completion of CSB core requirements (only MGT 124 may be taken concurrently); and BA 105W or ENGL 160W. Focuses on strategic management, industry analysis, global competitive environment, formulation and implementation of strategy, ethical issues, mergers and acquisitions, and management of strategic alliances. Case analysis/computer simulations included.

Units: 3

Course Typically Offered: Fall, Spring

MGT 189T. Topics in Management

Prerequisite: senior standing. Studies in management, organizational theory, organizational behavior, production, transportation, business administration, special management and organizational problems.

Units: 1-3, Repeatable up to 9 units

MGT 190. Independent Study

See Academic Placement - Independent Study. Approved for RP grading.

Units: 1-3, Repeatable up to 6 units

Course Typically Offered: Fall, Spring

MGT 195. Internship

Prerequisite: permission of internship coordinator. Requires 150 hours of work at a pre-qualified, academically-related work station (business, government or nonprofit agency). Reflective journal, final report, and work station evaluation. Prior department approval is required for course substitutions. Only one internship may count toward option requirements. CR/NC grading only.

Units: 3, Repeatable up to 6 units

Course Typically Offered: Fall, Spring

MARKETING (MKTG)

MKTG 100. Marketing Concepts

Recommended for first semester juniors. Prerequisite or corequisite: BA 105W or ENGL 160W. Learn how marketing activities such as pricing, promotion, packaging, and distributing goods and services in international, national, profit, not-for-profit, service, consumer, and industrial markets are used to facilitate satisfaction of consumer needs. S sections include a service-learning requirement (see Students for Community Service.)

Units: 4

MKTG 100S. Marketing Concepts

Prerequisites: G.E. Foundation and Breadth Area D. Recommended for first semester juniors. Prerequisite or corequisite: BA 105W or ENGL 160W. Learn how marketing activities such as pricing, promotion, packaging, and distributing goods and services in international, national, profit, not-for-profit, service, consumer, and industrial markets are used to facilitate satisfaction of consumer needs. S sections include a service-learning requirement (see page 45.) (see Students for Community Service.) G.E. Multicultural/International MI.

Units: 4

Course Typically Offered: Fall, Spring

GE Area: M/I

MKTG 101. Marketing Research

Recommended early in the Marketing Option. Prerequisite: A grade of C or better in MKTG 100S. Examination of the role of marketing research in management decision making, using the Internet as a source of information and as a marketing tool. Also covers the marketing research process, including questionnaire development, surveys, and how to understand and use statistical data analysis.

Units: 4

Course Typically Offered: Fall, Spring

MKTG 110. Consumer Behavior

Prerequisite: A grade of C or better in MKTG 100S. Understanding

of consumer (individual and industrial) behavior in the marketplace. Theories from sociology, anthropology, economics, and psychology are applied to behavior in the market place. This understanding is then translated into more effective marketing strategy and tactics.

Units: 4

Course Typically Offered: Fall, Spring

MKTG 114. Principles of Logistics and Supply Chain

Prerequisite: A grade of C or better in MKTG 100S. Analyzes how firms utilize collaborative distribution intermediaries to gain a competitive advantage in local and global markets through integration of Logistics and SCM. Examines the management of the physical flow of products and information throughout the entire supply chain. Other topics: plant and warehouse location analysis, transportation, fleet, warehousing and storage management.

Units: 4

Course Typically Offered: Fall, Spring

MKTG 115. Global Logistics and Supply Chain Strategies

Prerequisite: A grade of C or better in MKTG 100S. Operating, controlling, and evaluating an integrated logistics and supply chain management-oriented channel structures for globally competitive environment. Customer Service and CRM, security and privacy. Inbound and outbound traffic management. Export/import logistics and procedures, introduction and demonstration of ERP (e.g., SAP, Oracle/PeopleSoft, JD Edwards, and Microsoft Dynamics supply-chain Management softwares).

Units: 4

MKTG 126. Purchasing and Materials Management

Prerequisite: A grade of C or better in MKTG 100S. Purchasing and supply chain management planning, policies, and procedures; purchasing organization; sources of supply, pricing; contract negotiation; value analysis; traffic management; quality assurance; inventory management; public purchasing; and legal and ethical aspects of purchasing.

Units: 4

MKTG 130. Retail Managing and Merchandising

Prerequisite: A grade of C or better in MKTG 100S. Location, price, and promotion topics are enhanced with the buying and merchandising process, including buying planned stocks, style merchandising, and accounting and controlling systems.

Units: 4

Course Typically Offered: Fall

MKTG 132. Promotion Mix: Principles and Practices

Prerequisite: A grade of C or better in MKTG 100S. The focus is on promotion as a communications process and the intergration of promotional elements into the total strategy of the firm. Students examine what makes promotions work, when and where to promote, and how promotions utilize data from the Marketing Information System.

Units: 4

Course Typically Offered: Fall, Spring

MKTG 134. Entrepreneurial Marketing

Prerequisite: A grade of C or better in MKTG 100S. A practical look at building a marketing plan for the person or firm interested in the development of a new product or service. A key element of the course is a project; students build a detailed plan to solve marketing-related problems a business faces, whether old or new.

Units: 4

MKTG 140. Global Marketing

Prerequisite: A grade of C or better in MKTG 100S. (BA 174 required for International Business Option only.) Examination and evaluation of business policies and practices of firms engaged in world trade; the marketing area; organization, product, channels of distribution, marketing research, demand creation and other management problems.

Units: 4

Course Typically Offered: Spring

MKTG 144. Services Marketing

Prerequisites: A grade of C or better in MKTG 100S. Service strategies in industries representing 75 percent overwhelming majority of the national job market, including telecommunications, healthcare, financial services, fine arts, professional services, distribution, entertainment, and not-for-profit organizations. Emphasis is on the distinctive approach necessary for successful long-term marketing of services.

Units: 4

MKTG 150. Sports Marketing

Prerequisite: A grade of C or better in MKTG 100S. Development and application of marketing strategies in sports and sports-related industries. Focuses on research, segmentation, product development, pricing, sponsorships, consumer behavior, licensing, branding, and promotions in sports venues. A key element of the course is a comprehensive group project.

Units: 3

Course Typically Offered: Fall, Spring

MKTG 153. E-Marketing Technologies and Social Media

Prerequisites: A grade of C or better in MKTG 100S. Marketing products and services using current internet technologies. Developing e-product, e-price, e-promotion, e-place strategies, e-marketing plan, and organization websites.

Units: 4

MKTG 160. Professional Selling & Sales Force Management

Prerequisite: A grade of C or better in MKTG 100S. Persuasion tools to cultivate ideas and sell products/services; modern behavioral techniques to build a productive sales force. Personal marketing: presentation skills, resume creation, and job interview strategies. (Formerly MKTG 103).

Units: 4

MKTG 161. Sports Licensing, Sponsorship, and Promotion

Promotional practices used in the field of Sports Marketing: licensing, sports sponsorships, sports selling, and the use of social media as a sports promotional tool.

Units: 4

MKTG 162. Healthcare Marketing
Introduction to the principles and practices associated with marketing's role in the healthcare industry. Evaluation and implementation of marketing strategies within healthcare and managed-care environments.

Units: 2

MKTG 163. Political Marketing
Marketing strategies used in the U.S. political arena: campaign strategy, spending regulations, fundraising, press relations, various communication delivery systems, promotions, media usage, and candidates' image development and positioning.

Units: 2

MKTG 164. Profitability and Pricing
The role of marketing in price determination and the critical impact that pricing has on profitability and product success. New product pricing, competitor price analysis, global pricing strategies, and legal considerations.

Units: 2

MKTG 165. Marketing to the Base of the Pyramid
Market characteristics, challenges, and business model for low income markets. Developing the market and improving quality of life by leveraging technologies, co-creating products, and using microfinance.

Units: 2

MKTG 166. Principles and Practices of Branding
Branding in business and business to consumer environments; value and benefits of brands; key elements/methodologies required to create and maintain strong brands and to protect brand assets.

Units: 2

MKTG 167. Environmental Sustainability & Marketing
Subtle interrelations of regulations, technological innovations, policies, organizational and consumer behaviors in the pursuit of environmental sustainability; perspectives, meaning, goals, and assessment of sustainability; role of marketing in environmental sustainability.

Units: 2

MKTG 188. Strategic Planning in Marketing
Prerequisites: Last semester senior standing. Integration of marketing with other functional areas of business. Focus is on strategic planning process and procedures leading to development of marketing plans, including financial analysis and budgeting. Must be taken only at California State University, Fresno.

Units: 4

Course Typically Offered: Fall, Spring

MKTG 189T. Topics in Marketing
Prerequisite: senior standing or permission of instructor. Topics in advertising, consumer behavior, distribution, industrial procurement, marketing research, retailing, wholesaling.

Units: 1-3, Repeatable up to 6 units

MKTG 190. Independent Study
See Academic Placement --Independent Study. Approved for RP grading.

Units: 1-3, Repeatable up to 6 units

Course Typically Offered: Fall, Spring

MKTG 195. Internship
Prerequisite: MKTG 100S. Requires 150 hours of work at a pre-qualified, academically-related work station. When completing more than one internship for credit, students are required to do so in different sectors (business, government or nonprofit.) Reflective journal, final report, and work station evaluation. CR/NC grading only.

Units: 3

Course Typically Offered: Fall, Spring

MASTER OF PUBLIC ADMINISTRATION (MPA)

MPA 200. Administration and Society
How administration acts and is acted upon by institutional forces and values; role of history, cultural, ethical, political, social, and economic values and institutions; an emphasis on: bureaucracy, economy and democracy, centralization vs. decentralization, professionalism and society; alternatives to bureaucracy.

Units: 3

MPA 201. Quantitative Applications for Public Administration
Exploring different methods of data analysis for understanding how public decisions are made and public policies are evaluated. data collection; measurement; sampling; data analysis, including regression, are explored with practical applications. (Formerly MPA 120G)

Units: 3

MPA 210. Organizational Theory in Public Administration
A study of the key issues involved in the management of public organizations. This examination of organizational behavior and theoriess of complex organizations includes the following: Leadership styles; communication; organizational change; hierachy and organizational structure; and organizational culture.

Units: 3

MPA 215. State and Local Government
State and local government will prepare students to understand the history of these governmental units and how they interact with the Federal government. Legislatures, executives, courts and city, and county councils are studied, particularly in terms of their emphasis on public policy.

Units: 3

MPA 230. Public Budgeting
This course examines the budget process, the use of economic analysis in evaluating taxation and expenditure issues, and the development and analysis of budget proposals. The course also includes discussion of burdens and effectiveness of different taxes and considers potential reforms to the budgeting process.

Units: 3

MPA 240. Seminar in Public Management
An inquiry into contemporary issues facing public managers. Topics that can be covered include: Accountability; performance management; development of information technology; e-government; public management reforms; implications of privatization/ contracting out; and public governance.

Units: 3

MPA 241. Resource Management
Prerequisite: MPA 240. Administration of fiscal and human resources. Emphasis on resource acquisition, allocation, and development strategies; budgeting skills, debt, and financial management. Human asset management, labor relations, position classification and analysis, quality of work life and employment equity issues.

Units: 3

MPA 245. Human Resources Management
This course explores the development of the merit system in government; hiring and termination; career development; human resource planning; management-labor relations; equal opportunity; affirmative action; workplace diversity; and the legal dimension of the public personnel system.

Units: 3

MPA 250. Ethics and Public Administration
(MPA 250 same as AETH 202.) Prerequisite: MPA 210. The moral dimensions of public administrative decision-making. The nature of public and private morality; psychological and ethical egoism; relativism; utilitarianism and deontological theories; rights and goods in the public service context; sensitive applications of rules in public agencies.

Units: 3

MPA 260. Public Policy Administration
Prerequisites: MPA 120G, MPA 200, MPA 210, MPA 240. A study of policy initiation, formulation, and implementation and a public manager's role in them; management processes and functions in the policy process; policy justification and advocacy, policy analysis, and implementation evaluation.

Units: 3

MPA 280T. Topics in Public Administration
Selected topics meeting student needs and interests that are not met in other university courses.

Units: 3, Repeatable up to 6 units if no topic repeated

MPA 280T. Program Evaluation
This course explains the approaches and tools for evaluation of public programs. Topics will include identifying issues and formulating questions, needs assessment, measuring and monitoring program outcomes, different evaluation designs, analyzing and interpreting program effects, and communicating the results to stakeholders. The course will also examine how evaluations affect public policy and public administrators and the challenges evaluators confront when conducting evaluations.

Units: 3

MPA 287. Internship in Public Administration
Supervised work experience for a realistic exposure to an organizational-bureaucratic environment for students in the M.P.A. program who lack significant work experience in a public or nonprofit organization. CR/Nc grading only.

Units: 3

MPA 289T. Practitioner Seminar
Prerequisite: Some seminars may have prerequisite courses. Selected topics in the administration of public programs and agencies examined from the perspective and experience of practitioners.

Units: 1-3; Repeatable up to 6 units if no topic repeated

MPA 290. Independent Study
See Academic Placement --Independent Study. Approved for RP grading.

Units: 1-3, Repeatable up to 6 units

MPA 299. Thesis
Prerequisite: See Criteria for Thesis and Project. Preparation, completion, and submission of an acceptable thesis for the Master's degree. Approved for RP grading.

Units: 3

MPA 299C. Thesis Continuation
Prerequisite: MPA 299 Thesis. For continuous enrollment while completing the thesis. May enroll twice with department approval. Additional enrollments must be approved by the Dean of Graduate Studies.

Units: 0

MILITARY SCIENCE (MS)

MS 1. Introduction to Military Science
Organization and function of the U.S. Army; basic traditions, customs, and protocol. Introduction to basic leadership skills, map reading, and management techniques.

Units: 1

Course Typically Offered: Fall

MS 2. General Military Skills and Survival Training
Training in basic Soldier skills. Focuses on basic training skills, first-aid procedures, field crafts, and leadership.

Units: 1

Course Typically Offered: Fall, Spring

MS 11. General Leadership Skills
Basic rope work to include knots and rappelling, basics of orienteering and land navigation, basic marksmanship and military briefings.

Units: 2

Course Typically Offered: Fall

MS 12. Basic Leadership and Management
Principles of leadership; principles of resource management; group goal attainment focusing on leader, group, and situational needs.

Units: 2

Course Typically Offered: Spring

MS 13. Leadership Training Course

Prerequisite: permission of instructor. A four-week training program during the summer. This course is a "no obligation" look at the U.S. Army's basic leadership skills and training overview. Training is held and pay provided at Fort Knox, Kentucky.

Units: 3

Course Typically Offered: Fall, Spring

MS 50A. Freshman Leadership Laboratory

Open to freshman Army ROTC students. Practical work to augment classroom instruction. Weekly morning laboratories plus one field trip each semester. Attendance at all functions is voluntary.

Units: 1, Repeatable up to 2 units

Course Typically Offered: Fall, Spring

MS 50B. Sophomore Leadership Laboratory

Open to sophomore Army ROTC students. Practical work to augment classroom instruction. Weekly morning laboratories plus one field trip each semester. Attendance at all functions is voluntary.

Units: 1, Repeatable up to 2 units

Course Typically Offered: Fall, Spring

MS 131. Advanced Leadership and Management

Prerequisite: permission of instructor. Personnel management problems and techniques of motivation as applied to a military environment; techniques and methods of instruction; application of basic military skills; military law.

Units: 3

Course Typically Offered: Fall

MS 132. Small Unit Leadership

Prerequisite: MS 131 or permission of instructor. Principles of tactics and operations; organization of small units and their employment; field orders and instructions; small unit leadership techniques.

Units: 3

Course Typically Offered: Spring

MS 133. Leadership Development and Assessment Course (LDAC)

Prerequisite: permission of instructor. A four-week summer camp conducted at Fort Lewis, Washington. Topics include familiarization with U.S. Army weapons systems, military skills, confidence training, light infantry tactics, and leadership and management techniques.

Units: 3

Course Typically Offered: Fall, Spring

MS 141. Adaptive Leadership

Prerequisite: permission of instructor. Military Professional Ethics, Military Justice, Command and Staff Functions, Mission and Organization of the U.S. Army and Military Correspondence.

Units: 3

Course Typically Offered: Fall

MS 142. Leadership in a Modern World

Prerequisite: permission of instructor. Required course for MS IV cadets. Instruction focuses on transitioning from cadet to lieutenant. Topics include responsibilities of army officers, army leadership doctrine, introduction to insurgency, and the army organization. Emphasis on skills used early in an officer's career.

Units: 3

Course Typically Offered: Spring

MS 150A. Junior Leadership Laboratory

Open to junior Army ROTC students. Practical work to augment classroom instruction. Weekly morning laboratories plus one field trip each semester. Attendance at all functions is mandatory. Must be taken each semester a student is enrolled in the Advanced Course.

Units: 1, Repeatable up to 2 units

Course Typically Offered: Fall, Spring

MS 150B. Senior Leadership Laboratory

Open to senior Army ROTC students. Practical work to augment classroom instruction. Weekly morning laboratories plus one field trip each semester. Atten dance at all functions is mandatory. Must be taken each semester a student is enrolled in the Advanced Course.

Units: 1, Repeatable up to 2 units

Course Typically Offered: Fall, Spring

MS 190. Independent Study

See Academic Placement - Independent Study. Approved for RP grading.

Units: 1-3, Repeatable up to 6 units

Course Typically Offered: Fall, Spring

MS 192. Directed Reading in Selected Military Topics

Prerequisites: MS 131, MS 132, MS 141 and permission of instructor. Directed reading in military history and/or the role of the army in the formulation of national policy in consultation with a faculty adviser. Requires a substantial writing requirement.

Units: 3

Course Typically Offered: Fall, Spring

MARINE SCIENCE (MSCI)

MSCI 103. Marine Ecology

Prerequisites: ecology and statistics (or concurrent registration in MSCI 104) or permission of instructor. A field-oriented introduction to the interrelationships between marine and estuarine organisms and their environment with emphasis on quantitative data collection and analysis. (2 lecture, 6 lab or field hours)

Units: 4

MSCI 104. Quantitative Marine Science

Prerequisite: college mathematics. The mathematical methods for analysis of biological, chemical, and physical data from the marine environment; experimental design, parametric and nonparametric statistics. (3 lecture, 3 lab or field hours)

Units: 4

MSCI 105. Marine Science Diving
Prerequisites: upper-division science major; thorough physical examination; ability to pass swimming test. Skin and SCUBA diving course; pool-training culminates in 10 ocean dives. Topics include diving physics, physiology, diving environments, night diving environments, night diving, and research diving. Succesful completion gives NAUI and MLML certification. (1 lecture, 6 lab or field hours)

Units: 3

MSCI 112. Marine Birds and Mammals
Prerequisite: upper-division vertebrate zoology; MSCI 103 recommended. Systematics, morphology, ecology, and general biology of marine birds and mammals. (2 lecture, 6 lab or field hours)

Units: 4

MSCI 113. Marine Ichthyology
Prerequisite: college zoology or equivalent. 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. (2 lecture, 6 lab or field hours)

Units: 4

MSCI 124. Marine Invertebrate Zoology I
Prerequisite: college zoology or permission of instructor; MSCI 103 recommended. A field-oriented introduction to the structure, systematics, evolution, and life histories of the major phyla. (2 lecture, 6 lab or field hours)

Units: 4

MSCI 125. Marine Invertebrate Zoology II
Prerequisite: college zoology or permission of instructor; MSCI 103 and MSCI 124 recommended. A field-oriented introduction to the structure, systematics, evolution, and life histories of the minor phyla. (1 lecture, 6 lab or field hours)

Units: 3

MSCI 131. Marine Botany
Prerequisite: MSCI 103 recommended. Introduction to the plants of the sea, marshes, and dunes, with emphasis on the morphology, taxonomy, and natural history of seaweeds and vascular plants. (2 lecture, 6 lab or field hours)

Units: 4

MSCI 135. Physiology of Marine Algae
Prerequisites: MSCI 103, MSCI 131, MSCI 144. Develops physiological basis for understanding the adaptation of marine algae (seaweeds and microalgae) to their environment. Students will learn modern methods in physiological research, covering areas such as photosynthesis, respiration, enzyme activity, biochemical composition. (2 lecture, 6 lab hours)

Units: 4

MSCI 141. Geological Oceanography
Prerequisite: MSCI 142 or MSCI 143 or concurrently. Structures, physiography, and sediments of the sea bottom and shoreline. (2 lecture, 6 lab or field hours)

Units: 4

MSCI 142. Physical Oceanography
Prerequisite: college algebra; college physics recommended. 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; does not required calculus. (3 lecture, 3 lab or field hours)

Units: 4

MSCI 143. Chemical Oceanography
Prerequisite: one year of college chemistry. 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. (2 lecture, 6 lab and field hours)

Units: 4

MSCI 144. Biological Oceanography
Prerequisites: general biology and general chemistry. The ocean as an ecological system. Emphasis is on the complexity of organismal-environmental interaction of the plankton, the transfer of organic matter between trophic levels and nutrient cycles. Laboratory includes methods in sampling, shipboard techniques, identification of plankton, and current analytical techniques. (2 lecture, 6 lab or field hours)

Units: 4

MSCI 173T. Topics in Marine Biology
Prerequisite: permission of instructor. The study of a selected area in marine biology (morphology, physiology, ecology, etc.). Subjects will vary depending on student demand and availability of instructors. (Lecture and/or laboratory)

Units: 1-4

MSCI 174T. Topics in Oceanography
Prerequisite: permission of instructor. The study of selected areas in oceanography; subject varies depending on student demand and availability of instructors. (Lecture and/or laboratory)

Units: 1-4

MSCI 175T. Topics in Marine Science
The study of a selected area in the marine sciences. The subjects vary depending on student demand and availability of instructors. (Lecture and/or laboratory)

Units: 1-4

MSCI 180. Independent Study
Prerequisite: permission of instructor. Faculty directed study of selected problems; open to under graduate students with adequate preparation. Approved for RP grading.

Units: 1-4, Repeatable up to 6 units

MSCI 201. Library Research Methods in Marine Science
Prerequisites: graduate standing and permission of instructor. Provides framework for using and evaluating information sources in marine science. Strong emphasis will be placed on developing critical skills. Interweaving bibliographic tools in to the history of marine science will reinforce knowledge of the appropriate resource for each question.

Units: 1

MSCI 202. Oceanographic Instrumentation

Prerequisites: MSCI 141, MSCI 142 and permission of instructor. 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 measurements. Offered alternate spring semesters. (2 lecture 6 lab or field hours)

Units: 4

MSCI 204. Sampling and Experimental Design

Prerequisites: MSCI 103, MSCI 104. Basic design of experiments and field sampling, including random sampling, systemic sampling, subsampling, survey techniques, and design of single and multifactor experiments using randomized and block experimental designs.

Units: 4

MSCI 206. Molecular Biological Techniques

Prerequisites: graduate standing; college level genetics, molecular biology, or permission of instructor. 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.

Units: 4

MSCI 208. Scientific Methods

Prerequisite: graduate standing, permission of instructor. Information and skills for graduate students beginning their research careers. Includes the philosophy of science, scientific writing, design of experiments and sampling programs, and using library and other resources.

Units: 4

MSCI 211. Ecology of Marine Birds and Mammals

Prerequisites: MSCI 103, MSCI 104, MSCI 112. Community approach to the ecology of marine birds and mammals using experimental and sampling methodology. Examines the distribution, abundance, trophic ecology, and behavior of birds and mammals in Elkhorn Slough and Monterey Bay.

Units: 4

MSCI 212T. Advanced Topics in Marine Vertebrates

Prerequisites: MSCI 112 or MSCI 113 and permission of instructor. Advanced considerations 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 if no topic is repeated. Likely to be offered alternate fall semesters. (Lecture and/or laboratory)

Units: 1-4, Repeatable up to 8 units

MSCI 221T. Advanced Topics in Marine Invertebrates

Prerequisites: MSCI 124 and permission of instructor. Advanced considerations of the ecology, physiology, and phylogeny of the various invertebrate phyla emphasizing current literature and research. (Lecture and/or laboratory)

Units: 1-4

MSCI 231. Biology of the Seaweeds

Discussions of marine macroalgal biology with extensive reading of original literature. Ecologically-oriented individual research projects involving laboratory culture and field experimentation.

Units: 4

MSCI 233T. Advanced Topics in Marine Ecology

Prerequisites: MSCI 103 and permission of instructor. Selected topics and current issues in marine ecology; subjects vary depending on student demand and availability of instructors. (Lecture and/or laboratory)

Units: 1-4

MSCI 234. Advanced Biological Oceanography

Prerequisite: MSCI 144 or permission of instructor. Experimental techniques in biological oceanography with emphasis on problems important in plankton ecology. Lectures, labs, and discussions of current research problems. An individual research project involving analytical tools will be required. (2 lecture, 6 lab or field hours)

Units: 4

MSCI 246. Geology of the Monterey Bay Region

Prerequisites: graduate standing and permission of instructor. Geology, tectonic, and active naturally occuring processes in the Monterey Bay region and in the Monterey Bay National Marine Sanctuary. The geologic and tectonic history of central California, plate tectonic processes, and representative stratigraphy and geomorphology of the Monterey Bay region.

Units: 4

MSCI 248. Marine Benthic Habitat Techniques

Prerequisites: graduate standing and permission of instructor. Collection and interpretation of geophysical data used to characterize marine benthic habitats. Principles of basic geophysics. Application of techniques to identify and characterize marine benthic habitats, including echosounders, multibeam bathymetry and backscatter, sidescan sonar, seismic profiling, and GIS.

Units: 4

MSCI 261. Ocean Circulation and Mixing

Prerequisite: MSCI 142; college physics strongly recommended. Mathematical description of the distribution of properties (e.g., density, dissolved oxygen) in the oceans relating to physical and biochemical processes; theory of distribution of variables, geostrophic method. (3 lecture, 3 lab hours)

Units: 4

MSCI 262. Satellite Oceanography

Prerequisite: MSCI 142, MSCI 144, or permission of instructor; MSCI 263 strongly recommended. Physical principles of remote sensing with application to the ocean including satellite image processing methods. Labs involve use of PC and Unix workstation. (2 lecture, 3 lab hours)

Units: 4

MSCI 263. Application of Computers in Oceanography

Prerequisites: college math, permission of instructor. Lecture, discussion, and technical programming with MATLAB for computation and visualization with applications in marine sciences. Use of existing program libraries for data I/O and analysis. Offered fall

semesters. (2 lecture, 6 lab hours)

Units: 4

MSCI 271. Population Biology

Prerequisites: MSCI 103 and MSCI 104 or permission of instructor. Principles of the interaction among marine organisms which result in the alternation of population structures, techniques for assessment, and management of animal populations. (2 lecture, 3 lab or field hours)

Units: 3

MSCI 272. Subtidal Ecology

Prerequisites: MLML diver certification and marine ecology; knowledge of marine algae, invertebrates, and statistics recommended. The ecology of nearshore rocky subtidal populations and communities with emphasis on kelp forests; lectures and discussions of original literature; fieldwork with SCUBA including group projects on underwater research techniques and community analysis, and indivvidual research on ecological questions chosen by student. (2 lecture, 6 lab or field hours)

Units: 4

MSCI 273. Marine Environmental Studies of the Gulf of California

Prerequisites: Graduate standing and instructor's consent. An analysis of Gulf of California marine environments. Lectures, readings, intensive field work, and writing a scientific paper based on original research. Topics vary. Taught with Mexican faculty and students from La Paz, Mexico. Students must be able to participate in 2 weeks of field work in June. Offered spring semesters.

Units: 4, Repeatable up to 8 units

MSCI 280W. Scientific Writing

Prerequisites: graduate standing, permission of instructor. Techniques and strategies of scientific writing used for proposals, journal submissions, and abstracts of meetings. Students will develop their writing skills by preparing, editing and rewriting

Units: 3

MSCI 285T. Seminar in Marine Science

Prerequisite: graduate standing and permission of instructor. Seminar will be held on topics that change each semester; each student will be required to give at least one seminar. May be repeated for credit. Offered spring and fall semesters.

Units: 2, Repeatable up to 4 units

MSCI 285T. Graduate Seminar in Marine Science - Time Series Analysis

Analysis of temporal records in geosciences. Normal distribution, regressions, correlation and covariance, factor analysis, and spectral analysis techniques. Independent student-led problem solving class meetings.

Units: 2, Repeatable up to 4 units

MSCI 295. Research in the Marine Sciences

Prerequisite: permission of instructor. Independent investigations of an advanced character for the graduate student with adequate preparation. (3 conference, lab, and field hours per unit)

Units: 1-4

MSCI 299. Thesis

Prerequisite: See Criteria for Thesis and Project. Preparation, completion, and submission of an acceptable thesis for the master's degree. Approved for SP grading. _____

Units: 1-4

MSCI 299C. Thesis Continuation

Prerequisite: Thesis MSCI 299. For continuous enrollment while completing the thesis. May enroll twice with department approval. Additional enrollments must be approved by the Dean of Graduate Studies.

Units: 0

MUSIC (MUSIC)

MUSIC 1A. Ear Training and Sight Singing I

Basic drill in the singing and recognition of intervals, triads, and melodies in major and minor keys. Principles of tuning. Dictation of simple melodies in major and minor keys. Harmonic dictation using root position triads. (Course fee, $15)

Units: 1

Course Typically Offered: Fall

MUSIC 1B. Ear Training and Sight Singing II

Prerequisite: Music 1A. Extension of melodic sight-singing and dictation to include passing tones, rhythms in simple/compound meter. Melodies in major and minor keys featuring leaps. Harmonic dictation using inversions of chords; recognition of basic chord patterns. (Course fee, $15)

Units: 1

Course Typically Offered: Spring

MUSIC 1C. Ear Training and Sight Singing III

Prerequisite: MUSIC 1B. Extension of melodic sight-singing and dictation to include non-harmonic tones, more complex rhythms. Drill in singing and recognition of secondary triads and seventh chords. Harmonic dictation using chromaticism; recognition of chord patterns using secondary chords and modulation.

Units: 1

MUSIC 1D. Ear Training and Sight Singing IV

Prerequisite: MUSIC 1C. Melodic sight-singing and dictation featuring modal, chromatic, modulating, and post-tonal melodies. Dictation of rhythms featuring irregular beat divisions, polyrhythms. Drill of chromatic triads, extended tertian chords. Harmonic dictation using extended dominants; recognition of patterns in foreign keys.

Units: 1

MUSIC 4B. Piano Class II

Prerequisite: MUSIC 9. Music majors and minors only. Playing skills and techniques necessary to prepare for the piano proficiency examination required of all music majors. (Course fee, $20)

Units: 2, Repeatable

Course Typically Offered: Fall, Spring

MUSIC 4C. Piano Class III

Prerequisite: MUSIC 4B. Playing skills and techniques necessary

to prepare for the piano proficiency examinations required of all music majors. Continuation of MUSIC 4B. Continuing enrollment in MUSIC 4C is required until the piano proficiency exam is passed. Letter grade only. (Course fee, $20) (Formerly MUSIC 136S)

Units: 2, Repeatable

Course Typically Offered: Fall, Spring

MUSIC 9. Introduction to Music

Not recommended for music majors. Music theory and aesthetics for the general student. Notation of pitch and rhythm. Reading, playing, and writing melodies with chordal accompaniments. Introduction to computer applications. This course is not recommended for music majors; however, freshmen music majors may enroll by permission of instructor. (Course fee, $20 for piano sections only) G.E. Breadth C1.

Units: 3

Course Typically Offered: Fall, Spring

GE Area: C1

MUSIC 9. Introduction to Music

Music theory and aesthetics for the general student. Notation of pitch and rhythm. Reading, playing, and writing melodies with chordal accompaniments. Introduction to computer applications. (Course fee, $20 for piano sections only) G.E. Breadth C1.

Units: 3

GE Area: C1

MUSIC 11. Intermediate Guitar Technique

Introduction to classical guitar, major, minor, and chromatic scales, chord progression, and beginning classical guitar selections.

Units: 2

Course Typically Offered: Spring

MUSIC 12. Flamenco Interpretation

Introduction to basic flamenco guitar techniques; rasgueados, picados, tremolos, basic rhythms, studies and interpretation of flamenco repertoire.

Units: 2

MUSIC 14. Accompanying I

Prerequisite: Jury I. Designed to give the piano student accompanying experience which systematically develops proficiency in skills useful to the accompanist, chamber musician or school music teacher. Skills include sight-reading , transposing, harmonizing, open-score reading and “quick study.” (Formerly MUSIC 130T)

Units: 2

Course Typically Offered: Fall

MUSIC 20. Convocation

Department student recitals, advising, and enrichment. Required of all music majors each semester they are registered for classes until the senior recital is completed. CR/NC grading only.

Units: 0

Course Typically Offered: Fall, Spring

MUSIC 31. Euphonium

(Formerly MUSIC 31S and 131S)

Units: 1, Repeatable up to 16 units

MUSIC 31. Tuba

(Formerly MUSIC 31S and 131S)

Units: 1, Repeatable

MUSIC 31. Trumpet

(Formerly MUSIC 31S and 131S)

Units: 1, Repeatable up to 16 units

MUSIC 31. Trombone

(Formerly MUSIC 31S and 131S)

Units: 1, Repeatable up to 16 units

MUSIC 31. Horn

(Formerly MUSIC 31S and 131S)

Units: 1, Repeatable up to 16 units

MUSIC 32. Instrumental, Vocal, & Composition Lessons

Music 31 and MUSIC 131 through 39 and 139 and 131J through 135J include technical, stylistic, and aesthetic performance studies of standard literature: etudes, solo, chamber, and large ensemble music. All music majors (except students enrolled in the Music as a Liberal Art Option) are required to enroll in a declared performing medium until completion of senior recital. Concurrent enrollment in appropriate major ensemble required. Passing Jury II required to enroll in MUSIC 131 through 139. Students admitted to the jazz option must complete 4 units of Music 31 through 38 and pass Jury I to enroll in Music 131J through 135J. MUSIC 148 includes individual instruction in original composition in a variety of media, forms, and styles. All courses are repeatable for credit. (All courses require a $20 course fee.)

Units: 1, Repeatable up to 16 units

MUSIC 33. Contrabass

(Formerly MUSIC 33S and 133S)

Units: 1, Repeatable up to 16 units

MUSIC 33. Guitar

(Formerly MUSIC 33S and 133S)

Units: 1, Repeatable up to 16 units

MUSIC 33. Violoncello

(Formerly MUSIC 33S and 133S)

Units: 1, Repeatable up to 16 units

MUSIC 33. Violin

(Formerly MUSIC 33S and 133S)

Units: 1, Repeatable up to 16 units

MUSIC 33. Viola

(Formerly MUSIC 33S and 133S)

Units: 1, Repeatable up to 16 units

MUSIC 34. Instrumental, Vocal, & Composition Lessons

MUSIC 31 and MUSIC 131 through 39 and 139 and 131J through 135J include technical, stylistic, and aesthetic performance studies of standard literature: etudes, solo, chamber, and large ensemble music. All music majors (except students enrolled in the Music as a Liberal Art Option) are required to enroll in a declared performing medium until completion of senior recital. Concurrent enrollment in appropriate major ensemble required. Passing Jury II required to enroll in MUSIC 131 through 139. Students admitted to the jazz option must complete 4 units of Music 31 through 38 and pass Jury I to enroll in Music 131J through 135J. MUSIC 148 includes individual instruction in original composition in a variety of media, forms, and styles. All courses are repeatable for credit. (All courses require a $20 course fee.)

Units: 1, Repeatable up to 16 units

MUSIC 35. Bassoon

(Formerly MUSIC 35S and 135S)

Units: 1, Repeatable up to 16 units

MUSIC 35. Saxophone

(Formerly MUSIC 35S and 135S)

Units: 1, Repeatable up to 16 units

MUSIC 35. Oboe

(Formerly MUSIC 35S and 135S)

Units: 1, Repeatable up to 16 units

MUSIC 35. Flute

(Formerly MUSIC 35S and 135S)

Units: 1, Repeatable up to 16 units

MUSIC 35. Clarinet

(Formerly MUSIC 35S and 135S)

Units: 1, Repeatable up to 16 units

MUSIC 38. Instrumental, Vocal, & Composition Lessons

Music 31 and 131 through 39 and 139 and 131J through 135J include technical, stylistic, and aesthetic performance studies of standard literature: etudes, solo, chamber, and large ensemble music. All music majors (except students enrolled in the Music as a Liberal Art Option) are required to enroll in a declared performing medium until completion of senior recital. Concurrent enrollment in appropriate major ensemble required. Passing Jury II required to enroll in MUSIC 131 through 139. Students admitted to the jazz option must complete 4 units of Music 31 through 38 and pass Jury I to enroll in Music 131J through 135J. MUSIC 148 includes individual instruction in original composition in a variety of media, forms, and styles. All courses are repeatable for credit. (All courses require a $20 course fee.)

Units: 1, Repeatable up to 16 units

MUSIC 39. Instrumental, Vocal, & Composition Lessons

Music 31 and 131 through 39 and 139 and 131J through 135J include technical, stylistic, and aesthetic performance studies of standard literature: etudes, solo, chamber, and large ensemble music. All music majors (except students enrolled in the Music as a Liberal Art Option) are required to enroll in a declared performing medium until completion of senior recital. Concurrent enrollment in appropriate major ensemble required. Passing Jury II required to enroll in MUSIC 131 through 139. Students admitted to the jazz option must complete 4 units of Music 31 through 38 and pass Jury I to enroll in Music 131J through 135J. MUSIC 148 includes individual instruction in original composition in a variety of media, forms, and styles. All courses are repeatable for credit. (All courses require a $20 course fee.)

Units: 1, Repeatable up to 16 units

MUSIC 40. Theory and Literature I

Prerequisite: Concurrent enrollment in MUSIC 9. Fundamentals of music: notation, scales, intervals, keys, triads, concepts of mode and meter, principles of melody writing, and species counterpoint in two voices. Analysis of appropriate examples from musical literature. Use of music notation software. (Course fee, $15)

Units: 3

Course Typically Offered: Fall

MUSIC 41. Theory and Literature II

Prerequisite: MUSIC 40. Figured bass and principles of voice leading. Four-part writing in choral and keyboard style. Functional harmony, seventh chords, and secondary function chords. Harmonization of melodies. Principles of form in Western art music. Analysis of representative musical literature. Use of music notation software.

Units: 3

Course Typically Offered: Spring

MUSIC 42. Theory and Literature III

Prerequisite: MUSIC 41. Continuation of figured bass and part writing, emphasizing chromaticism, altered chords, and extended tonality. More advanced musical forms. Study of representative musical examples. Use of music notation software.

Units: 3

Course Typically Offered: Fall

MUSIC 43. Theory and Literature IV

Prerequisite: MUSIC 42. Non-tonal harmony (e.g. quartal, pandiatonic). Introduction to set theory and basic twelve-tone technique. Jazz harmony and principles of improvisation. Survey of representative compositions of the twentieth century with respect to style and structure. Use of music notation software.

Units: 3

Course Typically Offered: Spring

MUSIC 47. Introduction to Music Technology

Principles, uses, techniques and applications of music technology. Experience with current hardware and software for sequencing, and synthesis, as well as digital recording and editing.

Units: 2

Course Typically Offered: Fall

MUSIC 48. Seminar in Composition

Prerequisite: MUSIC 47 (may be taken concurrently with permission of instructor). Aural-analytic introduction to/study of origins and developments of major compositional concepts and genres in Western music; exercises and creative writing; and problems of concepts in notation.

Units: 2, Repeatable up to 6 units

Course Typically Offered: Fall, Spring

MUSIC 58. Basic Conducting
Prerequisite: MUSIC 41. Fundamentals of conducting and score-reading; standard patterns and stick technique.

Units: 2

Course Typically Offered: Fall

MUSIC 60H. Music in Social Context
Exploration of various settings in which music has been an important indicator of social class and class values. Emphasis on western classical music and American jazz. Attendance at 2-3 performances of music required. G. E. Breadth C1.

Units: 3

GE Area: C1

MUSIC 60T. Topics in Music
Special studies in ethnomusicology or music appreciation, business, education, history, literature, theory, or technology.

Units: 1-3, Repeatable up to 6 units

MUSIC 74. Listener's Guide to Music
Exploration of a wide range of musical styles (past, present, classical, and popular) through guided practical experiences and the development of an aesthetic sensitivity for music of various cultures. G.E. Breadth C1.

Units: 3

Course Typically Offered: Fall, Spring

GE Area: C1

MUSIC 75. History of Rock and Roll
The History of Rock and Roll and its musical precendents: The music, musical styles and musicians of Rock and Roll, as well as the most important cultural, sociological and philosophical factors that influenced and were influenced by Rock and Roll.

Units: 3

Course Typically Offered: Fall, Spring

GE Area: C1

MUSIC 102CC. Community Chorus
Units: 1, Repeatable

MUSIC 102CS. Chamber Singers
Units: 1, Repeatable

MUSIC 102FE. Flute Ensemble
Units: 1, Repeatable

MUSIC 102GC. Gospel Choir
(Same as Music 102GC) Performance of a variety of inspirational songs reflecting the African American cultural experience. Participation through rehearsals, activities, programs, and field trips.

Units: 1, Repeatable

MUSIC 102GE. Guitar Ensemble
Units: 1, Repeatable

MUSIC 102JE. Jazz Ensemble
Units: 1, Repeatable

MUSIC 102MC. Men's Chorus
Units: 1, Repeatable

MUSIC 102PB. Basketball Band
Units: 1, Repeatable

MUSIC 102PE. Perc Ensemble
Units: 1, Repeatable

MUSIC 102SE. String Ensemble
Units: 1, Repeatable

MUSIC 102WC. Women's Chorus
Units: 1, Repeatable

MUSIC 102WWE. WWD Ensemble
Units: 1, Repeatable

MUSIC 103CC. Concert Choir
Units: 1, Repeatable

MUSIC 103JO. Jazz Orchestra
Units: 1, Repeatable

MUSIC 103MB. Marching Band
Units: 1, Repeatable

MUSIC 103SB. Symphonic Band
Units: 1, Repeatable

MUSIC 103SO. Symphony Orchestra
Units: 1, Repeatable

MUSIC 103WO. Wind Orchestra
Units: 1, Repeatable

MUSIC 110. Voice for Non-Music Majors
Acquaints the non-music major with basic principles of good singing; applies principles of good singing to different song styles; and helps the non-music major voice student develop and strengthen performing skills. (Formerly MUSIC 130T section)

Units: 1, Repeatable

MUSIC 111. Advanced Guitar Technique
Advanced studies in classical guitar works, diatonic major and minor scales, chord progression, and interpretation of classical guitar repertoire.

Units: 2

MUSIC 112. Advanced Flamenco Interpretation
Special studies in flamenco guitar interpretation including advanced techniques, traditional rhythms, improvisations, and analysis of music, songs and dance. For majors and non-majors.

Units: 2

MUSIC 113. Vocal Pedagogy
Open to upper-division vocal performance majors only. Prerequisites: passing of Jury II, all lower-division music core courses, as well as at least one semester of music history, MUSIC 161A

or MUSIC 161B. Principles, teaching procedures, materials, and physiology of the voice, and historical background for teaching solo and group lessons.

Units: 2

MUSIC 114. Accompanying II

Prerequisite: MUSIC 14. Student will perform regularly, accompanying one or more soloists or groups throughout the semester by assignment. In addition, there will be readings and exercises to further develop skills studied in MUSIC 14.

Units: 2

Course Typically Offered: Spring

MUSIC 115. Advance Guitar for the Classroom Teacher

Continued development of guitar skills for the general music teacher. Intermediate group instruction on the acoustic guitar with focus on techniques and materials appropriate for accompanying classroom music. Topics include chord structures, strumming, picking style, and fingering techniques.

Units: 2

Course Typically Offered: Spring

MUSIC 117BB. Bulldog Beat

Units: 1, Repeatable

MUSIC 117BQ. Brass Quintet

Units: 1, Repeatable

MUSIC 117CM. Chamber Music

Units: 1, Repeatable

MUSIC 117JC. Jazz Combo

This course is a non-conducted ensemble that studies and performs small group jazz literature including orignial compositions and arrangements by students and commissions by professional ensembles. Two weeekly rehearsals will focus on ensemble skills and other skills idiosyncratic to jazz performance. (repeatable for credit)

Units: 1, Repeatable

MUSIC 117KE. Keyboard Ens

Units: 1, Repeatable

MUSIC 117PQ. Pres Quintet

Units: 1, Repeatable

MUSIC 118BW. Band Wrkshp

Units: 1, Repeatable

MUSIC 118OPR. Opera Production

Units: 1, Repeatable

MUSIC 118OT. Opera Theatre

Units: 1, Repeatable

MUSIC 118PW. Percussion Wrksp

Units: 1, Repeatable

MUSIC 118VW. Vocal Wrksp

Units: 1, Repeatable

MUSIC 119. Voice Techniques and Materials

Prerequisite: MUSIC 41. Principles, playing and teaching procedures, and materials for teaching voice in the elementary school, high school, and community college. (Course fee, $20) (Formerly MUSIC 119Q)

Units: 1

Course Typically Offered: Fall

MUSIC 120. Class Piano Techniques and Materials

Prerequisites: MUSIC 41, passed piano proficiency. Study of techniques and materials appropriate for teaching class piano to beginners in elementary school, middle school, high school, and community college music classrooms.

Units: 1

MUSIC 122A. String Techniques and Materials

Prerequisite: MUSIC 41. Principles and physics of stringed instruments; playing procedures and materials for teaching beginning string students from elementary school through community college. (Course fee, $20)

Units: 2

MUSIC 124A. Woodwind Techniques and Materials

Prerequisite: MUSIC 41. Principles and physics (including common transpositions) of woodwind instruments; playing procedures and materials for teaching beginning woodwind students from elementary school through community college. (Course fee, $20)

Units: 2

MUSIC 126. Percussion Techniques and Materials

Prerequisite: MUSIC 41. Principles, playing and teaching procedures, and materials for teaching percussion instruments in the elementary school, high school, and community college. (Course fee, $20)

Units: 2

MUSIC 127A. Brass Techniques and Materials

Prerequisite: MUSIC 41. Principles and physics (including common transpositions) of brass instruments; playing procedures and materials for teaching beginning brass students from elementary school through community college. (Course fee, $20) (Formerly MUSIC 119I, Music 127)

Units: 2

MUSIC 129. Reed Making

Required for oboe and bassoon players. Individual or group supervision in all aspects of the art of reed making. Repeatable for credit until such time as student and professor mutually agree that supervision is no longer necessary. CR/NC grading only.

Units: 1, Repeatable

MUSIC 130T. Topics in Performance

Special studies in vocal or instrumental music, including topics such as accompanying, electronic instruments, mixed chamber music.

Units: 2, Repeatable up to 12 units

MUSIC 130T. Kodaly: A Choral Component
Units: 1, Repeatable

MUSIC 130T. Cho Cond RF Skls
Units: 1

MUSIC 131. Euphonium
Units: 1, Repeatable

MUSIC 131. Trumpet
Units: 1, Repeatable

MUSIC 131. Tuba
Units: 1, Repeatable

MUSIC 131. Trombone
Units: 1, Repeatable

MUSIC 131. Horn
Units: 1, Repeatable

MUSIC 131J. Instrumental, Vocal, & Composition Lessons
Music 31 and 131 through 39 and 139 and 131J through 135J include technical, stylistic, and aesthetic performance studies of standard literature: etudes, solo, chamber, and large ensemble music. All music majors (except students enrolled in the Music as a Liberal Art Option) are required to enroll in a declared performing medium until completion of senior recital. Concurrent enrollment in appropriate major ensemble required. Passing Jury II required to enroll in MUSIC 131 through 139. Students admitted to the jazz option must complete 4 units of Music 31 through 38 and pass Jury I to enroll in Music 131J through 135J. MUSIC 148 includes individual instruction in original composition in a variety of media, forms, and styles. All courses are repeatable for credit. (All courses require a $20 course fee.)

Units: 1, Repeatable up to 16 units

MUSIC 132. Instrumental, Vocal, & Composition Lessons
Music 31 and 131 through 39 and 139 and 131J through 135J include technical, stylistic, and aesthetic performance studies of standard literature: etudes, solo, chamber, and large ensemble music. All music majors (except students enrolled in the Music as a Liberal Art Option) are required to enroll in a declared performing medium until completion of senior recital. Concurrent enrollment in appropriate major ensemble required. Passing Jury II required to enroll in MUSIC 131 through 139. Students admitted to the jazz option must complete 4 units of Music 31 through 38 and pass Jury I to enroll in Music 131J through 135J. MUSIC 148 includes individual instruction in original composition in a variety of media, forms, and styles. All courses are repeatable for credit. (All courses require a $20 course fee.)

Units: 1, Repeatable up to 16 units

MUSIC 132J. Instrumental, Vocal, & Composition Lessons
MUSIC 31 and 131 through 39 and 139 and 131J through 135J include technical, stylistic, and aesthetic performance studies of standard literature: etudes, solo, chamber, and large ensemble music. All music majors (except students enrolled in the Music as a Liberal Art Option) are required to enroll in a declared performing medium until completion of senior recital. Concurrent enrollment in appropriate major ensemble required. Passing Jury II required to enroll in MUSIC 131 through 139. Students admitted to the jazz option must complete 4 units of Music 31 through 38 and pass Jury I to enroll in Music 131J through 135J. MUSIC 148 includes individual instruction in original composition in a variety of media, forms, and styles. All courses are repeatable for credit. (All courses require a $20 course fee.)

Units: 1, Repeatable up to 16 units

MUSIC 133. Contrabass
Units: 1, Repeatable

MUSIC 133. Guitar
Units: 1, Repeatable

MUSIC 133. Violoncello
Units: 1, Repeatable

MUSIC 133. Violin
Units: 1, Repeatable

MUSIC 133. Viola
Units: 1, Repeatable

MUSIC 133J. Instrumental, Vocal, & Composition Lessons
Music 31 and 131 through 39 and 139 and 131J through 135J include technical, stylistic, and aesthetic performance studies of standard literature: etudes, solo, chamber, and large ensemble music. All music majors (except students enrolled in the Music as a Liberal Art Option) are required to enroll in a declared performing medium until completion of senior recital. Concurrent enrollment in appropriate major ensemble required. Passing Jury II required to enroll in MUSIC 131 through 139. Students admitted to the jazz option must complete 4 units of Music 31 through 38 and pass Jury I to enroll in Music 131J through 135J. MUSIC 148 includes individual instruction in original composition in a variety of media, forms, and styles. All courses are repeatable for credit. (All courses require a $20 course fee.)

Units: 1, Repeatable up to 16 units

MUSIC 134. Instrumental, Vocal, & Composition Lessons
Music 31 and 131 through 39 and 139 and 131J through 135J include technical, stylistic, and aesthetic performance studies of standard literature: etudes, solo, chamber, and large ensemble music. All music majors (except students enrolled in the Music as a Liberal Art Option) are required to enroll in a declared performing medium until completion of senior recital. Concurrent enrollment in appropriate major ensemble required. Passing Jury II required to enroll in MUSIC 131 through 139. Students admitted to the jazz option must complete 4 units of Music 31 through 38 and pass Jury I to enroll in Music 131J through 135J. MUSIC 148 includes individual instruction in original composition in a variety of media, forms, and styles. All courses are repeatable for credit. (All courses require a $20 course fee.)

Units: 1, Repeatable up to 16 units

MUSIC 134J. Instrumental, Vocal, & Composition Les-

sons
Music 31 and 131 through 39 and 139 and 131J through 135J include technical, stylistic, and aesthetic performance studies of standard literature: etudes, solo, chamber, and large ensemble music. All music majors (except students enrolled in the Music as a Liberal Art Option) are required to enroll in a declared performing medium until completion of senior recital. Concurrent enrollment in appropriate major ensemble required. Passing Jury II required to enroll in MUSIC 131 through 139. Students admitted to the jazz option must complete 4 units of Music 31 through 38 and pass Jury I to enroll in Music 131J through 135J. MUSIC 148 includes individual instruction in original composition in a variety of media, forms, and styles. All courses are repeatable for credit. (All courses require a $20 course fee.)

Units: 1, Repeatable up to 16 units

MUSIC 135. Bassoon
Units: 1, Repeatable

MUSIC 135. Saxophone
Units: 1, Repeatable

MUSIC 135. Oboe
Units: 1, Repeatable

MUSIC 135. Flute
Units: 1, Repeatable

MUSIC 135. Clarinet
Units: 1, Repeatable

MUSIC 135J. Instrumental, Vocal, & Composition Lessons
Music 31 and 131 through 39 and 139 and 131J through 135J include technical, stylistic, and aesthetic performance studies of standard literature: etudes, solo, chamber, and large ensemble music. All music majors (except students enrolled in the Music as a Liberal Art Option) are required to enroll in a declared performing medium until completion of senior recital. Concurrent enrollment in appropriate major ensemble required. Passing Jury II required to enroll in MUSIC 131 through 139. Students admitted to the jazz option must complete 4 units of Music 31 through 38 and pass Jury I to enroll in Music 131J through 135J. MUSIC 148 includes individual instruction in original composition in a variety of media, forms, and styles. All courses are repeatable for credit. (All courses require a $20 course fee.)

Units: 1, Repeatable up to 16 units

MUSIC 138. Instrumental, Vocal, & Composition Lessons
Music 31 and 131 through 39 and 139 and 131J through 135J include technical, stylistic, and aesthetic performance studies of standard literature: etudes, solo, chamber, and large ensemble music. All music majors (except students enrolled in the Music as a Liberal Art Option) are required to enroll in a declared performing medium until completion of senior recital. Concurrent enrollment in appropriate major ensemble required. Passing Jury II required to enroll in MUSIC 131 through 139. Students admitted to the jazz option must complete 4 units of Music 31 through 38 and pass Jury I to enroll in Music 131J through 135J. MUSIC 148 includes individual instruction in original composition in a variety of media, forms, and styles. All courses are repeatable for credit. (All courses require a $20 course fee.)

Units: 1, Repeatable up to 16 units

MUSIC 138S. Instrumental, Vocal, & Composition Lessons
Music 31 and 131 through 39 and 139 and 131J through 135J include technical, stylistic, and aesthetic performance studies of standard literature: etudes, solo, chamber, and large ensemble music. All music majors (except students enrolled in the Music as a Liberal Art Option) are required to enroll in a declared performing medium until completion of senior recital. Concurrent enrollment in appropriate major ensemble required. Passing Jury II required to enroll in MUSIC 131 through 139. Students admitted to the jazz option must complete 4 units of Music 31 through 38 and pass Jury I to enroll in Music 131J through 135J. MUSIC 148 includes individual instruction in original composition in a variety of media, forms, and styles. All courses are repeatable for credit. (All courses require a $20 course fee.)

Units: 1, Repeatable up to 16 units

MUSIC 139. Instrumental, Vocal, & Composition Lessons
Music 31 and 131 through 39 and 139 and 131J through 135J include technical, stylistic, and aesthetic performance studies of standard literature: etudes, solo, chamber, and large ensemble music. All music majors (except students enrolled in the Music as a Liberal Art Option) are required to enroll in a declared performing medium until completion of senior recital. Concurrent enrollment in appropriate major ensemble required. Passing Jury II required to enroll in MUSIC 131 through 139. Students admitted to the jazz option must complete 4 units of Music 31 through 38 and pass Jury I to enroll in Music 131J through 135J. MUSIC 148 includes individual instruction in original composition in a variety of media, forms, and styles. All courses are repeatable for credit. (All courses require a $20 course fee.)

Units: 1, Repeatable up to 16 units

MUSIC 140T. Topics in Theory
Prerequisite: MUSIC 43. Analytical study of specific composers, genres, styles, and diverse approaches to music theory.

Units: 3, Repeatable up to 9 units

MUSIC 141. Seminar in Modal Counterpoint
Prerequisite: MUSIC 43. Polyphony of the 15th and 16th centuries; analysis and composition of melodic lines, simple counterpoint, types of imitation; writing motets with text in two or more parts.

Units: 3

MUSIC 142. Seminar in Canon and Fugue
Prerequisite: MUSIC 42. Polyphony of the 17th and 18th centuries; analysis and composition of melodic lines, imitative, strict and invertible counterpoint, canon, and fugue.

Units: 3

MUSIC 144. Form and Analysis
Prerequisite: MUSIC 42. Principles of musical form and analysis as applied to musical repertoire. Includes an introduction to the Schenker method of music analysis and review of chromatic har-

mony as necessary.

Units: 3

Course Typically Offered: Fall

MUSIC 147. Digital Music Production

Prerequisite: MUSIC 9 and MUSIC 47; or perrmission of Instructor. Lecture and discussion on digital audio design for various forms of media, and practical experience designing and producing audio and music in a digital format.

Units: 3

MUSIC 148. Composition

Prerequisite: 2 semesters of MUSIC 48 and successful completion of Jury 1. Includes individual instructions in original compostion in a variety of media, forms, and styles.

Units: 1, Repeatable up to 10 units

MUSIC 153. Children's Music

Open to nonmajors only. Introduction to song literature and singing games suitable for children. Development of in-tune singing, ear training, and sight-singing skills.

Units: 3

Course Typically Offered: Fall, Spring

MUSIC 154. Music for the Elementary Classroom

Music majors only. Prerequisites: MUSIC 41, passed piano proficiency. Song literature, musical games, and basic skills for the recorder and guitar appropriate for use in the elementary music classroom. Course content derived from the folk music and musical contributions of world cultures.

Units: 3

MUSIC 155. Advanced Elementary Classroom Techniques

Prerequisite: MUSIC 153 for students not majoring in music. Individual research on the place and functions of music in preschool and elementary school curriculum; selection, discussion, and analysis of musical materials including state texts; planning activities that enable children to develop aesthetic sensitivity, musical skills, and understanding.

Units: 3

MUSIC 158A. Advanced Instrumental Conducting

Prerequisite: MUSIC 58. Advanced instrumental conducting and score reading; rehearsal techniques; problems in tempo, balance, style, and phrasing; mixed meters and other contemporary problems. Assigned projects in conducting.

Units: 2, Repeatable up to 4 units

MUSIC 158B. Advanced Choral Conducting

Prerequisite: MUSIC 58. Advanced choral conducting and score reading; rehearsal techniques; problems in tempo, balance, style, and phrasing; mixed meters and other contemporary problems. Assigned projects in conducting.

Units: 2, Repeatable up to 4 units

MUSIC 159. Marching Band Techniques

Prerequisite: MUSIC 41. Offered fall semester only. Practical and creative aspects of producing musical shows and marching formations for athletic events, parades, and public ceremonies. Use of computer programs.

Units: 2

Course Typically Offered: Fall

MUSIC 160T. Topics in Music History and Literature

Study of selected musical genres, composers, and other specialized topics.

Units: 1-3, Repeatable up to 9 units

MUSIC 160TZ. Monarchs: Market/Music 18th Century London

Units: 3, Repeatable up to 9 units

MUSIC 161A. Survey of Western Art Music I

Prerequisite: MUSIC 41, MUSIC 74 and junior-level status(60 units or more). Study of representative composers, genres, and major works. Emphasis on changing concepts of "music," development of styles, and relation of music to the history of ideas and to relevant institutions and social customs up to approximately 1800 A.D.

Units: 3

Course Typically Offered: Fall

MUSIC 161B. Survey of Western Art Music II

Prerequisite: MUSIC 41, MUSIC 74 and junior-level standing (60 units or more). Study of representative composers, genres, and major works. Emphasis on changing concepts of "music," development of styles, and relation of music to the history of ideas and to relevant institutions and social customs Beethoven to the present.

Units: 3

Course Typically Offered: Spring

MUSIC 162. Jazz Pedagogy

Prerequisite: MUSIC 43. Junior music major. Basic rehearsal techniques for small and large ensembles of the secondary and collegiate levels. Survey of pedagogical concepts, performance practices, and performance repertory for jazz ensembles.

Units: 2

MUSIC 163. Jazz History

Prerequisite: Music 43. Junior music major. The history of Jazz in America through study of important innovators, performers, composers, and improvisers.

Units: 3

MUSIC 164. Jazz Theory & Improvisation I

Prerequisite: MUSIC 43, Concurrent enrollment in MUSIC 102JEA or MUSIC 102JEB. Provides basic and intermediate foundation in theory and improvisational styles within the jazz idiom.

Units: 3

MUSIC 165. Jazz Theory Improvisation II

Prerequisite: MUSIC 164, Concurrent enrollment in MUSIC 102JEA or MUSIC 102JEB. Provides intermediate and advanced foundation in theory and improvisational styles within the jazz

idiom.

Units: 3

MUSIC 166. Piano Pedagogy

Piano majors only. Principles, playing and teaching procedures, and materials for teaching individual and small group piano lessons to students from elementary school age through community college. (Course fee, $20) (Formerly MUSIC 119P)

Units: 2

MUSIC 167. Keyboard Literature

Piano majors only. A historical survey of the standard repertoire for the piano. (Formerly MUSIC 176T section)

Units: 2

MUSIC 169. Instrumental Techniques and Materials

Prerequisites: MUSIC 43, MUSIC 158A or MUSIC 158B, pass conducting proficiency, MUSIC 121, MUSIC 122A, MUSIC 124A, MUSIC 126, MUSIC 127A. Offered spring semester only. Principles, procedures, literature, and materials for use in instrumental music programs in the public schools. (Expenses for off-campus visits will be incurred by student)

Units: 2

MUSIC 170A. Music of the Americas: Latin America

Prerequisites: G.E. Foundation and Breadth Area C. Examination of the musics of Latin America with special emphasis on art-music and its relationship to folk-popular musics as influenced by social, ideological, and political cross-currents. G.E. Integration IC.

Units: 3

Course Typically Offered: Fall, Spring

GE Area: IC

MUSIC 170B. Music of the Americas: United States

Representative styles and genres of music in the United States with particular attention to social contexts of repertories and music interactions between elite and popular traditions.

Units: 3

Course Typically Offered: Spring

MUSIC 171. Introduction to the World's Music

Prerequisites: G.E. Foundation and Breadth Area C. Exploration of selected musics of the world from the perspective of ethnomusicology or study of music as an aesthetic communication that possesses meaning only in relation to specific, situated sociocultural contests. Study of selected musical forms and their relationship to social formations. G.E. Integration IC.

Units: 3

Course Typically Offered: Fall, Spring

GE Area: IC

MUSIC 171Z. Introduction to the World's Music

Prerequisites: G.E. Foundation and Breadth Area C. Exploration of selected musics of the world from the perspective of ethnomusicology or study of music as an aesthetic communication that possesses meaning only in relation to specific, situated sociocultural contests. Study of selected musical forms and their relationship to social formations. G.E. Integration IC.

Units: 3

GE Area: IC

MUSIC 172. Vocal Literature

Prerequisite: MUSIC 41. For students who major or minor in vocal music. A historical survey of the standard repertoire for the voice.

Units: 2

Course Typically Offered: Spring

MUSIC 175T. Topics in Instrumental Pedagogy

Principles, playing and teaching procedures, and materials for teaching individual instrumental (flute, oboe, clarinet, bassoon, horn, trumpet, trombone, tuba, violin, viola, violoncello, contrabass, harp, guitar, percussion) lessons to students of varying skill and artistic levels.

Units: 2

MUSIC 175T. Instramental Pedagogy Flute

Principles, playing and teaching procedures, and materials for teaching individual instrumental lessons to students of varying skill and artistic levels.

Units: 2

MUSIC 179. Choral Techniques and Materials

Prerequisites: passed piano proficiency; MUSIC 43, MUSIC 158A or MUSIC 158B. Principles, choral techniques, literature, and materials for use in vocal music programs in the public schools. (Expenses for off-campus visits will be incurred by student.)

Units: 2

Course Typically Offered: Spring

MUSIC 179L. Choral Techniques Lab

Prerequisites: passed piano proficiency. Piano skills necessary for music educators. Students learn to read opera scores at the piano, lead rehearsals from the piano, play vocal exercises for choirs, and increase sightreading ability. Concurrent enrollment in MUSIC 179 required. CR/NC grading only.

Units: 1

MUSIC 180. Children's Choirs: Techniques and Literature

Prerequisite: MUSIC 155. Basic overview of materials, techniques, and procedures applicable to the choral experience at the elementary level. Topics include conducting for the elementary school choral director, vocal pedagogy for children, and a survey of appropriate choral literature.

Units: 3

MUSIC 181. Jazz Composition & Arranging

Prerequisites: MUSIC 43, Junior Music Major in the Jazz Option or permission of instructor. Study of composition and arranging in the jazz idiom. Skills and creative concepts necessary for the design and creation of jazz arrangements for various-sized ensembles.

Units: 3

MUSIC 182. Basic Arranging

Prerequisites: MUSIC 1B, MUSIC 42. Basic course in scoring and

arranging for band, orchestra and choral ensembles. Ranges, transposition, technical capabilities of band and orchestra instruments and the voice. Emphasis on arranging for musicians typically foundin elementary and secondary schools. Use of computer notation and sequencing programs. (Course fee, $15)

Units: 2

Course Typically Offered: Fall

MUSIC 183. Advanced Choral Arranging

Prerequisites: MUSIC 182. Advanced course in scoring and arranging for various sizes and types of choral ensembles. Studies in depth composing and arranging in various choral idioms. Use of computer notation and sequencing programs. (Course fee, $15)

Units: 3, Repeatable up to 6 units

Course Typically Offered: Spring

MUSIC 184. Advanced Instrumental Arranging

Prerequisite: MUSIC 182. Advanced course in scoring and arranging for band and orchestra instruments. Studies in depth problems of idiomatic writing for the instruments and sonorities. Use of computer notation and sequencing programs. (Course fee, $15)

Units: 3, Repeatable up to 6 units

Course Typically Offered: Spring

MUSIC 185A. Lyric Diction I

Prerequisite: MUSIC 41 and successful completion of one year of Music 39 or MUSIC 139 or permission of instructor. For students who major or minor in vocal music. Introductory study of the International Phonetic Alphabet and its application to singing in English, Italian, German, French, Spanish and Latin.

Units: 2

MUSIC 185B. Lyric Diction II

Prerequisite: MUSIC 185A. For vocal performance majors or with permission of instructor. Singers' advanced diction studies of English, Italian, German, French, and Spanish, as well as other languages used in the standard Western art music vocal repertoire.

Units: 2

MUSIC 186. Arranging and Composing Using MIDI

Prerequisite: MUSIC 182. Arranging and composing using MIDI sequencing. Students record and edit musical material in the MIDI/computer-based production facility. Finished works will be exported to music notation programs and recorded to digital audio media. Works will be performed in public concerts. (Formerly MUSIC 130T)

Units: 3

MUSIC 187. Pop Music: Jazz and Rock

Prerequisites: G.E. Foundation and Breadth Area C. Survey of styles, trends, and the musical and cultural roots of pop music, jazz, and rock in the United States, Great Britain, and the West Indies. Guidelines for listening to and writing about music. G.E. Integration IC.

Units: 3

Course Typically Offered: Fall, Spring

GE Area: IC

MUSIC 187Z. Pop Music: Jazz and Rock

Prerequisites: G.E. Foundation and Breadth Area C. Survey of styles, trends, and the musical and cultural roots of pop music, jazz, and rock in the United States, Great Britain, and the West Indies. Guidelines for listening to and writing about music. G.E. Integration IC.

Units: 3

GE Area: IC

MUSIC 190. Independent Study

See Academic Placement - Independent Study. Approved for SP grading.

Units: 1-3, Repeatable up to 6 units

Course Typically Offered: Fall, Spring

MUSIC 191. Readings in Music

Prerequisite: permission of instructor. In-depth readings and discussions in individual conferences; subjects to be selected by students and their advisers. May be preliminary research in connection with thesis topic. Approved for RP grading.

Units: 1-3, Repeatable up to 6 units

MUSIC 198. Senior Recital or Project

Prerequisites: passed piano proficiency, senior standing, approval of major applied music instructor or adviser. Preparation and presentation of a satisfactory senior recital or project.

Units: 1-2

Course Typically Offered: Fall, Spring

MUSIC 204. Graduate Music Theory Survey

Prerequisite: graduate standing. Required of all M.A. candidates in music. A comprehensive survey of the disciplines of harmony, counterpoint, and analysis, with respect to the music of the 18th through 20th centuries, with an emphasis on review and reinforcement. Topics include species counterpoint, figured bass, voice leading, principles of Schenkerian analysis, and basic atonal and twelve-tone theory.

Units: 3

MUSIC 210. Studies in Performance

Open only to master's degree students majoring in performance or to other master's students by permission of instructor. Prerequisite: MUSIC 220. Individually directed studies in performing or conducting instrumental or vocal music; historical and theoretical interpretation applied in preparation for public recitals and concerts of works from the standard literature of all periods in the student's major performance area. Approved for RP grading.

Units: 2, Repeatable up to 6 units

MUSIC 211. Graduate Performance Ensemble

Prerequisite: graduate standing or permission of instructor. Ensemble performance of instrumental or choral music with emphasis on historical and theoretical interpretation of advanced level literature. This course includes technical, stylistic, and aesthetic elements of musical literatuare, rehersal, and public performance..

Units: 2, Repeatable up to 6 units

MUSIC 220. Seminar in Research Methods and Bibliography

Bibliography, sources, and research techniques necessary for graduate study in music. Individual projects and research; satisfies graduate writing requirement. Required of all students working for the master's degree in music.

Units: 3

MUSIC 221. Foundations of Music Education

Prerequisite: MUSIC 220. Historical, curricular, and philosophical foundations of music education. Research in learning theories, teaching strategies, and concept development. Evaluation of contemporary trends and tech niques in methodology.

Units: 3

MUSIC 234. Studies in Composition

Open only to master's degree students majoring in composition. Prerequisite: MUSIC 220. Individually directed studies in composition with contemporary techniques of an extended work equivalent in substance to a sonata, cantata, or other composition of major proportions. Approved for RP grading.

Units: 2, Repeatable up to 6 units

MUSIC 240T. Advanced Topics in Music Theory

Prerequisite: MUSIC 204 and MUSIC 220. Advanced analytical study of specific composers, genres, styles, and diverse interdisciplinary approaches to music theory. A final paper or project is a central component of this course.

Units: 3

MUSIC 240T. Analysis of Non-Western Music

This course will expand the student's analytical skills by applying the basic tools for analysis to music beyond the Western Canon. Through examination of pitch, rhythm, and timbre, students will sharpen their listening and thinking skills, and they will write about their observations, either through a comparative analysis or through a thorough analysis of a selected work of non-Western music. Class sections will focus on listening skills and clarifying the analytical process, readings will include selections about theoretical analysis, aboriginal music, musicology, and non-Western culture. Weekly listening logs will be kept, and various music will be assigned for listening.

Units: 3

MUSIC 257A. Seminar in Choral Conducting

Prerequisite: MUSIC 158A or MUSIC 158B or equivalent. Advanced study of conducting choral music in the Western tradition. Students will organize and complete projects that address the preparation, interpretation, rehearsing, and performance of choral music. (Formerly MUSIC 258T)

Units: 3

MUSIC 258T. Topical Seminars in Conducting

Prerequisite: MUSIC 158A or MUSIC 158B. Advanced studies in selected topics related to conducting. Projects with particular attention to rehearsal techniques, score preparation, and interpretation.

Units: 1-3, Repeatable up to 6 units

MUSIC 259T. Topical Seminars in Vocal Music

The study of advanced level song literature, song interpretation, and performance practice as applied to standard and special vocal repertoire.

Units: 1-3, Repeatable up to 6 units

MUSIC 260T. Topical Seminars in Music History

Prerequisite: MUSIC 220. Current methods, resources, and issues in music history, with application to specific topics focusing on major Western composers, major genres, landmark works or repertories, issues in musical aesthetics and criticism.

Units: 3, Repeatable up to 9 units

MUSIC 267. Seminar in Contemporary Music

Prerequisite: MUSIC 220. Critical and analytical study of the sources, selected works, and composers of the 20th century, with particular emphasis on avant-garde movements and schools. A term paper will be a central requirement for successful completion of this course.

Units: 3

MUSIC 269T. Topical Seminars in Instrumental Music

The study of advanced level instrumental literature, score interpretation, and performance practices as they apply to standard and special in strumental literature.

Units: 1-3, Repeatable up to 6 units

MUSIC 277. Seminar in American Music

Prerequisite: MUSIC 220. Critical and analytical study of the historical sources, selected works, and composers in the United States from 1620 A.D. to the present. A term paper will be a central requirement for successful completion of this course.

Units: 3

MUSIC 279T. Topical Seminars in Choral Music

The study of advanced level choral literature, performance practices, interpretation, and rehearsal techniques pertinent to various choral ensembles.

Units: 1-3, Repeatable up to 6 units

MUSIC 290. Independent Study

See Academic Placement - Independent Study. Approved for SP grading.

Units: 1-3, Repeatable up to 6 units

MUSIC 291. Readings in Music

Prerequisite: permission of instructor. Readings in depth and discussions in individual conferences; subject to be selected by students and their advisers. May be preliminary research in connection with thesis topic. Approved for SP grading.

Units: 1-3, Repeatable

MUSIC 298. Project

See Criteria for Thesis and Project. Completion of an approved project appropriate to the candidate's area of specialization. To be used in place of MUSIC 299 for majors in performance, composition, and as an option for majors in music education. The graduate recital, for performance majors, will consist of an approved program containing at least one hour of music. Approved for RP grading.

Units: 3

MUSIC 298C. Project Continuation

Prerequisite: Project 298. For continuous enrollment while completing the project. May enroll twice with department approval. Additional enrollments must be approved by the Dean of Graduate Studies.

Units: 0

MUSIC 299. Thesis

Prerequisite: See Criteria for Thesis and Project. Preparation, completion, and submission of an acceptable thesis for the master's degree. Approved for SP grading.

Units: 3

MUSIC 299C. Thesis Continuation

Prerequisite: Thesis 298. For continuous enrollment while completing the thesis. May enroll twice with department approval. Additional enrollments must be approved by the Dean of Graduate Studies.

Units: 0

NATURAL SCIENCE (NSCI)

NSCI 1. The Art and Practice of Medicine

Primarily for prehealth care students. Delivery of health care today. Concepts of the art of medicine presented by community physicians and specialists. CR/NC grading only.

Units: 1, Repeatable up to 4 units

NSCI 1A. Integrated Science: Physics and Chemistry

Prerequisite: MATH 10A with a grade of C or higher. Integrated science: basic concepts and misconceptions in physics and chemistry and their relation to the everyday environment. Memorable demonstrations in lecture, household-related experiments, and experiments of special interest to K-6 teachers. (3 lecture, 2 lab hours) Meets G.E. B1 requirement only for liberal studies majors.

Units: 4

GE Area: B1LS

NSCI 4. Science and Nonsense: Facts, Fads, and Critical Thinking

Use of language, thought, and logic in science, distinguishing science fact from science fiction. Inductive and deductive methods, judgment, opinion, belief, and knowledge. A critical examination of contemporary pseudoscientific issues (creation "science," UFPs, astrology, etc.) G.E. Foundation A3.

Units: 3

GE Area: A3

NSCI 4H. Science and Nonsense; Critical thinking and the philosophy of science

Shows the use of language, rational inquiry, and logic in science, distinguishing science fact from science fiction. Inductive and deductive methods, judgement, opinion, origins of knowledge, belief of actions. A critical examination of contemporary pseudoscientific issues (creation science, UFO's, astrology, etc.) G. E. Foundation A3

Units: 3

GE Area: A3

NSCI 15. Environmental Science: An Integrative Course

A study of the interrelationships among the anthropological, biological, and geological aspects of man/woman and the natural environment. Team taught. CR/NC grading only. (HNE program field trip fee, $300)

Units: 3

NSCI 40T. Topics in Natural Sciences

Prerequisite: permission of instructor. Interdisciplinary topics covering such subject matter areas as environmental studies and the impact of science on society.

Units: 1-4, Repeatable up to 12 units

NSCI 40T. AEW Biology - BIOL 102

These courses are developed to meet the CSUF Louis Stokes Alliance for Minority Participation program Phase III grant goal of increasing minority student readiness for entry into graduate science/technology programs. They are designed to enhance learning and proficiency through uniquely structured workshops emphasizing attainment of concepts via group problem-solving methods. The 2-hour per week courses focus on subject topics, are led by student facilitators under faculty guidance, and provide learning material in PHYS 4B.

Units: 1, Repeatable up to 12 units

NSCI 40T. AEW Physics - PHYS 4B

These courses are developed to meet the CSUF Louis Stokes Alliance for Minority Participation program Phase III grant goal of increasing minority student readiness for entry into graduate science/technology programs. They are designed to enhance learning and proficiency through uniquely structured workshops emphasizing attainment of concepts via group problem-solving methods. The 2-hour per week courses focus on subject topics, are led by student facilitators under faculty guidance, and provide learning material in PHYS 4B.

Units: 1, Repeatable up to 12 units

NSCI 40T. AEW Math - MATH 77

These courses are developed to meet the CSUF Louis Stokes Alliance for Minority Participation program Phase III grant goal of increasing minority student readiness for entry into graduate science/technology programs. They are designed to enhance learning and proficiency through uniquely structured workshops emphasizing attainment of concepts via group problem-solving methods. The 2-hour per week courses focus on subject topics, are led by student facilitators under faculty guidance, and provide learning material in MATH 77.

Units: 1, Repeatable up to 12 units

NSCI 40T. General Human Anatomy Lab

Laboratory study of human anantomy

Units: 1

NSCI 40T. AEW Physics - PHYS 4A

These courses are developed to meet the CSUF Louis Stokes Alliance for Minority Participation program Phase III grant goal of increasing minority student readiness for entry into graduate

science/technology programs. They are designed to enhance learning and proficiency through uniquely structured workshops emphasizing attainment of concepts via group problem-solving methods. The 2-hour per week courses focus on subject topics, are led by student facilitators under faculty guidance, and provide learning material in PHYS 4A.

Units: 1, Repeatable up to 12 units

NSCI 40T. AEW Chemistry - CHEM 1A/1B

These courses are developed to meet the CSUF Louis Stokes Alliance for Minority Participation program Phase III grant goal of increasing minority student readiness for entry into graduate science/technology programs. They are designed to enhance learning and proficiency through uniquely structured workshops emphasizing attainment of concepts via group problem-solving methods. The 2-hour per week courses focus on subject topics, are led by student facilitators under faculty guidance, and provide learning material in Chem 1A, 1B, 128A & 128B.

Units: 1, Repeatable up to 12 units

NSCI 40T. General Biology Lab

Laboratory study of general biology.

Units: 1

NSCI 40T. General Human Physiology Lab

Laboratory study of general human physiology.

Units: 1

NSCI 40T. AEW Math - Math 76

These math courses are developed to meet the CSU Fresno Louis Stokes-Alliance for Minority Participation (LS-AMP) program Phase III grant goal of increasing minority student readiness for entry into graduate and doctoral science/mathematics programs. It is designed to enhance learning and proficiency in mathematics in the form of a uniquely structured workshop emphasizing attainment of concepts via group problem-solving methods. The two hour per week courses focus on subject topics are led by student facilitators who, under faculty guidance, provide learning material and direction in problem-solving to class participants in Math 75 & 76.

Units: 1, Repeatable up to 12 units

NSCI 40T. AMP Biology Academic Excellence Workshop

These Biological Sciences courses are developed to meet the CSU, Fresno Louis Stokes-Alliance for Minority Participation (LS-AMP) program Phase III grant goal of increasing minority student readiness for entry into graduate and doctoral science and mathematics programs. It is designed to enhance learning and proficienty in science in the form of uniquely structured workshops emphasizing attainment of concepts via group problem-solving methods. The two hour per week courses focus on subject topics led by student facilitators who, under faculty guidance, provide learning material and direction in problem-solving to class participants in BioSci 1A & 1B.

Units: 1, Repeatable up to 12 units

NSCI 40T. AEW Chemistry - CHEM 128 A/B

These chemistry courses are developed to meet the CSU, Fresno Louis Stokes-Alliance for Minority Participation (LS-AMP) program Phase III grant goal of increasing minority student readiness for entry into graduate and doctoral science and mathematics programs. It is designed to enhance learning and proficiency in science in the form of uniquely structured workshops emphasizing attainment of concepts via group problem-solving methods. The two hour per week courses focus on subject topics led by student facilitators who, under faculty guidance, provide learning material and direction in problem-solving to class participants in Chemistry 1A, 1B, 128A, & 128B.

Units: 1, Repeatable up to 12 units

NSCI 40T. AEW Physics - PHYS 2A/2B

These physics courses are developed to meet the CSU, Fresno Louis Stokes-Alliance for Minority Participation (LS-AMP) program Phase III grant goal of increasing minority student readiness for entry into graduate and doctoral science and mathematics programs. It is designed to enhance learning and proficiency in science and mathematics in the form of uniquely structured workshops emphasizing attainment of concepts via group problem-solving methods. The two hour per week courses focus on subject topics are led by student facilitators who, under faculty guidance, provide learning material and direction in problem-solving to class participants in Physics 2A & 2B.

Units: 1, Repeatable up to 12 units

NSCI 40T. AEW Math - Math 75

This course is one of several facilitated Science/Mathematics workshops required by the CSU-AMP Program specifically for students who are participants in the AMP Program. The CSU-AMP, or California State Univerity Alliance for Minority Participation in Science, Engineering, and Mathematics is a collaborative effort among the National Science Foundation (NSF) the CSU systems approximately 30 California Community Colleges, and a number of research institutions and industrial companies to promote and support minority students in Science, Engineering, and Mathematics (SEM) studies. Using in part the Treisman collaborative model, there would be two hours of weekly group activities based not on remediation but on an honor curriculum format.

Units: 1, Repeatable up to 12 units

NSCI 100. Chemistry for Liberal Studies

Not open to engineering students. Prerequisites: NSCI 1A and NSCI 1B. Emphasizes chemistry as a process rather than a collection of facts, laws, and theories, and content in California K-8 Science Standards. Designed for students planning careers in K-8 teaching. S sections include a service-learning requirement.

Units: 3

NSCI 100S. Chemistry for Liberal Studies

Not open to engineering students. Prerequisites: NSCI 1A and NSCI 1B. Emphasizes chemistry as a process rather than a collection of facts, laws, and theories, and content in California K-8 Science Standards. Designed for students planning careers in K-8 teaching. S sections include a service-learning requirement.

Units: 3

NSCI 101. Biology for Liberal Studies

Not open to engineering students. Prerequisites: NSCI 1A and NSCI 1B. Emphasizes biology as a process rather than a collection of facts, laws, and theories. Designed especially for students planning careers as elementary school teachers.

Units: 3

NSCI 102. Physics and Astronomy for Liberal Studies

Not open to engineering students. Prerequisites: NSCI 1A and NSCI 1B. Introductory physics and astronomy with emphasis on hypothesis formation, analysis, and testing. Everyday observations and materials will be used to the extent possible to facilitate the transfer of concepts and techniques to the elementary classroom. (2 lecture, 2 lab hours)

Units: 3

NSCI 106. Reigning Theories of Science

Examination of historically important scientific theories from the perspective of science as a human enterprise. Role of philosophy, religion, culture, and nationalism in the acceptance/rejection of theories. Research paper, class presentation required.

Units: 3

NSCI 110. Practicum in Medicine

Prerequisite: permission of instructor. The Academic Research Associate Program is offered in association with the UCSF Fresno Medical Education Program and the Department of Emergency Medicine. Premedical students working at University Medical Center with health professionals will aid biomedical research efforts and have opportunities for clinical observation. CR/NC grading only.

Units: 1-2, Repeatable up to 6 units

NSCI 115. Environmental Earth and Life Science

Prerequisites: completion of General Education Foundation and Breadth Area B. Environmental problems related to population, energy and resource use, and pollution. Examines social and ethical issues along with technological and scientific factors. Independent work on case studies required. G.E. Integration IB.

Units: 3

GE Area: IB

NSCI 116. Energy, Technology, and Society

Not open to engineering students. Prerequisites: NSCI 1A and NSCI 1B. Examines the role that chemistry, physics, and technology play in our society. Designed especially for students planning careers as elementary school teachers.

Units: 3

NSCI 120. Biotechnology and Its Impact on Society

Prerequisites: completion of General Education Foundation and Breadth Area B; courses in biology and chemistry (high school or college) strongly recommended. Introduction to the tools of modern biotechnology including recombinant DNA, gene therapy, cloning, monoclonal antibodies, DNA fingerprinting, and the Polymerase Chain Reaction (PCR). Adresses applications of biotechnology to medicine, agriculture, the environment, and forensics, as well as their ethical implications. G.E. Integration IB.

Units: 3

GE Area: IB

NSCI 121. Blood: Science, Art, and Folklore

Prerequisites: completion of General Education Foundation and Breadth Area B; courses in biology and chemistry (high school or college) strongly recommended. Introduction to blood - its unique chemical, physical, and biological properties and its importance in medicine and forensics. Explores the significance of blood images for artistic and religious symbolism in both contemporary and historical cultures. G.E. Integration IB.

Units: 3

GE Area: IB

NSCI 125. Revenge of the Killer Microbes

Prerequisites: completion of General Education Foundation and Breadth Area B; courses in biology and chemistry (high school or college) strongly recommended. Introduction to the adversarial relationships between disease-causing microorganisms and human affairs, both currently and historically. Explores the unique defense and counter defense mechanisms that have developed in a variety of microbes and the human immune system. Addresses health care issues related to disease prevention and control. G.E. Integration IB.

Units: 3

GE Area: IB

NSCI 140T. Topics in N Sci

Units: 1-6, Repeatable up to 12 units

NSCI 240T. Topics in Natural Sciences

Prerequisite: permission of instructor. Interdisciplinary topics in the natural sciences at the graduate level covering such subjects as advanced techniques. Sample topics are Radiation Techniques in Biology and the Physical Sciences and Recent Advances in Psychophysiology. (May include lab hours)

Units: 1-4, Repeatable up to 8 units

NURSING (NURS)

NURS 8T. Beginning Topics in Nursing

Not available for credit in the nursing major. Selected topics in nursing for prenursing and/or beginning nursing students. Explores topics not covered in regular nursing courses.

Units: 1-3, Repeatable up to 6 units

NURS 10. Basic Concepts and Care of Elderly Clients

Prerequisites: admission to the major. Corequisites: NURS 10A, NURS 10L, NURSE 111, NURS 112. Overview of theoretical and scientific foundations of nursing practice. Introduction to physiological, psychological, sociocultural, and developmental variables affecting individuals throughout the life span. Emphasis on basic concepts of pharmacotherapeutics and wellness promotion throughout the life span.

Units: 3

Course Typically Offered: Fall, Spring

NURS 10A. Basic Skills in Nursing

Prerequisite: admission to the major. Corequisites: NURS 10, NURS 10L, NURSE 111, NURS 112. Application of concepts from NURS 10 in simulated client situations, emphasis on assessment and interventions required to assist individuals in meeting their common health needs. (6 lab hours/week; course fee $40)

Units: 2

Course Typically Offered: Fall, Spring

NURS 10L. Practicum: Basic Concepts and Care of Elderly Clients

Prerequisite: admission to the major. Corequisites: NURS 10, NURS 10A , NURS 111, NURS 112. Utilization of concepts from NURS 10 in selected health wellness settings. Supervised practice of health assessment, communication skills, and noninvasive nursing procedures. (3 clinical hours/week) (CSU liability insurance fee, $8)

Units: 1

Course Typically Offered: Fall, Spring

NURS 50. Cooperative Education in Nursing

Prerequisites: current CPR certification; health clearance; NURS 10, NURS 10A, NURS 10L, NURS 110, NURS 110A, NURS 110L. Provides students enrolled in the nursing major an opportunity to obtain structured work-study experiences, under the supervision of registered nurses, in participating health care agencies. Opportunities for additional practice and development of confidence through application of previously learned knowledge and skills. CR/NC grading only; not applicable toward degree requirements.

Units: 1-3, Repeatable up to 12 units

Course Typically Offered: Fall, Spring

NURS 110. Basic Concepts in Nursing

Prerequisites: NURS 10, NURS 10A, NURS 10L, NURS 111, NURS 112; CFS 38. Corequisites: NURS 110A, NURS 110L, NURS 124. Application of basic pathophysiology, pharmacotherapeutics, and assessment of clients across life span with emphasis on primary and secondary interventions, utilization of nursing process in care of clients with common health deviations.

Units: 3

Course Typically Offered: Fall, Spring

NURS 110A. Advanced Skills in Nursing

Prerequisites: NURS 10, NURS 10A, NURS 10L, NURS 111, NURS 112. Corequisites: NURS 110, NURS 110L, NURS 124. Integration and application of knowledge necessary to perform specific nursing psychomotor skills. Emphasis placed on understanding the principles underlying the techniques, procedures and activities required while caring for clients with common health conditions. (6 lab hours/week; course fee, $40)

Units: 2

Course Typically Offered: Fall, Spring

NURS 110L. Practicum: Basic Concepts in Nursing

Prerequisites: NURS 10, NURS 10A, NURS 10L, NURS 111, NURS 112. Corequisites: NURS 110, NURS 110A, NURS 124. Application of nursing process to clients with common health deviations. Identification of risk factors associated with stressors and provision of nursing care directed toward primary and secondary interventions. (6 clinical hours)

Units: 2

Course Typically Offered: Fall, Spring

NURS 111. Integrated Health Assessment

Prerequisites: admission to the major. Corequisites: NURS 10, NURS 10A, NURS 10L, NURS 112. Integration of health assessment techniques for clients at various stages of wellness, health, and disease. Principles of communication and history taking. Basic skills and arts necessary for conducting a physical and mental health examination.

Units: 1

NURS 112. Pathophysiology for Nurses

Prerequisite: admission to the major. Corequisites: NURS 10, NURS 10A, NURS 10L, NURS 111. Study of the inter-, intra-, and extra-personal stressors leading to alterations in cardiac function, comfort, coping, elimination, immune response, metabolism, mobility, nutrition, respirations, role performance,a nd the implications for nursing practice.

Units: 2

Course Typically Offered: Fall, Spring

NURS 113. Problem Based Case Studies for Nursing

Using problem based clinical cases, critically analyze selected nursing practice issues. Application of the nursing process, use of evidenced-based practice concepts, and analysis of nursing interventions essential for preparation of the undergraduate nurse. (Formerly NURS 180T)

Units: 2, Repeatable up to 6 units

Course Typically Offered: Fall, Spring

NURS 121. Psychosocial Nursing

Prerequisites: NURS 110, NURS 110A, NURS 110L, NURS 124. Corequisite: NURS 121L. Current theories and concepts in the nursing care of clients with psychosocial disorders.

Units: 3

Course Typically Offered: Fall, Spring

NURS 121L. Practicum: Psychosocial Nursing

Prerequisites: NURS 110, NURS 110A, NURS 110L, NURS 124. Corequisite: NURS 121. Application of the nursing process to clients with psychosocial disorders. (6 clinical hours/week; course fee, $20) (CSU liability insurance fee, $8)

Units: 2

Course Typically Offered: Fall, Spring

NURS 123. Concepts of Acute Illness in Adults

Prerequisites: NURS 110, NURS 110A, NURS 110L, NURS 124. Corequisite: NURS 123L. Secondary prevention of the acutely ill adult client/family with alterations in structure, energy, and resources due to intra, inter, and extrapersonal stressors upon flexible and normal lines of defense. Emphasis on the nursing process for reconstitution. (Course fee $20)

Units: 3

Course Typically Offered: Fall, Spring

NURS 123L. Practicum: Concepts of Acute Illness in Adults

Prerequisites: NURS 110, NURS 110A, NURS 110L, NURS 124. Corequisite: NURS 123. Application of nursing process in secondary prevention and care of acutely ill adults. (6 clinical hours)

Units: 2

Course Typically Offered: Fall, Spring

NURS 124. Pharmacology in Nursing

Prerequisites: NURS 10, NURS 10A, NURS 10L, NURS 111, NURS 112; CFS 38. Corequisite: NURS 110, NURS 110A, NURS 110L. Pharmacological theory required for effective nursing practice. Principles of pharmacokinetics and pharmacodynamics.

Units: 2

Course Typically Offered: Fall, Spring

NURS 131. Nursing of the Childrearing Family

Prerequisites: NURS 121, NURS 121L, NURS 123, NURS 123L. Corequisite: NURS 131L. Introduction to current theories and concepts in the care of the pediatric client/family with emphasis on wellness and illness.

Units: 3

Course Typically Offered: Fall, Spring

NURS 131L. Practicum: Nursing of the Childrearing Family

Prerequisites: NURS 121, NURS 121L, NURS 123, NURS 123L. Corequisite: NURS 131. Application of specific skills, theories, and concepts in the care of the pediatric client/family with emphasis on wellness and illness. (6 clinical hours)

Units: 2

NURS 132. Nursing the Childbearing Family

Prerequisites: NURS 121, NURS 121L, NURS 123, NURS 123L. Corequisite: NURS 132L. Theoretical base and clinical knowledge for application in primary and secondary prevention in the nursing of the childbearing family. Introduction to high risk perinatal nursing.

Units: 3

Course Typically Offered: Fall, Spring

NURS 132L. Practicum: Nursing of the Childbearing Family

Prerequisites: NURS 121, NURS 121L, NURS 123, NURS 123L. Corequisite: NURS 132. Application of knowledge and technical skills in the nursing of the childbearing family during the intrapartum and postpartum periods with emphasis on the family as a unit. (6 clinical hours)

Units: 2

NURS 134. Geriatric Nursing: Concepts in Health Aging

Prerequisites: NURS 121, NURS 121L, NURS 123, NURS 123L. Exploration of theories and concepts relative to healthy aging, the nurse's role as a case manager in developmental and situational crises, and resources available to the nurse. Appropriate for nursing elective or RNs preparing for ANCC certification in gerontology.

Units: 2

Course Typically Offered: Spring

NURS 136. Health Appraisal

Prerequisite: admission to the major or RN license. Health appraisal integrates psychosocial and pathophysiological processes including techniques of history taking and health assessment in nursing practice and knowledge of normal findings as well as common deviations. (2 lecture, 2 lab hours)

Units: 3

Course Typically Offered: Fall, Spring

NURS 137. Teaching Strategies for the Health Care Client

Prerequisite: upper-division status. Exploration of nurses' role as a teacher in health care setting. Principles of teaching and learning applied to teaching of individuals and groups. Opportunities for micro-teaching are provided. (Laboratory optional)

Units: 3

Course Typically Offered: Spring

NURS 138. Bridge to Professional Nursing Concepts and Issues

Characteristics of nursing as a profession, historic and current roles of professional nurse as advocate, leader, manager, educator, researcher, team member, and change agent. Introduction to nursing theories, along with research, ethical, legal, political, and economic issues in health care.

Units: 5

Course Typically Offered: Fall, Spring

NURS 140. Concepts of Complex Clinical Nursing

Prerequisites: NURS 131, NURS 131L, NURS 132, NURS 132L. Corequisites: NURS 140L, NURS 142. Theory and concepts relative to care of clients with complex health problems. Emphasis on synthesis of concepts and principles derived from nursing and other disciplines in implementation of primary, secondary, and tertiary prevention for clients and families.

Units: 2

Course Typically Offered: Fall, Spring

NURS 140L. Practicum: Concepts of Complex Clinical Nursing

Prerequisites: NURS 131, NURS 131L, NURS 132, NURS 132L. Corequisite: NURS 140. Clinical application of concepts and nursing process in care of clients of all ages with complex health problems. (6 clinical hours)

Units: 2

Course Typically Offered: Fall, Spring

NURS 141. Concepts of Community Health Nursing

Prerequisites: completion of the Multicultural/International General Education requirement; PLSI 2; NURS 131, NURS 131L, NURS 132, NURS 132L, NURS 145. Corequisite: NURS 141L. Community and home health nursing principles, practices, and services to benefit client systems at the primar, secondary. adn tertiary levels of prevention; recognizez the interrelatedness of nursing,public health, epidemiological, developmental, learning, and economic thoeries and concepts.

Units: 3

GE Area: M/I

NURS 141LS. Practicum: Concepts of Community Health Nursing

Prerequisites: NURS 131, NURS 131L, NURS 132, NURS 132L. Corequisite: NURS 141. Application of primary, secondary, and tertiary prevention in the community with individuals, families, and

groups. Service learning components are integrated to enhance reflection of caring for diverse population members. (6 clinical hours/week; course fee $20) (CSU liability insurance fee, $8)

Units: 2

GE Area: M/I

NURS 142. Assessment of Common Cardiac Dysrhythmias

Prerequisites: NURS 131, NURS 131L, NURS 132, NURS 132L. Corequisites: NURS 140, NURS 140L, NURS 141, NURS 141L. Study of the electrocardiogram, common dysrhythmias, and implications for nursing practice. (Course fee, $20)

Units: 1

Course Typically Offered: Fall, Spring

NURS 145. Nursing Theories and Research

Prerequisites: statistics, NURS 121, NURS 121L, NURS 123, NURS 123L, and upper-division writing. Application of nursing theories and the research process to nursing practice are explored. Focus includes historical evolution of contemporary theories in nursing, critique of current research, and computer applications to research.

Units: 3

Course Typically Offered: Fall, Spring

NURS 150. Leadership and Health Care Economics

Prerequisites: NURS 140, NURS 140L, NURS 141, NURS 141L, NURS 142, NURS 145. Corequisites: NURS 150L, NURS 151. Development of the nurse as a leader in the health care delivery system. Development of negotiation, delegation, management, and critical thinking skills with recognition of the impact of a changing health care economics environment. (course fee $40)

Units: 3

Course Typically Offered: Fall, Spring

NURS 150L. Practicum: Leadership and Health Care Economics

Prerequisites: NURS 140, NURS 140L, NURS 141, NURS 141L, NURS 142, NURS 145. Corequisites: NURS 150, NURS 151. Development and application of leadership skills in a variety of health care settings. Covers using negotiation, delegation, management, and critical thinking skills while managing a client caseload with interprofessional team members in a cost effective manner. (6 clinical hours/week; liability fee $8)

Units: 2

NURS 151. Senior Project

Prerequisites: senior standing or permission of instructor; NURS 140, NURS 140L, NURS 141, NURS 141L, NURS 142, NURS 145. Corequisites: NURS 150, NURS 150L. Opportunity for students to build upon conceptual, theoretical, and research knowledge base. Students pursue in-depth study with practical application in areas of interest: management, conflict resolution, application of nursing theories, research, or community project. Satisfies the senior major requirement for the B.S. in Nursing.

Units: 1

NURS 152. Adanced Leadership, Management and Healthcare Systems

Provides students with an expanded view of the nurse as leader and manager, as well as the role of nursing within the healthcare system. Leadership, management, organizational, financial, regulatory and policy frameworks are examined.

Units: 3

Course Typically Offered: Fall, Spring

NURS 154. Applying Professional Nursing Principles

Prerequisites: NURS 138, NURS 145. Culminating RN-BSN course; integration of concepts in RN-BSN coursework with prior nursing knowledge and experience. Synthesis and application of cumulative knowledge focused on capstone project; exploration of future role of nursing within changing healthcare system.

Units: 5

Course Typically Offered: Fall, Spring

NURS 155. Advanced Problem-Based Clinical Case Studies in Nurs

This course will utilize a comprehensive approach facilitated by clinically based scenarios, nationally standardizes examinations, and situational learning opportunities to systematically review key concepts accessible through-out the student nurses' program of study. Emphasis is placed on the promotion of culminating nursing curricula synthesis.

Units: 2

Course Typically Offered: Fall, Spring

NURS 180T. Topics in Nursing

Selected topics such as aging, holistic nursing, transcultural nursing, assertiveness training for nurses, psychosocial aspects of nursing, etc. Some topics may have clinical component.

Units: 1-3, Repeatable up to 12 units

NURS 184. Introduction to School Nursing

Prerequisites: admission to School Nurse Services Credential Program, NURS 136, NURS 137; SPED 120; COUN 174 or COUN 200. Corequisite: NURS 186. Role of the school nurse; parameters of school health practice, legal guidelines, professional accountability, coordinated health programs, health education, and health needs of complex multicultural school-aged population. (Available online.)

Units: 3

Course Typically Offered: Fall

NURS 185. School Nurse Seminar

Prerequisites: admission to School Nurse Services Credential Program, NURS 136, NURS 137; SPED 120; COUN 174 or COUN 200. Corequisite: NURS 187. Role of the school nurse; parameters of school health practice; emphasis on adolescent health issues, health education, legal parameters, interdisciplinary cooperation, legislative issues, research, and professional accountability. (Available online.)

Units: 3

Course Typically Offered: Spring

NURS 186. School Nurse Practicum I

Prerequisites: admission to School Nurse Services Credential Program, NURS 136, NURS 137; SPED 120; COUN 174 or COUN 200; NURS 183. Corequisite: NURS 184. Elementary

level school nurse experience including special education. Direct supervision by a credentialed school nurse; scheduled preceptor/instructor conferences; class participation online. (9 clinical hours/week) (CSU liability insurance fee, $8)

Units: 3

Course Typically Offered: Fall

NURS 187. School Nurse Practicum II

Prerequisites: admission to School Nurse Services Credential Program, NURS 136, NURS 137; SPED 120; COUN 174 or COUN 200; NURS 183, NURS 184. Corequisite: NURS 185. Secondary level school nurse experience, including special and alternative education; direct supervision by credentialed school nurse required. Scheduled conferences with preceptor and faculty. Class participation will be online (9 clinical hours/week)

Units: 3

Course Typically Offered: Spring

NURS 190. Independent Study

See Academic Placement - Independent Study. Approved for RP grading.

Units: 1-3, Repeatable up to 6 units

NURS 210. Health Assessment in Advanced Nursing Practice

Prerequisites: NURS 136 or equivalent, pathophysiology, admission to the Graduate Program in Nursing. Refinement of history taking, physical diagnosis, psychosocial, and developmental evaluation of multicultural clients and families. Includes differential diagnosis, clinical decision making, and client management across the life span. Pharmacology and laboratory techniques incorporated. Includes clinical performance component. (2 lecture, 3 practicum hours) (CSU liability insurance fee, $8)

Units: 3

NURS 211. Advanced Pharmacology

Prerequisite: admission to the graduate program in nursing or permission of instructor. Concepts and theory relative to pharmacologic agents and devices utilized in health care by the advanced practice nurse. Content includes pharmacologic agents, physiologic/pathologic responses, and legal/ethical considerations for use with all age groups of clients.

Units: 3

NURS 212. Advanced Pathophysiology

Prerequisite: admission to the graduate program in nursing or permission of instructor. The relationship between normal physiology and pathological phenomena produced by altered states is analyzed. Physiologic responses to illness and treatment modalities across the life span are examined. Synthesis and application of current research regarding pathological changes are emphasized.

Units: 2

NURS 215. Obstetrics & Gynecology in Primary Care

Prerequisite: successful completion of NURS 210 or nurse practitoner certification. Introduction to basic obstetric and gynecologic content and skills utilized in primary care. Diagnosis and management of common obstetric and gynecologic conditions are explored. Early indications of serious obstetrical complications and the nurse practitioner role are discussed.

Units: 3

NURS 216. Wound Management

Prerequisites: Successful completion of NURS 210 or Nurse Practitioner certification. Provides student nurse practitioners with the information, rationales, and hands-on acquisition of skills to assess and treat surgical, traumatic, and ulcerative wounds.

Units: 2

NURS 220. In-Smll Grp Ins

Units: 2, Repeatable

NURS 221. Theoretical Foundations of Nursing Practice

Prerequisite: admission to the graduate program in nursing. Selected theories from nursing and related fields are examined and evaluated with emphasis on application in complex health care systems. The relationship between theory, research, and clinical practice is explored.

Units: 2

NURS 223. Advanced Research Methodology in Nursing

Prerequisite: admission to the Graduate Program in Nursing. In-depth study of research principles and techniques. Formulation of a comprehensive database, critical analysis of clinical issues, application of research in the treatment regimen, and thesis/project proposal development are incorporated.

Units: 3

NURS 225. Advanced Nursing Issues: Health Care Policy Ethics and Role Development

Prerequisite: admission to the graduate program in nursing. The evolution of major issues relevant to advanced nursing practice is examined. Topics include: health care policy, organization, and financing; ethics; professional role development; and interdisciplinary communication and collaboration.

Units: 3

NURS 233. Integrating Technology in Nursing Education

Co-requisite: NURS 240. Exploration, in partnership with educational experts and instructional designers, of existing and developing technologies utilized in nursing education and practice settings. (2 didactic & 3 lab hours weekly)

Units: 3

NURS 235. Adult-Gero Fundamental Topics for the Clinical Nurse Specialist

NACNS competencies examined within adult/geriatric population focus. Focus is on direct care emphasizing opportunities and challenges related to the unique development, the life progression, and wellness and illness across the adult/geriatric lifespan continuum.

Units: 3

NURS 236. Practicum in Advanced Clinical Nursing for the Adult-Gero Clinical Nurse Specialist

Supervised clinical practice with emphasis on NACNS competencies applied to health promotion, maintenance, and restoration of

adult/geriatric patients in a complex health care system.

Units: 5

NURS 237. Fundamental Topics for the Pediatric Clinical Nurse Specialist

Prerequisites: NURS 210, NURS 211, NURS 221, NURS 225. Co-requisite: NURS 238. This course will focus on advanced and complex health concerns in the Pediatric population. The role of the CNS as defined by state and national organizations will be integrated within the study of health and illness in the target population.

Units: 3

NURS 238. Practicum in Advanced Clinical Nursing for the Pediatric Clinical Nurse Specialist

Prerequisites: NURS 210 and NURS 221. Co-requisite: NURS 237. Supervised clinical practice with emphasis of NANCS competencies applied to common problems in health promotion, maintenance, and restoration of pediatric patients in a complex health care system. (1-hour clinical conference per week) (255 direct patient care clinical hours)

Units: 5

NURS 240. Curriculum Development for the Nurse Educator

Theories and models of curriculum development incorporating educational needs assessment and design. Students present educational program using instructional design methodology including objectives, learning characteristics, teaching methods, learning resources, and evaluation methods. Teaching practicum with a master teacher required. (Formerly NURS 288T)

Units: 3

NURS 241. Instructional Methods for the Nurse Educator

Instructional methods for nurse educators. Focuses on nursing and education theories, motivation, learning/teaching styles, designing measurable outcomes, reinforcement strategies, principles of evaluation, and effective feedback. Teaching practicum with a master teacher required. (Formerly NURS 288T)

Units: 3

NURS 242. Evaluation and Testing for the Nurse Educator

Prerequisites: NURS 240, NURS 241. Evaluation methods for the nurse educator in classroom and clinical settings. Students will examine alternative assessment strategies, design and write test items, analyze test results, and develop classroom and clinical evaluation strategies. Teaching practicum with a master teacher required. (Formerly NURS 288T)

Units: 3

NURS 243. Psychiatric Disorders & Mental Health Problems in Primary Care

Prerequisites: Acceptance to PMHNP Advanced Certificate of Study Program or by permission of instructor. Theories and models of psychiatric disorders and mental health problems. Symptoms, causes, and management of common mental disorders seen in primary care settings such as eating disorders, anxiety, substance abuse, and depression. Ethical issues. Focus on patient as individual.

Units: 2

NURS 244. Psychopharmacology

Prerequisites: Acceptance to PMHNP Advanced Certificate of Study Program or by permission of instructor. Current scientific knowledge of psychotropic regimens and application to psychiatric disorders and mental health problems. Advanced concepts in neuroscience, pharmacokinetics, pharmacodynamics, and clinical management.

Units: 2

NURS 245. Management of Common Psychiatric Conditions in Primary Care

Prerequisites: Acceptance to PMHNP Advanced Certificate of Study Program or by permission of instructor. Co-requisites: NURS 243 and NURS 244. Assessment, diagnosis and management of common mental health disorders in primary care. Analysis of clinical strategies and interventions in health promotion and maintenance and prevention of common psychiatric problems. Rold of PMHNP in community mental health. 103 percepted clinical hours. (Weekly one hour clinical conference.) (Coures fee, $40.)

Units: 2

NURS 246. Methods of Psychotherapy

Prerequisites: NURS 243, NURS 244, NURS 245 or by permission of instructor. Co-requisite: NURS 247. Types and principles of family, adult, and child psychoterapeutic interventions. Group psychotherapeutic processes and methods of facilitation. Models of crisis intervention, cognitive behavioral and motivational interventions.

Units: 2

NURS 247. Management & Care of Patients with Acute & Chronic Psychiatric Conditions

Prerequisites: NURS 243, NURS 244, and NURS 245 or by permission of instructor. Co-requisite: NURS 246. Assessment, diagnosis, and psychopharmacologic and psychoterapeutic management of common mental disorders, including psychotic conditions, uncommon presentations, acute exacerabations, and crises. 206 precepted clinical hours. (Weekly one hour clinical conference.) (Course fee, $40.)

Units: 4

NURS 248. Psychiatric Disorders & Mental Health Problems in Special Populations

Prerequisites: NURS 246 and NURS 247 or by permission of instructor. Co-requisite: NURS 249. Assessment, diagnosis and management of common psychiatric conditions in older adults, children, adolescents, and diverse populations. Effect of culture on the expression of illness, help-seeking behaviors, and treatment. Disparities in mental health care, legal and ethical issues addressed.

Units: 2

NURS 249. Management & Mental Health Care of Special Populations

Prerequisites: NURS 246 and NURS 247 or by permission of instructor. Co-requisite: NURS 248. Assessment, diagnosis, and

psychoparmacologic, psychosocial, and psychotherapeutic management of common mental disorders, with an emphasis on care of the elder adult, children, adolescents, and diverse populations. 206 precepted clinical hours. (Weekly one hour clinical conference.) (Course fee, $40.)

Units: 4

NURS 253. Advanced Topics for the Adult-Gero Clinical Nurse Specialist

Prerequisites: NURS 235 and NURS 236. Co-requisite: NURS 254. This course will focus on advanced and complex health concerns in the adult/gerontologic population. The role of the CNS as defined by the state and national organizations will be integrated within the study of health and illness in the target population.

Units: 3

NURS 254. Adult-Gero Clinical Nurse Specialist Practicum

Prerequisites: NURS 235 and NURS 236. Co-requisite: NURS 253. Supervised clinical practice with emphasis on NACNS competencies applied to health promotion, maintenance, and restoration of adult-geriatric patients in a compled healthcare system. (1 hour clinical conference per week) (255 direct patient care clinical hours)

Units: 5

NURS 255. Advanced Topics for the Pediatric Clinical Nurse Specialist

Prerequisites: NURS 237 and NURS 238. Co-requisite: NURS 256. This course will focus on advanced and complex health concerns in the Pediatric population. The role of the CNS as defined by state and national organizations will be integrated within the study of health and illness in the target population.

Units: 3

NURS 256. Pediatric Clinical Nurse Specialist Practicum

Prerequisites: NURS 237 and NURS 238. Co-requisite: NURS 255. Supervised clinical practice with emphasis on complex and multi-system disease processes in the pediatric patient population in a variety of healthcare systems. Clinical Nurse Specialist roles and competencies, as defined by professional organizations, are utilized in the planning of care. (1 hour clinical conference per week) (255 direct patient care clinical hours)

Units: 5

NURS 262. Pediatric Nurse Practitioner Role in Primary Prevention

Prerequisite: NURS 210, NURS 221. Theoretic base for primary prevention, health maintenance, health promotion, health screening, health teaching and anticipatory guidance for pediatric nurse practitioners with an emphasis on case management techniques utilizing algorithms and standardized procedures.

Units: 2

NURS 263. Primary Practicum Pediatric Nurse Practitioner

Prerequisites: NURS 210, NURS 221. Prepare pediatric nurse practitioners to deliver promotion and health maintenance services. Application of individual, family, community, and nursing theories are addressed utilizing transcultural and intergenerational factors in interdisciplinary practice settings. (CSU liability insurance fee, $8)

Units: 4

NURS 264. Primary Practicum Family Nurse Practitioner

Prerequisites: California RN licensure, NURS 210, NURS 221. Corequisite: NURS 265. A practicum designed to prepare family nurse practitioners to deliver promotion and health maintenance services. Application of individual, family, community, and nursing theories are addressed utilizing transcultural and intergenerational factors in interdisciplinary practice settings. (Course fee, $40) (204 faculty-supervised direct care clinical hours)(CSU liability insurance fee, $8)

Units: 4

NURS 265. Family Nurse Practitioner Role in Primary Prevention

Prerequisites: NURS 210, NURS 221. Corequisite: NURS 264. Theoretical base for primary prevention: health maintenance, health promotion, health screening, health teaching, and anticipatory guidance for nurse practitioners. Case management techniques utilizing protocols/algorithms.

Units: 2

NURS 266. Family Nurse Practitioner Role in Secondary Prevention

Prerequisites: NURS 264, NURS 265. Theoretical base of secondary prevention in primary care settings. Assessment and management of acute self-limiting conditions. Use and development of algorithms/protocols for secondary prevention. Intensive pharmacology for nurse practitioners.

Units: 2

NURS 267. Practicum in Secondary Prevention, Family Nurse Practitioner

Prerequisites: NURS 264, NURS 265; NURS 266 prior to or concurrently. Supervised clinical practice in a primary care setting with emphasis on secondary prevention for clients of all ages. Students work directly with preceptor and faculty member. Complete assessment and case management. (One hour clinical conference per week).

Units: 4

NURS 268. Pediatric Nurse Practitioner Role in Secondary Prevention

Prerequisites: NURS 262, NURS 263. Theoretical base of secondary prevention in pediatric primary care settings. Assessment and management of acute self-limiting conditions. Use and development of algorithms/protocols for secondary prevention. Intensive pharmacology for nurse practitioners.

Units: 2

NURS 269. Practicum in Secondary Prevention, Pediatric Nurse Practitioner

Prerequisites: NURS 264, NURS 265; NURS 266 prior to or concurrently. Supervised clinical practice in a pediatric primary care setting with emphasis on secondary prevention. Students work directly with a preceptor and faculty member. Complete assessment

and case management. (One hour clinical conference per week.)

Units: 4

NURS 277. Family Nurse Practitioner Role in Tertiary Prevention

Prerequisites: NURS 266, NURS 267. Theoretical base for tertiary prevention for families in primary care settings. Assessment and management of chronic conditions requiring reconstitution. Development of protocols/algorithms for tertiary prevention. Integration of knowledge related to primary, secondary, and tertiary prevention.

Units: 2

NURS 278. Practicum in Tertiary Prevention, Family Nurse Practitioner

Prerequisites: NURS 266, NURS 267; NURS 277 prior to or concurrently. Supervised clinical practice in a primary care setting with emphasis on care of clients of all ages requiring tertiary prevention. Students work directly with a nurse practitioner and/or phy. (CSU liability insurance fee, $8)

Units: 4

NURS 279. Pediatric Nurse Practitioner Role in Tertiary Prevention

Prerequisites: NURS 266, NURS 269. Theoretical base for tertiary prevention for children in primary care settings. Assessment and management of chronic conditions requiring reconstitution. Development of protocols/algorithms for tertiary prevention. Integration of knowledge related to primary, secondary, and tertiary prevention.

Units: 2

NURS 280. Practicum in Tertiary Prevention, Pediatric Nurse Practitioner

Prerequisites: NURS 266, NURS 269; NURS 279 prior to or concurrently. Supervised clinical practice in a primary care setting with emphasis on care of children requiring tertiary prevention. Students work directly with a nurse practitioner and/or physician prec. (CSU liability insurance fee, $8)

Units: 4

NURS 288T. Seminar Topics in Advanced Clinical Nursing

Prerequisite: permission of instructor. Selected topics in specialized practice domains such as home health, cardiovascular, oncology, gerontology, and rehabilitation nursing. Analysis and integration of research-based knowledge into the nursing process characterizing the specific practice domain are emphasized.

Units: 1-7, Repeatable up to 16 units

NURS 290. Independent Study

See Academic Placement - Independent Study. Approved for SP grading.

Units: 1-3

NURS 295. DNP Practicum

Prerequisites: Admission to DNP program. Integration of clinical practice, theory ,and research. Development of clinical expertise in management of health problems in selected populations. (45 - 270 supervised clinical hours). May be repeated. CR/NC grading only.

Units: 1-6

NURS 298. Project

See Criteria for Thesis and Project. A project is defined as a systematic development of a plan for, or critical evaluation of, a significant undertaking or a creative work in nursing such as modularized curriculum and clinical protocols. Abstract required. Approved for SP grading.

Units: 3

NURS 298C. Project Continuation

Prerequisite: Project NURS 298. For continuous enrollment while completing the project. May enroll twice with department approval. Additional enrollments must be approved by the Dean of Graduate Studies.

Units: 0

NURS 299. Thesis

Prerequisite: NURS 223. See Criteria for Thesis and Project. Preparation, completion, and submission of an acceptable thesis, based on an approved proposal, for the master's degree. Approved for SP grading.

Units: 3

NURS 299C. Thesis Continuation

Prerequisite: Thesis NURS 298. For continuous enrollment while completing the thesis. May enroll twice with department approval. Additional enrollments must be approved by the Dean of Graduate Studies.

Units: 0

NURS 574. The Role of Diversity & Social Issues in Healthcare

Prerequisite: admission to the DNP program. 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.

Units: 2

NURS 575. Application of Theories in Advanced Nursing Practice

Prerequisite: admission to the DNP program. Application of theories of nursing, ethics, and teaching-learning to advanced nursing practice and healthcare leadership.

Units: 2

NURS 576. Application of Biostatistics to Populations

Prerequisite: admission to the DNP program. Examination of methods to generate and analyze biostatistical data to design, implement, and evaluate programs and policies for the healthcare of populations.

Units: 3

NURS 583. Leadership & Professional Responsibility in Complex Healthcare Systems

Prerequisites: NURS 574, NURS 575, NURS 576. 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.

Units: 2

NURS 584. Technology, Informatics, and Data Management in the Transformation of Healthcare

Prerequisites: NURS 574, NURS 575, NURS 576. 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.

Units: 3

NURS 585. Foundations of Evidence-Base Practice

Prerequisites: NURS 574, NURS 575, NURS 576. Exploration of issues related to evidence-base practice. Development of skills needed to identify, critically appraise, and utilize best practice.

Units: 2

NURS 586. Transformation of Health Care Systems: Health Policy & Economics

Prerequisites: NURS 583, NURS 584, NURS 585. Healthcare policies and economics and the political forces that shape them. Role of the DNP in the analysis, formulation, and implementation of healthcare policies.

Units: 2

NURS 587. Principles of Epidemiology

Prerequisites: NURS 583, NURS 584, NURS 585. 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.

Units: 3

NURS 591. Curriculum Development

Prerequisites: NURS 586, NURS 587. 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.

Units: 3

NURS 592. Evaluation in Nursing Education

Prerequisites: NURS 591, NURS 593, NURS 595. Focus on assessment, measurement, and evaluation of learning and program outcomes nursing. Exploration of theories of educational measurement and evaluation and of measure to evaluate teaching effectiveness, student learning, student outcomes, and student clinical performances.

Units: 3

NURS 593. Financial Aspects of Projects and Practice

Prerequisites: NURS 586, NURS 587. 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 successful project or practice, emphasizing fiscal planning and control.

Units: 2

NURS 594. Application of Evidence Based Teaching in Nursing

Prerequisites: NURS 591, NURS 593, NURS 595. 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.

Units: 2

NURS 595. Translating Evidence into Reflective Practice I

Prerequisites: NURS 586, NURS 587. 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)

Units: 2

NURS 596. Translating Evidence into Reflective Practice II

Prerequisites: NURS 591, NURS 593, NURS 595. Integration of clinical practice, theory, and research. Development of clinical expertise in managemetn of health problems in selected populations. Implementation of project proposal. One hour clinical conference per week. (204 - 306 total practicum hours)

Units: 2

NURS 597. Doctoral Project

Prerequisites: NURS 592, NURS 594, NURS 596. Evaluation of data and completion of doctoral project. Dissemination of results through an oral defense and manuscript submission to a peer-reviewed journal.

Units: 2

NUTRITION (NUTR)

NUTR 53. Nutrition and Health: Realities and Controversies

Optimal nutrition to reduce the risk of cancer, heart disease, allergies, obesity, and other diseases. Social, psychological, and cultural dictates that affect food selection and health. Personal strategies to develop a nutrition plan for better health. G.E. Breadth E1.

Units: 3

Course Typically Offered: Fall, Spring

GE Area: E1

NUTR 53H. Nutrition and Health

Open to Smittcamp Honors College students only. Optimal nutrition to reduce the risk of cancer, heart disease, allergies, hyperactivity and other diseases. Social, psychological and cultural dictates which affect food selection and health. Personal strate-

gies to develop nutrition plan for better health.

Units: 3

GE Area: E1

NUTR 54. Elementary Nutrition

Application of chemical and biological principles to carbohydrates, proteins, fats, vitamins, minerals and water in human nutrition; recommended nutrient allowances and dietary evaluation, determination of energy needs; and relationship of nutriion to health and disease.

Units: 3

Course Typically Offered: Fall, Spring

NUTR 61. Introduction to Food & Nutrition Careers

Overview of various careers in foods and nutrition; educational and experiental requirements for foods and nutrition professionals; professional ethics; and food and nutrition information literacy. (1lecture)

Units: 1

Course Typically Offered: Fall, Spring

NUTR 147. Nutrition and the Athlete

Prerequisite: NUTR 53 or NUTR 54. Intermediate principles of nutrition and the application of these principles to diet and nutritional starua. Interactions among diet, nutritional status, training, response, adaptation and performance.

Units: 3

Course Typically Offered: Fall, Spring

NUTR 149. Food and Nutrition Communication

Prerequisites: NUTR 156 is required for Certificate of Dietetics option students, NUTR 153 is required for non-Certificate of Dietetics option students or instructor permission; computer competency recommended. Integrating and translating food and nutritional science concepts into easily understood consumer messages. Activities include developing an assortment of instructional materials using a variety of media, writing lesson plans, and making presentations to a target audience. (2 lecture, 2 lab hours)

Units: 3

Course Typically Offered: Spring

NUTR 153. Advanced Nutrition

Prerequisites: NUTR 54, BIOL 65, and CHEM 150. Relationship of nutrients to maintenance of homeostasis. Factors affecting the nutrient demands with interpretation of biochemical indices. Structural and functional properties of nutrients. Gross and microscopic structures related to cell metabolism, digestion, bone mineralization and body composition.

Units: 3

Course Typically Offered: Spring

NUTR 156. Nutrition Assessment

Prerequisites: NUTR 153, and COUN 174. Must be concurrently enrolled in NUTR 175. Assessment of nutritional status emphasizing dietary evaluation, nutrition care planning, and intervention. Application of dietary standards and principles for disease prevention and control. Methods for monitoring quality of nutritional care requiring application of nutrition counseling skills. (2 lecture, 3 lab hours) (Formerly NUTR 157A)

Units: 3

Course Typically Offered: Fall

NUTR 157. Medical Nutritional Therapy

Prerequisite: NUTR 156. Advanced concepts of nutritional therapy in disease. Identification of goals of nutritional therapy, principles of dietary modification, and meal planning for specific conditions. Calculation of diet prescriptions and application of nutrition counseling skills for medical conditions. (2 lecture, 3 lab hours)(Formerly NUTR 157B). Must be accepted in the Registered Dietitian track in the Dietetics Option.

Units: 3-4

Course Typically Offered: Spring

NUTR 160. Nutrition across the Life Cycle 1

Prerequisite: NUTR 54. The influence of nutrition on age, growth, and normal development. Nutrition recommendations from conception through toddler, preschooler, and childhood. Socioeconomic, cultural, and psychological factors influencing food and nutrition behavior. The role of exercise throughout the life cycle.

Units: 3

Course Typically Offered: Fall

NUTR 162T. Topics in Nutrition

Prerequisites: NUTR 54, NUTR 160. Topics relating to nutrition. Some topics may have labs.

Units: 1-4, Repeatable up to 12 units

NUTR 165. Nutrition Across the Life Cycle 2

Prerequisite: NUTR 160. The influence of nutrition on age, growth, and normal development. Nutrition recommendations from child and preadolescent through late adulthood. Socioeconomic, cultural, and psychological factors influencing food and nutrition behavior. The role of exercise throughout the life cycle.

Units: 3

Course Typically Offered: Spring

NUTR 166S. Community Nutrition

Prerequisite: NUTR 165. Survey of nutrition programs created to improve community health. Development and examination of public health nutrition policy. Proposal writing.

Units: 3

Course Typically Offered: Fall

NUTR 170. Food and Culture

Prerequisites: NUTR 166S. Understanding of relationships among cultural, religious, and geographical locations to food consumed by people around the world. Comparison of differences and similarities in types of food and cuisine. Exploration of factors that affect types of food consumed and their effects on nutrition and health status.

Units: 3

Course Typically Offered: Spring

NUTR 175. Senrior Dietetics Seminar

Co-requistie: Must be enrolled concurrently in NUTR 156. Prepares students to assume leadership positions in dietetics. Pro-

vides a forum where students focus on professional development, ethics and lifelong learning. Capstone course for seniors applying to dietetic internship programs. Open only to students admitted to the Certificate in Dietetics Program.

Units: 1

Course Typically Offered: Fall

NUTR 180. Undergraduate Research

Prerequisite: permission of instructor. Exploratory work on a suitable problem in nutrition and dietetics. Approved for RP grading.

Units: 1-4

Course Typically Offered: Fall, Spring

NUTR 190. Independent Study

See Academic Placement - Independent Study. Approved for RP grading.

Units: 1-3, Repeatable up to 6 units

Course Typically Offered: Fall, Spring

NUTR 192. Readings and Conference

Prerequisite: permission of instructor. Individually directed readings; reports and evaluation. (Hours arranged)

Units: 1-3

Course Typically Offered: Fall, Spring

NUTR 193. Supervised Work Experience

Prerequisites: permission of instructor. Supervised work experience in dietetics and nutrition. CR/NC grading only.

Units: 1-6

Course Typically Offered: Fall, Spring

ORNAMENTAL HORTICULTURE (OH)

OH 1. Introduction to Ornamental Horticulture

Not open to students with credit in upper-division OH courses. Planting and maintenance of the home landscape; selection, planting, fertilization, and pruning of plants; lawn planting and care. (2 lecture, 3 lab hours)

Units: 3

Course Typically Offered: Fall, Spring

OH 4. Floral Design

Principles and rules of design and color using plants as a media; European and Japanese influences; emphasis on American line-mass and contemporary designs. An assortment of arrangements are made in lab. (2 lecture, 3 lab hours) (Course fee, $50)

Units: 3

Course Typically Offered: Spring

OH 104. Greenhouse & Nursery Crop Production

Prerequisites: BIOL 11 or OH 1. Fundamentals of greenhouse and nursery crop production. Emphasis on sustainable and economically viable production and management systems for significant flower, foliage and nursery crops. (3 lecture, 3 lab hours; field trips).

Units: 4

Course Typically Offered: Fall

OH 108. Woody Plant Materials

Prerequisites: BIOL 11 or OH 1. Survey of woody plant materials including identification, growth habits and cultural requirements. Emphasis on plants used in the California landscape. (2 lecture, 3 lab hours; field trips)

Units: 3

Course Typically Offered: Fall

OH 109. Herbaceous Plant Materials

Prerequisites: BIOL 11 or OH 1. Survey of herbaceous plants materials including identification, growth habits and cultural requirements. Emphasis on plants used in California landscapes, botanical gardens and arboreta. (2 lecture, 3 lab hours; 2 Saturday field trips)

Units: 3

Course Typically Offered: Fall

OH 110. Turfgrass Production and Management

Prerequisites: BIOL 11 or OH 1. Production and maintenance of grass for lawns, public parks, public institutions, playgrounds, playing fields, golf courses, bowling greens; identification of turfgrasses and turfgrass seed. (2 lecture, 3 lab hours; field trip)

Units: 3

Course Typically Offered: Fall

PEACE AND CONFLICT STUDIES (PAX)

PAX 100. Peace + Conflict

Provides an overview of causes and types of conflict. Critical examination of issues related to war, peace, and justice. Principled negotiation; cultural awareness. (Formerly INTD 180)

Units: 3

Course Typically Offered: Fall, Spring

PAX 110. Peace Building

Theories, methods, and skills in personal transformation, anger management, values, communication, and conflict management, all in the context of mediation. Participants acquire and practice mediation skills and observe the process as practiced by skilled professional mediators. (Formerly SSCI 150T)

Units: 3

GE Area: E1

PAX 120. Mediation

Includes such topics as interest-based bargaining, anger management, values, communication, and conflict management, all in the context of mediation. Participants acquire and practice mediation skills and observe the process as practiced by skilled professional mediators. (Formerly SSCI 150T)

Units: 3

PAX 121. Political Violence: War, Warfare, and Terrorism

War, Warfare & Terrorism is designed to familiarize students with nomenclature, practices and theories of war and warfare in domestic and international scope and the beginnings, prosecution, duration and end games of violent conflict.

Units: 3

PAX 165T. Topics in PAX

Topics in Peace and Conflict Studies

Units: 3

PAX 185. Internship

Prerequisite: permission of instructor and sponsoring agency. Internships in peacebuilding, reconcilation, conflict resolution and mediation with local social service agencies, the Better Business Bureau, school districts, and corporations. Hours to be arranged. CR/NC grading only. (Formerly SSCI 185)

Units: 1-3, Repeatable up to 6 units

Course Typically Offered: Fall, Spring

PAX 190. Independent Study

See Academic Placement--Independent Study. Approved for RP grading.

Units: 1-3, Repeatable up to 6 units

Course Typically Offered: Fall, Spring

PERSIAN (PERS)

PERS 1A. Elementary Modern Persian

Beginning course in modern Persian focusing on elementary conversational and written Persian and cultural traditions of Persian speaking people. G.E. Breadth C2.

Units: 3

Course Typically Offered: Fall

GE Area: C2

PERS 1B. Elementary Modern Persian B

Prerequisite: PERS 1A or consent of professor. Beginning course in modern Persian focusing on developing conversational and written skills, vocabulary, and grammar. Cultural heritage of Persian speaking people is also studied with emphasis on poetry as an important cultural expression. G.E. Breadth C2.

Units: 3

Course Typically Offered: Spring

GE Area: C2

PERS 2A. Intermediate Modern Persian 2A

Prerequisite: Persian 1B or consent of professor. First semester intermediate course on modern Persian/focusing on grammar and developing writing, reading, and speaking skills. Cultural heritage of Persian speaking people is also studied with emphasis on Persian contemporary poetry and prose.

Units: 3

Course Typically Offered: Fall

PERS 2B. Intermediate Modern Persian 2B

Prerequisite: Good working knowledge of Persian or consent of professor. Second course in Intermediate Persian focusing on developing proficiency in conversational, written, and reading skills. Cultural heritage of Persian speaking world is also studied with emphasis on Persian classical and contemporary poetry and prose.

Units: 3

Course Typically Offered: Spring

PUBLIC HEALTH (PH)

PH 48. First Responder and Emergency Care

National Safety Council First Responder and Emergency Care course. Priorities of care, injuries, medical emergencies, crisis intervention, and casualty incidents. Includes bleeding, shock, fractures, poisoning, emergency childbirth, CPR Certification for meeting requirements. (2 lecture, 2 lab hours)

Units: 3

Course Typically Offered: Fall, Spring

PH 49. Emergency Medical Technician Training

Prepares individuals to render pre-hospital basic life support during transport or within a hospital. Upon completion, students will receive a certificate allowing them to take the National Registry test. Upon passing the test, EMT certification is granted.

Units: 3

Course Typically Offered: Spring

PH 90. Contemporary Health Issues

Significance of basic health problems applicable to the young adult and to society. G.E. Breadth E1.

Units: 3

Course Typically Offered: Fall, Spring

GE Area: E1

PH 91. Human Sexuality

Physiological, psychological, social, cultural, and developmental considerations for lifelong understanding related to sexuality. G.E. Breadth E1. (Formerly H S 124)

Units: 3

Course Typically Offered: Fall, Spring

GE Area: E1

PH 92. Public Health Statistics

Prerequisites: Students must take the ELM exam; students who do not pass the exam must record a grade of C or better in a college-taught intermediate algebra course. Introduction to descriptive and inferential statistics as applied to evaluation and research in allied health. Central tendency and dispersion; central limit theorem; hypothesis testing; ANOVA; correlation, nonparametric methods. Interpretations of public health statistics. (3 lecturer hours)

Units: 3

Course Typically Offered: Fall, Spring

PH 100. Community Health
Public health services as they affect the community; investigation and analysis of community health problems.

Units: 3

Course Typically Offered: Fall, Spring

PH 104. Global and Cultural Issues in Health
Prerequisite: G.E. Foundation and Area D. Prerequisite: PH 90. Influence of culture on health and disease; relevant health issues of cultural and ethnic groups; alternative healing and holistic health; role of international health organizations; health problems on a world scale. History and evaluation of programs of international health organizations; health problems on a world scale. G.E. Multicultural/International MI.

Units: 3

Course Typically Offered: Fall, Spring

GE Area: M/I

PH 105. Risk Assessment and Analysis
Human and environmental risks as they relate to injuries and illnesses; includes incident causation analysis and assessment. Areas of study encompass occupational safety, consumer products, human factors, environmental health, and human and property costs.

Units: 3

Course Typically Offered: Fall

PH 109. Epidemiology of Disease
Prerequisite: PH 92 or equivalent. Modern concepts and principles of epidemiology; interaction of all agents, host, and environmental factors of communicable and noncommunicable diseases.

Units: 3

Course Typically Offered: Fall, Spring

PH 110. Drugs, Society, and Health
Examination of physical, neurological, emotional, social, and political factors affecting the use, misuse, and abuse of licit and illicit substances in contemporary American society. Applies models of addiction and compulsive behaviors to gambling, food consumption, and sexual behavior. G.E. Breadth E1.

Units: 3

Course Typically Offered: Fall, Spring

GE Area: E1

PH 111. Alcohol and Alcoholism
Physical, mental, and social factors related to the consumption of alcoholic beverages; the development of alcohol dependence.

Units: 3

Course Typically Offered: Fall, Spring

PH 112. Consumer Health
Consumer health as it relates to selection of health care products and services; how to differentiate fact from fiction in health matters.

Units: 3

PH 114. Health Behavior
An introduction to the theory and practice of health behavior change. Covers individual behavior change methodologies and the effects of public and environmental change on individual health.

Units: 3

Course Typically Offered: Fall, Spring

PH 115. Health Issues of Aging
(PH 115 same as GERON 115.) Basic principles and concepts of the aging process; includes the physical, social, emotional and mental components of health. Benefits of health promotion and preventive action for the aging are also explored.

Units: 3

Course Typically Offered: Fall, Spring

PH 127. Female Sexuality
(PH 127 same as WS 127.) Studies on female sexuality which include past and present sexual roles, female sexual response patterns, and discussion of common problems encountered by women functioning as sexual beings.

Units: 3

Course Typically Offered: Spring

PH 128S. Holistic Health and Alternative Medicine
Explores concepts related to holistic health and alternative medicine within a cross-cultural framework. Includes a description of the physical and psychosocial effects of alternative healing; addresses the benefits and risks associated with these therapies.

Units: 3

GE Area: M/I

PH 129. Rural Health
Health problems of rural areas including community medical services, medical facilities, federal, state, and local legislation and administrative problems.

Units: 3

Course Typically Offered: Spring

PH 130. Women's Health
(PH 130 same as WS 130.) Examines current crises/ controversies in women's health care. Includes conventional/ alternatives approaches to treatment, management, and prevention with emphasis on self-care and promotion of optimum health.

Units: 3

Course Typically Offered: Fall

PH 131. Principles of Health Education
Study of the foundations, theories, systems, and principles of health education. Includes an analysis of social, medical, and environmental factors on health-related behaviors.

Units: 3

Course Typically Offered: Fall, Spring

PH 133. Health Education Methods
It is strongly recommended that students complete PH 114 and PH 131 prior to enrollment in PH 133. Health education program planning, implementation, and evaluation. Provides needs assess-

ment, health education curriculum development, and presenting and evaluating a health education intervention with a client group.

Units: 3

Course Typically Offered: Fall, Spring

PH 135. Introduction to Human Disease

Concepts and principles of disease and dysfunction of the human body. Detection, diagnosis, treatment, etiology, pathogenesis, and prevention.

Units: 3

Course Typically Offered: Fall, Spring

PH 141. Applied Ergonomics

Studies the science of ergonomics as it relates to injury/illness prevention and the promotion of a quality work environment. Ergonomics is the evaluation of people and their tools, materials, and equipment in a work setting. (Formerly H S 166T)

Units: 3

Course Typically Offered: Fall

PH 143. Occupational and Industrial Safety

Application of safety and accident prevention measures that provide a basis for insight into the hazards of occupational and industrial situations.

Units: 3

PH 145. Occupational Safety and Environmental Health Management

Concepts and principles dealing with the problems, processes, evaluation, and solutions in the development, implementation, and management of an effective environmental health and occupational safety program.

Units: 3

PH 151. Health Law and Legislation

The theory and practice of managing inspection-based enforcement programs in health care and environmental health areas, with emphasis on legislation, procedure, and cases relating to public health.

Units: 3

Course Typically Offered: Fall

PH 152T. Topics in Health

Analysis and investigation of selected areas in school and community health, public health, and health and safety with some topics including laboratory experiences.

Units: 1-3, Repeatable up to 12 units

PH 152T. Utilization of Health Care Resources

To introduce students to the understanding of fundamental principles in “economics” that serve as the foundation of the US healthcare system.

Units: 3, Repeatable up to 12 units

PH 154. Health Care Administration

Organizational design and managerial principles as they apply to the private sector of health care.

Units: 3

Course Typically Offered: Spring

PH 160. Principles of Toxicology

Basic principles and concepts of toxicology with a particular emphasis on the regulation of environmental and industrial toxicants for man/woman.

Units: 3

Course Typically Offered: Spring

PH 161. Environment and Human Health

General principles of environmental health with a particular emphasis on the interaction between man/woman and the environment. Environmental epidemiology, water, wastewater, air, solid waste, ionizing radiation, and noise. Focuses on prevention and control disease and injury caused by chemicals, food protection, air/ water quality radiation, hazardous waste, et cetera.

Units: 3

Course Typically Offered: Fall, Spring

GE Area: IB

PH 162A. Environmental Health Concepts

Prerequisite: PH 161. Basic principles and concepts of environmental health with a particular emphasis on health hazards, communicable disease control, contamination control, food protection, rodent control, managing special environments, planned environments, and environmental health organizations. (Formerly HS 162)

Units: 3

Course Typically Offered: Fall

PH 162B. Environmental Health Application

Prerequisites: PH 162A or concurrent. Problems of environmental health studied through field trips, observations, demonstrations, and seminars. (2 lecture, 2 lab hours) (Formerly HS 165)

Units: 3

Course Typically Offered: Spring

PH 163. Public Health Administration

Principles of public health administration, fundamentals of organization, and administration in public health.

Units: 3

Course Typically Offered: Fall, Spring

PH 164. Vector Control

Role vectors of disease play in human health. Basic principles and concepts of vector control. Particular emphasis is given to diseases vectored by arthropods and rodents.

Units: 3

PH 166T. Topics in Environmental Health

Analysis and investigation of selected areas in environmental health with some topics including laboratory experiences.

Units: 1-3, Repeatable up to 12 units

Course Typically Offered: Fall, Spring

PH 166T. REHS Exam Preparation

To prepare students in taking REHS exam that will allow students to work to improve the quality of life and health through environmental education, consultation, and enforcement. Some areas include food protection, land use, recreational swimming, onsite sewage disposal, drinking water, housing, vector control, disaster sanitation, and solid waste and hazardous materials management.

Units: 1, Repeatable up to 2 units

PH 166T. Food Protection

Prerequisite: PH 162A or concurrently. Conceptual and applied principles of the safe handling of food during its manufacture and retail preparation. Topics inlcude the causes of foodborne illness, important methods and practrices in food protection, and the field application of the federal Model Food Code and California food regulations. The relationship of bio-security to sanitation is also addressed.

Units: 3, Repeatable up to 6 units

PH 167. Public Health Laboratory Techniques

Designed to provide training in the use of laboratory procedures and techniques of adjusting and operating monitoring equipment used in water quality, air pollution, noise pollution, food sanitation, radiological health, and toxic substances. (2 lecture, 2 lab hours) (Lab fee, $25)

Units: 3

PH 168A. Occupational Health Concepts

Concepts of occupational health as they pertain to appraising and controlling environmental health hazards; occupational diseases, chemical, biological, and physical agents that produce organic or systemic damage. Problems in toxicology, measurement instruments, and evaluating health hazards. (Formerly HS 168)

Units: 3

Course Typically Offered: Fall

PH 168B. Occupational Health Evaluation

Prerequisite: PH 168A. General principles of investigation for chemical and physical hazards commonly encountered in the occupational environment. Sampling strategies, quantitative analysis, combustible gases, organic vapors, and nonionizing radiation. (2 lecture, 2 lab hours) (Formerly HS 147)

Units: 3

Course Typically Offered: Spring

PH 170. Air Pollution and Health

A descriptive analysis of air pollutants encountered in the indoor and outdoor environments with an emphasis on assessment of risk, human health effects, and a review of federal and state regulations that apply.

Units: 3

PH 175. Environmental Internship

Prerequisites: completion of 21 units of the health science major (Core and Environmental Option courses). Provides practical experience in environmental health. Requires a 3.0 GPA in Health Science coursework, or permission of the instructor. Permission numbers required. CR/NC grading only. (CSU liability insurance fee, $8)

Units: 1-4, Repeatable up to 6 units

Course Typically Offered: Fall, Spring

PH 182. Computers for the Health Professions

Introduction to the basic use and practical application of personal and mainframe computers in health-related professions. Laboratory use of computers covers word processing, SPSS, data entry, data management, principles of programming, and use of on-line databases. (2 lecture, 2 lab hours)

Units: 3

PH 185F. Fieldwork in Health

Repeatable to 3 units in any one area, maximum total 6. Prerequisite: completion of 24 units of the health science major (Core and Administration Option courses). Provides practical experience in a community work setting. Requires a 3.0 GPA in Health Science coursework, or permission of the instructor. Permission numbers required. CR/NC grading only. (CSU liability insurance fee, $8)

Units: 1-3, Repeatable up to 6 units

Course Typically Offered: Fall, Spring

PH 188. Health Education Internship

Prerequisite: completion of 24 units of the health science major (Core and Community Health option courses). Provides practical experiences in a community work setting. Requires a 3.0 GPA in Health Science coursework, or permission of instructor. Permission numbers required. CR/NC grading only. (CSU liability insurance fee, $8)

Units: 1-3, Repeatable up to 6 units

Course Typically Offered: Fall, Spring

PH 190. Independent Study

See Academic Placement - Independent Study. Approved for RP grading.

Units: 1-3, Repeatable up to 6 units

Course Typically Offered: Fall, Spring

PH 202. Advanced Public Health Statistics

Prerequisite: PH 92 or equivalent. Theories and limitations of parametric testing: ANOVA, MANOVA, and regression. Focus on nonparametric testing and small samples including Kruskal Wallis, Median and Fischer tests. Preparation of data for computer analysis and interpretation of results. Resource issues related to data collection.

Units: 3

PH 203. Seminar in Community Health Organization

Prerequisite: PH 100. Individual research, analysis, and evaluation in relation to educational aspects of community health programs; group procedures; community organizations; selection, development, and use of media. Field assignments are required. (Formerly HS 203)

Units: 3

PH 206. Environment and Occupational Health

Application and evaluation of environmental health principles to air, land, water, waste, and occupational health with emphasis on contemporary issues.

Units: 3

PH 208. Health Promotion

Focuses on behavioral change techniques derived from many areas of applied research including behavior modification and social interaction theory. Information emphasizes the health relevant principles in each domain and shows how they can be used to understand or change public health problems.

Units: 3

PH 209. Advanced Concepts in Epidemiology

Prerequisites: PH 92, PH 109 or equivalents; computer statistics program competency. Advanced principles and methods of epidemiology. Includes methods of organizing surveillance data, defining cases, testing hypotheses, analyzing effectiveness of methods, summarizing studies. Advanced statistical methods will be utilized with emphasis on interpretation of results.

Units: 3

PH 210. Introduction to Health Policy

Prerequisite: PH 163 or equivalent. In-depth analysis of public health programs and policies with emphasis on skill development in health policy analysis. Group work will be required.

Units: 3

PH 213. Health Planning and Program Evaluation

In-depth analysis of the principles and practices in comprehensive health planning and program evaluation. Field assignments are required. (Formerly H S 213)

Units: 3

PH 223. Health Promotion and Policy Advocacy

Introduction to the fundamentals of the legislative process. Visits to and from local and state officials will be included. Information about the political process related to health promotion and policy will be the major focus of the course. Fieldwork assignments and travel may be required.

Units: 1

PH 225A. Foundation in Health Promotion

Prerequisite: PH 208. History and philosophy of health education. Psychological, sociological, economic, and political theories relevant to the mission and process of health education with special reference to schools and colleges.

Units: 3

PH 225B. Foundation in Health Promotion Part 2

Prerequisite: PH 208 and PH 225A. Application of theories, practices, and technology to health promotion programs.

Units: 3

PH 250. Social Factors in Public Health

Prerequisites: PH 202, PH 209 or equivalent. Advanced principles and methods of social epidemiology. Includes methods of describing how a range of social factors influence health outcomes, utilization and disparities. Expectation is that students will apply epidemiologic methods to study designs for policy analyses and research.

Units: 3

PH 251. Health Care Economics

Prerequisites: ECON 162 or equivalent. Topics include demand and supply in health services sector; implications of public and private financing alternatives; constraints on manpower training and entry; equity and distribution competition and regulation; issues of productivity measurments and utilization; and political economy of health care.

Units: 3

PH 252. Health Policy Development: Analysis and Process

Prerequisite: PH 210. Individual research, analysis and evaluation of health policy issues utilizing skills in evidence-based policy analysis. Special emphasis on assessing the efficacy and effectiveness of health program proposals, understanding the policy development process and developing strategies to influence policy outcomes.

Units: 3

PH 253. Management of Health Services

Prerequisites: PH 210, PH 250, PH 252. Focus on the application of relevant management theory to diverse health care settings, with special emphasis on refining management skills. Course will be taught as a seminar using case methods to illustrate and practice critical management theories and skills.

Units: 3

PH 280. Seminar in Techniques of Health Research

Research methodology, identification of health research problems, use of library resources, data gathering, and processing; writing a research report. (Formerly H S 280)

Units: 3

PH 285F. Fieldwork in Health

Planning, implementation, participation, evaluation in selected areas: safety, school health, community health, physical handicaps, occupational health, and environmental health. Approved for RP grading. CR/NC grading only. (Formerly H S 285F) (CSU liability insurance fee, $8)

Units: 1-4, Repeatable up to 10 units

PH 290. Independent Study

See Academic Placement - Independent Study. Approved for RP grading. (Formerly H S 290)

Units: 1-3, Repeatable up to 6 units

PH 298. Project

Prerequisite: advancement to candidacy for MPH degree in Health Science. See Criteria for Thesis and Project. A significant endeavor in health science that may include an educational booklet, audio visual presentation, evaluation of a health agency, or the development of an experimental device or piece of equipment. A narrative component is required which will follow a formal format adn shall include a written abstract. Approved for RP grading. (Formerly HS 298)

Units: 2-4

PH 298C. Project Continuation

Prerequisite: Project PH 298. For continuous enrollment while completing the project. May enroll twice with department approval. Additional enrollments must be approved by the Dean of Gradu-

ate Studies.

Units: 0

PH 299. Thesis

Prerequisite: See Criteria for Thesis and Project. Preparation, completion, and submission of an acceptable thesis for the master's degree. Approved for RP grading. (Formerly H S 299)

Units: 2-4

PH 299C. Thesis Cont

Prerequisite: Thesis PH 298. For continuous enrollment while completing the thesis. May enroll twice with department approval. Additional enrollments must be approved by the Dean of Graduate Studies.

Units: 0

PHILOSOPHY (PHIL)

PHIL 1. Introduction to Philosophy

Prerequisite: G.E. Foundation A2. Introduction to the basic issues, disputes, and methods of traditional and contemporary philosophy, including theory of knowledge, ethics, metaphysics, religion, and social theory. Development of skills in analysis, logical thinking, and self-expression. G.E. Breadth C2. (CAN PHIL 2)

Units: 3

Course Typically Offered: Fall, Spring

GE Area: C2

PHIL 2. Exploring Religious Meaning

Prerequisite: G.E. Foundation A2. Introduction to exploration of the many dimensions of religions. Topics include tools and resources of the academic study of religion, the sacred/holy, symbolism, myth, ritual, religious origin, and destiny. G.E. Breadth C2.

Units: 3

Course Typically Offered: Fall, Spring

GE Area: C2

PHIL 10. Self, Religion, and Society

Prerequisite: G.E. Foundation A2. Conceptions of human nature; nature and varieties of religion; personal and social implications and values of religion. G.E. Breadth C2.

Units: 3

Course Typically Offered: Fall, Spring

GE Area: C2

PHIL 20. Moral Questions

Prerequisite: G.E. Foundation A2. Introduction to ethics and its place in human experience. Ethical theory; methods of reasoning about values. Typical issues include euthanasia, privacy, work ethics, sex, happiness, capital punishment, censorship, social justice, and environment. Non-Western perspectives; materials from arts and humanities (e.g. literature, film). G.E. Breadth C2.

Units: 3

Course Typically Offered: Fall, Spring

GE Area: C2

PHIL 25. Methods of Reasoning

Principles and methods of good reasoning. Typical topics: identification of argument structure, development of skills in deductive and inductive reasoning, assessing observations and testimony reports, language and reasoning, common fallacies. (PHIL 25 and PHIL 45 cannot both be taken for credit.) G.E. Foundation A3.

Units: 3

Course Typically Offered: Fall, Spring

GE Area: A3

PHIL 32H. Life,Death, and Afterlife

Diverse reflections (religious adn philosophical) on the meaning of life, death, and afterlife. The nature of the soul (e.g. immortal/mortal); connection to the body; implications of an afterlife (if any) for this life; includes Western and non-Western perspectives. G. E. Breadth E1

Units: 3

GE Area: E1

PHIL 35H. Logic for Autonomy and Collaboration i the Marketplace of Ideas

Explores techniques for analysis of reasoning in contexts ranging from interpersonal communication through scholarly and political discourses. Theoretical grounding for these techniques, including both central ideas from philosophy of logic and readings from classicaland contemporary sources on freedom of thought, freedom of conscience, and the autonomy of reason. G.E. Foundation A3.

Units: 3

GE Area: A3

PHIL 45. Introduction to Logic

Basic concepts and methods of logic; development of skills in deductive and inductive reasoning, with emphasis on deduction. Elementary formal techniques for propositional logic; categorical logic, fallacies, and language. (PHIL 45 and PHIL 25 cannot both be taken for credit.) G.E. Foundation A3

Units: 3

Course Typically Offered: Fall, Spring

GE Area: A3

PHIL 101. Ancient Philosophy

Development of Western Philosophy from its beginning; the emergence of critical theory, doctrines, and schools of thought in Greek and Roman culture. Topics considered may include: Presocratic, Sophists, Socrates, and the works of Plato and Aristotle.

Units: 3

Course Typically Offered: Fall, Spring

PHIL 103. Bacon to Kant

Development of early modern philosophy: the search for new scientific methods -- Bacon, Descartes, Spinoza, Newton, and Locke; empiricism and skepticism -- Berkeley and Hume; rationalist metaphysics -- Leibniz; influences on moral and political thought -the Enlightenment; Rousseau; Kant's critical philosophy.

Units: 3

PHIL 104. Nineteenth Century Philosophy

Principal developments in European and American Philosophy from Kant to James. Figures and movements to include: Hegel, Fichte, Schelling, Schopenhauer, Kierkegaard, Feuerbach, Marx, Engels, Mill, Nietzche, Emerson, Thoreau, Peirce, James, and others; idealism, dialectical materialism, transcendentalism, pragmatism, existentialism, and humanism.

Units: 3

PHIL 105. Twentieth Century Philosophy

Principal developments in philosophy after 1900. Figures and movements include: logical atomism, logical positivism, linguistic analysis, pragmatism, phenomenology, existentialism, G. E. Moore, Russell, Wittgenstein, Whitehead, Dewey, Santayana, Husserl, Heiddegger, Sartre, Austin, Ryle, Strawson, Carnap, and Ayer.

Units: 3

Course Typically Offered: Spring

PHIL 107. Existentialism

Examination of roots of existentialism in Kierkegaard and Nietzsche; study of such 20th century existentialists as Sartre, Heidegger, Jaspers, Buber. Typical problems examined: nature of mind, freedom, the self, ethics, existential psychoanalysis.

Units: 3

PHIL 110. Feminist Philosophy

Introduction to feminist approaches to philosophy and to specifically philosophical approaches to gender. Several philosophical issues will be explored at some depth. These might be drawn from the following areas: personal identity; values and society; political authority; knowledge and reality.

Units: 3

PHIL 115. Ethical Theory

Introduction to the fundamental concepts and problems of moral theory. Examination of various ethical theories, including relativism, egoism, utilitarianism, intui tionism, and non-cognitivism; the meaning of ethical terms.

Units: 3

PHIL 118. Social and Political Theory

Examination of traditional and contemporary theories of society and government. Analysis of basic concepts such as the common good, social contract, authority, justice, and natural rights.

Units: 3

Course Typically Offered: Fall

PHIL 120. Contemporary Conflicts of Morals

Prerequisites: G.E. Foundation and Breadth Area C. Exploration of moral issues through great works, such as philosophy, novels, dramas, or films. Looks at questions such as, “What is it to be moral? Why be moral? Why care about others? How should scarce resources be distributed? What is integrity?” G.E. Integration IC.

Units: 3

Course Typically Offered: Fall, Spring

GE Area: IC

PHIL 121. Ethics in Criminal Justice

Philosophical issues concerning society’s treatment of criminal behavior. Topics discussed include: morality and law; punishment or rehabilitation; safe vs. repressive society, and what types of deviant behavior should be regarded as criminal?

Units: 3

PHIL 122. Introduction to Professional Ethics

Survey of ethical issues and standards facing a range of professionals in their careers, including engineering, law, medicine, the media, science, agriculture, education, and business. Introduction to basic ethical theories and methods of reasoning about moral dilemmas.

Units: 3

PHIL 123. Bioethics

Prerequisites: G.E. Foundation and Breadth Area B2 and either PHIL 20 or PHIL 120 or instructor consent. Not open to Freshmen. Survey of ethical issues within the biomedical sciences. Typical issues include research ethics, informed consent, genetics, stem cell research, non-Western perspectives, ethical and legal regulations. (Formerly PHIL 165T)

Units: 3

PHIL 125. Issues in Political Philosophy

Examination of prominent political philosophies and contemporary issues of politics and public policy. Policy issues may include the scope and limits of government authority, the role of government in the economy, foreign policy, health care, education, agriculture, and the environment.

Units: 3

PHIL 127. Philosophy of Law

Nature and functions of law; methods of justifying legal systems; logic of legal reasoning; analysis of fundamental legal concepts.

Units: 3

PHIL 130. Philosophy of Religion

The nature and function of religious faith, belief, and practice; relations between religion and morals; existence of God; problem of evil; nature and significance of religious experience.

Units: 3

PHIL 131. Comparative Religion

Prerequisites: G.E. Foundation and Breadth Area D. A study of major religions of the world, their traditions, teachings, influential texts, methodological and comparative approaches. Emphasis on major Western and non-Western religions such as Hinduism, Buddhism, Confucianism, Daoism, Judaism, Christianity, and Islam. G.E. Multicultural/ International MI.

Units: 3

Course Typically Offered: Fall, Spring

GE Area: M/I

PHIL 132. Religion and the Margin

Prerequisites: G.E. Foundation and Breadth Area D. Exploration of elements facing religious studies that have been historically moved from the center to the side (marginalized), such as women’s experience, ethnicity, gender, and class. Focus will include

how religion has both supported and resisted this move. G.E. Multicultural/International MI.

Units: 3

Course Typically Offered: Fall, Spring

GE Area: M/I

PHIL 132Z. Religion and the Margin-London Semester

Prerequisites: G.E. Foundation and Breadth Area D. Exploration of elements facing religious studies that have been historically moved from the center to the side (marginalized), such as women's experience, ethnicity, gender, and class. Focus will include how religion has both supported and resisted this move. G.E. Multicultural/International MI.

Units: 3

PHIL 133W. Literature of the New Testament

(ENGL 115W same as PHIL 133W.) Prerequisite: satifactory completion (C or better) of the ENGL 5B or ENGL 10 graduation requirement. Discussion and close written analyses of selected texts from the New Testament. Meets upper-division writing skills requirement for graduation.

Units: 3

PHIL 134. Literature of the Old Testament

(ENGL 116 same as PHIL 134.) Discussion and written analyses of selected texts from the Hebrew Bible. Special attention to the sources and styles of biblical literarcy techniques.

Units: 4

PHIL 135. Asian Religious Traditions

A study of the major beliefs and values of the Asian religious traditions, including an examination of some of the classical texts central to Asian religions.

Units: 3

PHIL 136. Buddhism

Introduction to Buddhism. Life and teachings of Gautama Siddhartha Buddha; development of Buddhism after death or mahanirvana of the Buddha.

Units: 3

PHIL 137. Hinduism

Introduction to the development and ideas of Hinduism, including an examination of classical scriptural texts, e.g., Upanishads, Bhagavad-gita, as well as modern Hindu writings.

Units: 3

PHIL 138. Chinese Thought

Introduction to the development of major ideas and systems of thought in China; emphasis on Confucian, Taoist, and Chinese Buddhist traditions.

Units: 3

PHIL 139. Islam

Introduction to Isalm, including the Qur'an, life of Muhammad, sectarianism, leadership, Islamic Law, science, calligraphy, Ramadan, and Hajj.

Units: 3

PHIL 140. Advanced Reasoning Skills

Development of skills in the analysis of arguments, thinking clearly, and reasoning well. Emphasis on problems and skills involving language (e.g., clarifying meaning, handling vagueness, handling verbal component of disputes), and on inductive inferences in everyday life.

Units: 3

PHIL 145. Symbolic Logic

(Similar to MATH 110; consult department.) Prerequisite: PHIL 25 or PHIL 45 or permission of instructor. Theory of deductive inference; includes propositional logic, predicate logic, relations, identity, definite description, nature of axiom systems.

Units: 3

PHIL 146. Philosophy of Language

Nature and uses of language; theories of meaning; concepts of reference, predication, truth, name, ambiguity, vagueness, definition, metaphor; relationships between methodology in philosophy and theories of language.

Units: 3

PHIL 150. Foundations of Knowledge

Prerequisites: G.E. Foundation and Breadth Area C. Nature, sources, and limits of human knowledge; roles of perception, reason, testimony, and intuition in acquiring rational beliefs; e.g. science, mathematics, values, the arts, religion, social issues, and psychological states. G.E. Integration IC.

Units: 3

Course Typically Offered: Fall, Spring

GE Area: IC

PHIL 151. Cognitive Science: Mind

Prerequisites: G.E. Foundation and Breadth Area C. The interdisciplinary study of cognition and mind: cognition includes mental states and processes such as thinking, reasoning, remembering, language understanding and generation, visual perception, learning, consciousness, emotions, self-awareness, and our place in the world. G.E. Integration IC.

Units: 3

GE Area: IC

PHIL 152. Philosophy of Science

The nature of scientific inquires as outcomes and/or practices. Theories of explanation, confirmation, induction, and discovery; (anti-)realism, instrumentalism, and social constructivism; nature of scientific theories, models, and laws of nature; scientific changes and revolutions; philosophical problems in particular sciences.

Units: 3

PHIL 155. Metaphysics

Analysis of classic and contemporary problems of metaphysics: the nature of the mind-independent world; the reality of abstract objects and types; the nature of time and causality; realism and anti-realism; essentialism, modality and possible worlds; naturalism and emergent properties.

Units: 3

PHIL 156. Moral Psychology

Analysis of mind and morality: philosophical perspectives on cognitive and affective aspects of virtuous and non-virtuous dispositions and behaviors. Topics may include agency, motivation, intention, desire, deliberation, practical judgment, self-control, weakness of will, akrasia, compulsion, self-deception, self-knowledge, regret, blame.

Units: 3

PHIL 157. Freedom, Fate, and Choice

Nature of human action, free will and determinism, free will and moral responsibility; analysis of basic concepts; for example, will, action, freedom, determinism, fatalism, chance, choice, decision, intention, reason, desire, belief; implications for everyday life.

Units: 3

PHIL 158. Judaism

Introduction to Judaism, including Torah, Jerusalem, Mishnah, Talmud, midrash, synagogue, Orthodox, Reform, Halakha, Passover, Shabbat, Yom Kippur, anti-Semitism, and Holocaust.

Units: 3

PHIL 165T. Special Topics

Topics of current or interdisciplinary interest or requiring special background.

Units: 1-3, Repeatable up to 9 units

PHIL 165T. Religion in California

A study of the religious diversity of California, with a focus on contemporary challenges posed by religious pluralism and reactionary backlash. Methods employed include sociology of religion, ethnography, textual analysis and potential site visits.

Units: 3, Repeatable up to 6 units

PHIL 170T. Senior Seminar

Prerequisites: senior standing or permission of instructor and at least one upper-division philosophy course. Intensive investigation of selected problems, major figures, or a historical period in philosophy. Extensive writing and supervised research.

Units: 1-4, Repeatable up to 12 units

PHIL 170T. Pluralism and Freedom

This seminar will focus on the question of human nature, including whether human beings are sadistic, fearful, or social; and how diversity poses challenges and promises. Freedom and pluralism will be examined, with special focus on ethnic and religious disputes. Case studies will be taken from contemporary research into diversity in the state of California.

Units: 3, Repeatable up to 6 units

PHIL 170T. Meaning and Ethics

A consideration of theories of meaning and the good life. Critical examination of key texts in the world's philosophical traditions.

Units: 3, Repeatable up to 6 units

PHIL 172T. Seminar in Religious Issues

Prerequisite: one upper-division philosophy course. Intensive investigation of problems in philo sophical theology, comparative religion, and culture. Extensive writing and supervised research.

Units: 1-4, Repeatable up to 12 units

PHIL 190. Independent Study

See Academic Placement - Independent Study. Approved for RP grading.

Units: 1-3, Repeatable up to 6 units

Course Typically Offered: Fall, Spring

PHIL 192. Directed Reading

Prerequisite: permission of instructor. Supervised readings in a selected philosopher or field of philosophy. Combined units of PHIL 190 and PHIL 192 may not exceed 6 units.

Units: 1-3, Repeatable up to 6 units

PHIL 198. Applied Ethics Internship

Prerequisite: junior standing, PHIL 120, PHIL 122, or applied ethics courses and permission of instructor. Workstudy experience in community service, with a focus on ethical analysis and understanding. CR/NC grading only.

Units: 3

PHIL 199. Fieldwork in Philosophy and Law

Prerequisites: senior standing, permission of instructor. Practical community work-study experience in legal or paralegal setting. Student works under sponsorship of a law firm or law-related agency, meets periodically with instructor, and submits a written report on relevant issues in ethics, jurisprudence, or philosohpy.

Units: 3

PHYSICAL THERAPY (PHTH)

PHTH 105. Medical Terminology for Health Professionals

Study of word parts, definitions, spelling, analysis, synthesis, and use of medical vocabulary. This course is taught in classroom sections or may be taken entirely on-line.

Units: 3

Course Typically Offered: Fall, Spring

PHTH 180T. Topics in Physical Therapy

Prerequisite: permission of instructor. Advanced techniques in physical therapy and new trends relating to the care of patients.

Units: 1-3, Repeatable up to 12 units

PHTH 240. Advances in Orthopedic Physical Therapy I

Prerequisite: PHTH 217, PHTH 218 or permission of instructor. Exploration of treatment of orthopedic problems.

Units: 2

PHTH 241. Advances in Physical Therapy II

Prerequisite: PHTH 217, PHTH 218 or permission of instructor. A continuation of Advances in Orthopedic Physical Therapy I.

Units: 2

PHTH 242. Advanced Clinical Anatomy I

Prerequisite: Exploration of clinical application of anatomical structures of joints.

Units: 2

PHTH 243. Advanced Clinical Anatomy II
Prerequisites: PHTH 242 or permission of instructor. A continuation of Advanced Clinical Anatomy I

Units: 2

PHTH 244. Advances in Management of the Aging Population
Exploration of special approaches and considerations of intervention of conditions of aging.

Units: 2

PHTH 245. Advances in Management of the Neurological Patient
Prerequisite: PHTH 227, PHTH 228 or permission of instructor. Exploration of advanced multisystem treatment approaches in neuro-rehabilitation.

Units: 2

PHTH 247. Sports Injuries
Exploration in advances in management of sports injuries.

Units: 2

PHTH 248. Advances in Cardiac Rehabilitation
Prerequisite: PHTH 236 or permission of instructor. Exploration of the components of implementing and maintaining multilevels of cardiac rehabilitation and the management of patients with cardiac disease.

Units: 2

PHTH 249. Contemporary Issues in Delivery of Physical Therapy Services
Prerequisite: permission of instructor. Exploration of emerging trends and issues in contemporary physical therapy practice.

Units: 2

PHTH 260. Administration of Physical Therapy Services
Application of administration and organization of a physical therapy service, including supervision issues, fiscal considerations, marketing and public relations, outcomes management, utilization and quality management.

Units: 2

PHTH 262. Cooperative Education in Physical Therapy
Prerequisite: student must have completed the first semester of the Professional Physical Therapy Program. Cooperative education students are given the opportunity to combine classroom theory with “on-the-job training” to work with professionals in their field of study.

Units: 1-2, Repeatable up to 6 units

PHTH 290. Independent Study
Supervised guidance for students who wish to do additional research. Approved for RP grading.

Units: 1-6

PHTH 297. Evidence Based Practice in Physical Therapy
This course will prepare students to apply the principles of evidence based practice to clinical decision making.

Units: 3

PHTH 506. Motor Development through the Lifespan
Motor development is a lecture course. This course human motor development, integrating physiological, psychological, sociological and spiritual domains while emphasizing the interaction between the systems. This course is in preparation for PHTh 537 Physical Therapy Management in Pediatrics.

Units: 2

PHTH 507. Foundations of Patient Assessment and Clinical Management in Physical Therapy I
This course involves selected theory and clinical application of essential evaluation, treatment procedures and interventions utilized in physical therapy practice including examination procedures, physical agents, massage, therapeutic exercise, and transfer and mobility training.

Units: 4

PHTH 508. Foundations of Patient Assessment and Clinical Management in Physical Therapy II
This course involves selected theory and clinical application of essential evaluation, treatment procedures and interventions utilized in physical therapy practice including examination procedures, physical agents, massage, therapeutic exercise, and transfer and mobility training.

Units: 4

PHTH 509. Clinical Pathokinesiology
This course focuses on management of musculoskeletal impairments involving complex, multisystems in persons across the life span. Emphasis is on developing clinical reasoning, critical thinking, and decision-making applied to various patient populations with impairments and functional limitations.

Units: 3

PHTH 510. Anatomy of the Appendicular Skeleton
Units: 3

PHTH 511. Anatomy of the Axial Skeleton
This course is an advanced study of the structure and function of the human body as a basis for understanding normal human movement. This course will emphasize the trunk and spine. (Instructional materials fee, $35).

Units: 4

PHTH 512. Applied Pathophysiology for Physical Therapists
This course involves an advanced study of physiology of body systems and the responses to normal aging, environmental influences, and pathological dysfunction. Includes cardiovascular, pulmonary, endocrine, neurological, musculoskeletal, and integumentary systems.

Units: 3

PHTH 517. Orthopedic Management in Physical Therapy I
Analysis of musculoskeletal disabilities with emphasis on physical

assessment, methods of therapeutic intervention, clinical decision making and program planning. Selected lectures by medical practitioners on medical-surgical management of orthopedic conditions. Focus will be towards dysfunction involving the extremities.

Units: 4

PHTH 518. Orthopedic Management in Physical Therapy II

This course is an analysis of musculoskeletal disabilities with emphasis on physical assessment, methods of therapeutic intervention, clinical decision making and program planning towards dysfunction involving the spine and pelvic girdle. (2 hour lecture; 6 hour lab)

Units: 4

PHTH 526. Electrophysiologic Approaches to Patient Care

Exploration of advanced theories and principles related to the clinical use of electrophysiologic modalities. Includes electroneuromuscular stimulation for motor performance, nerve function, pain management and tissue repair.

Units: 3

PHTH 527. Applied Neurosciences

An advanced study of normal structure and function of the peripheral and central nervous system as a basis for understanding clinical manifestations seen in neurological disorders. This course is in preparation for evaluating and treating patients with neurological disorders. (2 hr lecture; 6 hr lab)

Units: 4

PHTH 528. Management of Neurological Disorders in Physical Therapy I

Advanced evaluation and treatment approaches to neurological disabilities in adults with emphasis on therapeutic intervention, program planning, and outcome measurements for the patient with neurological problems such as balance disorders, stroke, and Parkinson's disease.

Units: 3

PHTH 529. Management of Neurological Disorders in Physical Therapy II

Advanced evaluation and treatment approaches to neurological disabilities in adults with emphasis on therapeutic intervention, program planning, and outcome measurements for the patient with neurological problems such as spinal cord injury, multiple sclerosis, and traumatic head injury.

Units: 3

PHTH 533. Functional Kinesiology for Physical Therapists

This course presents basic principles, theories and applications of biomechanics. Kinesiology and pathokinesiology of the extremities, thorax, vertebral column, and temporomandibular joint will be discussed.

Units: 3

PHTH 534. Gait and Movement

This course presents a study of normal and abnormal gait, the principles of ergonomics, biomechanics of posture, and functional capacity evaluations.

Units: 3

PHTH 535. Exercise Physiology for Physical Therapists

Provides theoretical basis for understanding the body's physiological responses to exercise. Investigates how the support systems of the body (respiratory, cardiovascular, neuromuscular, metabolic, and hormonal) function, in cooperation with human energy production to insure that energy is provided for exercise.

Units: 2

PHTH 536. Physical Therapy Management of Body Systems

Evaluation and therapeutic intervention in the clinical management of normal and pathological conditions of the cardiovascular, pulmonary, endocrine and integumentary systems. A focus on the development of advanced knowledge and skills in patient evaluation, program planning and treatment procedures.

Units: 3

PHTH 537. Physical Therapy Management in Pediatrics

Advanced study of diagnosis and physical therapy problems found in pediatrics. Evaluation and intervention principles are used ot discuss and explore clinical manifestations associated with diseases and functional impairments. Emphasis will be placed on the therapeutic intervention and program planning. (CSU liability insurance fee, $8)

Units: 3

PHTH 538. Physical Therapy Management in Geriatrics

A synthesis of biology of aging with common orthopedic and neurological problems special to the older patient. This course emphasizes analysis of clinical problems and issues facing the physical therapist in utilizing functional testing and community resources with the elderly.

Units: 2

PHTH 539. Physical Diagnosis

This course presents functional profiles of clients with emphasis on signs and symptoms associated with musculoskeletal, cardiopulmonary, peripheral vascular and neurologic diagnosis. Emphasis on methods to determine the most appropriate intervention strategy for each patient or client through the diagnosis process.

Units: 3

PHTH 554. Clinical Learning I

Uses an experiential model for clinical decisions and reflection. The course requires students to consider appropriate tests, assessments, and interventions by examining and providing treatments for clients through participation in the Department & Health Center sponsored Musculoskeletal Care Clinic (MSC).

Units: 2

PHTH 555. Clinical Learning II

Uses Gait, Balance, and Mobility Center as an experiential model for clinical decision analysis. With faculty supervision students are responsible for evaluation and treatment of clients. Students communicate their assessment findings and intervention through documentation.

Units: 2

PHTH 556. Clinical Learning III
Designed as a continuation from PHTH 254, this course is designed to progress the development of student clinical competencies needed in the outpatient orthopedic setting.

Units: 2

PHTH 557. Clinical Experience I
This 9 week externship during summer allows the student to apply academic knolwedge in a clinical setting. Comprehensive examination, evaluation, and intervention will be used to manage the physical therapy patient. CR/NC grading only. (CSU liability insurance fee, $8)

Units: 4

PHTH 558. Clinical Experience II
This 12 week externship during the summer allows the student to apply academic knowledge related to examination, evaluation, and intervention will be used to manage the physical therapy patient. CR/NC grading only. (CSU liability insurance fee, $8)

Units: 6

PHTH 559. Clinical Experience III
This final 9 week externship during spring semester allows the student to apply academic knowledge in a clinical setting. Upon completion the student must demonstrate mastery of physical therapy skills considered appropriate for entry level practice. CR/NC grading only. (CSU liability insurance fee, $8)

Units: 4

PHTH 560. Administration of Physical Therapy Services
Application of administration and organization of a physical therapy service, including supervision issues, fiscal considerations, marketing and public relations, outcomes management, utilization and quality management.

Units: 2

PHTH 561. Pharmacology for Physical Therapists
Students will develop skills required for the physical therapist to understand and utilize important elements or pharmacological mechanisms and drug interactions that are essential for clinical decision making in physical therapy practice.

Units: 2

PHTH 563. Radiology for Physical Therapists
Students will develop skills required for the physical therapist to understand and utilize radiological diagnosis and diagnostic imaging procedures, as needed for clinical decision making in physical therapy practice.

Units: 2

PHTH 564. Prosthetics
This course provides the student with didactic knowledge and clinical skills necessary to successfully provide physical therapy evaluation and management of the patient following extremity amputation, with an emphasis on lower extremity.

Units: 1

PHTH 565S. Community Outreach Wellness
This is a Service learning course that presents essential concepts related to the roles of physical therapists in prevention and in the promotion of health, wellness, and fitness. This course includes application of concepts through service learning in selected community agencies.

Units: 1

PHTH 591. Research Methods
Study and application of research design and critical research reading skills. The student will gain important insights into the research process and become a discriminating consumer of published research.

Units: 3

PHTH 592. Clinical Teaching and Mentoring
This course is a lecture/seminar course. This course will prepare students to integrate their role as educators in many areas of practice including patient education, clinical instruction, mentoring as a community/public educator using educational theory that affects learning.

Units: 1

PHTH 593. Professional Colloquium I
This course addresses professional behavior standards in relation to patient care interactions and relationships with colleagues and community including documentation and professional service learning.

Units: 2

PHTH 594. Professional Colloquium II
Presents topics relative to global healthcare delivery models focusing on the healthcare system in the United States. It reviews community health services, prevention, health policy, reimbursement, referral, and legal issues related to profession.

Units: 2

PHTH 595. Case Based Learning
Seminar course with case based problem solving and clinical decision making discussions in a Grand Round format.

Units: 2

PHTH 596. Case Reports
This course involves development of case reporting skills, with a presentation of unique case study that includes a review of the literature on fiagnosis and treatment of the case. Approved for RP grading.

Units: 3

PHTH 597. Evidence Based Practice in Physical Therapy
This course will prepare students to apply the principles of evidence based practice to clinical decision making.

Units: 3

PHTH 598. Doctoral Project
A doctoral project appropriate to the profession of physical therapy that demonstrates critical inquiry, independent thinking, and rationale is required. An abstract, written manuscript and oral defense

will be required. Approved for RP and CR/NC grading.

Units: 3

PHTH 598C. Project Continuation

Prerequisite: Project PHTH 298. For continuous enrollment while completing the project. May enroll twice with department approval. Additional enrollments must be approved by the Dean of Graduate Studies.

Units: 0

PHYSICS (PHYS)

PHYS 2A. General Physics

Prerequisites: DS 71 or MATH 75 or MATH 70 (or permission to register from department office). Topics and concepts in Newtonian mechanics of point particles and rigid bodies, energy, properties of fluids, heat and thermodynamics, waves and sound. G.E. Breadth B1. (3 lecture, 3 lab hours) (CAN PHYS 2)

Units: 4

Course Typically Offered: Fall, Spring, Summer

GE Area: B1

PHYS 2B. General Physics

Prerequisite: PHYS 2A. Topics and concepts in light, electricity, magnetism, atomic structure, relativity, quantum nature of light and matter, nuclear structure and radiation. (3 lecture, 3 lab hours) (CAN PHYS 4)

Units: 4

Course Typically Offered: Fall, Spring

PHYS 4A. Mechanics and Wave Motion

Prerequisite: G.E. Breadth B4; MATH 76 (may be taken concurrently). Topics in classical Newtonian mechanics including linear and circular motion; energy; linear and angular momentum; systems of particles; rigid body motion; fluids; gravity; wave motion and sound. G.E. Breadth B1 when taken with PHYS 4AL.

Units: 3

Course Typically Offered: Fall, Spring

GE Area: B1

PHYS 4AL. Laboratory in Mechanics and Wave Motion

Corequisite: PHYS 4A. Introduction to laboratory methods. Experiments in mechanics, waves, and sound. G.E. Breadth B1. (3 lab hours)

Units: 1

Course Typically Offered: Fall, Spring

GE Area: B1

PHYS 4B. Electricity, Magnetism, and Heat

Prerequisites: PHYS 4A; MATH 77 (may be taken concurrently). Topics in classical physics including heat and thermodynamics, electrostatics, electric fields and potential, currents and AC and DC electric circuits, magnetic fields, electromagnetic induction.

Units: 3

Course Typically Offered: Fall, Spring

PHYS 4BL. Laboratory in Electricity, Magnetism, and Heat

Corequisite: PHYS 4B. Experiments in electricity, magnetism, heat, and thermodynamics. (3 lab hours)

Units: 1

Course Typically Offered: Fall, Spring

PHYS 4C. Light and Modern Physics

Prerequisites: PHYS 4B, MATH 77. Maxwell's Equations, geometrical optics; electromagnetic radiation; physical optics; introduction to special relativity; quantum physics; and the physics of atoms, nuclei, and the solid state.

Units: 3

Course Typically Offered: Fall, Spring

PHYS 10. Conceptual Physics

Prerequisite:G.E. Foundation B4 (except for those with declared majors in the College of Science and Mathematics.) Basic ideas of physics and their relationship to the everyday environment. Physical phenomena, misconceptions, terminology, scientific method, and metric system. Memorable demonstrations in lectures; household-related experiments in the lab. G.E. Breadth B1. (3 lecture, 2 lab hours)

Units: 4

Course Typically Offered: Fall, Spring

GE Area: B1

PHYS 90. Directed Study

Prerequisite: any university-level physics or physical science course. Individually arranged course of study in some limited area of physics, either to remove a deficiency or to in vestigate in more depth. (1-2 hours to be arranged)

Units: 1-2, Repeatable up to 3 units

Course Typically Offered: Fall, Spring

PHYS 100. Concepts of Quantum Physics

Prerequisites: G.E. Foundation and Breadth Area B. Key discoveries in Quantum physics and conceptual development of quantum theory. Lecture demonstration of experiments, graphical visualization of theory, hi-tech applications. G.E. Integration IB (3 lecture hours)

Units: 3

Course Typically Offered: Fall, Spring

GE Area: IB

PHYS 102. Modern Physics

Prerequisite: PHYS 4C; MATH 81 (may be taken concurrently). Fundamental concepts of atomic and nuclear structure, transitions and radiation. Includes discussions of relativistic mechanics, quantum mechanics, solid state physics. Special topics as they pertain to modern developments in physic, engineering, and chemistry.

Units: 3

Course Typically Offered: Fall

PHYS 104. Experimental Techniques in Condensed Matter Physics

Prerequisites: PHYS 4C. Shop techniques and safety instructions. Basic concepts in condensed matter physics. Measurements of conductivity, energy gap in semiconductors, drift mobility, Hall coefficients, photoconductivity, magnetic susceptibilities, excition spectra, dieletric loss. Experience in X-ray diffraction, vacuum technology, thin-film deposition, and low temperature techniques. (1 lecture, 9 lab hours)

Units: 4

Course Typically Offered: Spring

PHYS 105A. Analytical Mechanics

Prerequisite: PHYS 4C: MATH 81 (may be taken concurrently). (A) Analytical and vector treatment of the fundamental principles of statics, kinematics, and dynamics. Prerequisite: PHYS 105A. (B) Advanced dynamics; harmonic motion, central force fields, and Lagrange's equations.

Units: 3

Course Typically Offered: Fall

PHYS 105B. Analytical Mechanics

Prerequisite: PHYS 105A. (B) Advanced dynamics; harmonic motion, central force fields, and Lagrange's equations.

Units: 3

Course Typically Offered: Spring

PHYS 107A. Intermediate Electricity and Magnetism

Prerequisites: PHYS 105A, MATH 81. (A) Mathematical analysis of electrostatics and magnetostatics, Gauss'law, solutions of Laplace's equation, images, theory of conduction, magnetic potentials. (B) Prerequisites: PHYS 107A. Motion of ions in electric and magnetic fields, electromagnetic induction, Maxwell's equations and wave propagation, electron theory, and magnetic properties.

Units: 3

Course Typically Offered: Fall

PHYS 107B. Intermediate Electricity and Magnetism

Prerequisites: PHYS 107A. Motion of ions in electric and magnetic fields, electgromagnetic induction, Maxwell's equations and wave propagation, electron theory, and magnetic properties.

Units: 3

Course Typically Offered: Spring

PHYS 110. Physical Optics

Prerequisites: PHYS 4C, MATH 81. Theory of optical phenomena; wave theory of light with applications to optical instruments; interference and diffraction phenomena, dispersion, polarization, coherence, and laser phenomena. Practical experience in using lasers and optical instruments. (2 lecture, 3 lab hours)

Units: 3

Course Typically Offered: Fall

PHYS 115. Quantum Mechanics

Prerequisites: PHYS 102, PHYS 105A, MATH 81. PHYS 170A strongly recommended. Historical background, postulates, meaning, and methods of quantum mechanics; applications to atomic phenomena.

Units: 3

Course Typically Offered: Spring

PHYS 135. Introduction to Magnetic Resonance Imaging and Spectroscopy

Prequisites: PHYS 4A, PHYS 4AL, PHYS 4B, PHYS 4BL and PHYS 4C. Introduction to fundamentals of nuclear magnetic resonance and application in imaging and spectroscopy in-vivo. T1, T2, PD-weighted images, spin echo sequence, artifacts in images, and clinical applications of cerebral metabolites in 1D neurospectroscopy. Lab at VACCHCS. (3 lecture hours, 3 lab hours).

Units: 4

Course Typically Offered: Fall

PHYS 136. Radiation Physics

Prerequisite: PHYS 102. The interaction of radiation with matter: photoelectric, Compton and pair production processes, neutron and charged particle interactions, linear energy transfer, quality factor, attenuation coefficients, shielding. Biological effects, RBE, internal dose, permissible exposures, beneficial application. Instrumentation.

Units: 3

Course Typically Offered: Fall

PHYS 137. Radiation Measurements Laboratory

Prerequisite: PHYS 136. Advanced experiments in atomic and nuclear physics. Radiation safety. Gamma ray, X-ray, and particle detection and spectroscopy. Application of Gas-filled detectors, Scintillators and High Purity Germanium Detectors. Statistics and error analysis. (1 lecture, 4 lab hours). Formerly PHYS 130.

Units: 3

Course Typically Offered: Spring

PHYS 140. Thermodynamics and Kinetic Theory

Prerequisite: PHYS 102, MATH 81. Fundamental concepts and laws of classical thermodynamics. Rudiments of kinetic theory and statistical thermodynamics with application to physical and chemical systems.

Units: 3

Course Typically Offered: Fall

PHYS 150. Astrophysics

Prerequisites: PHYS 4C. Introduction to celestial mechanics, spectral classification, stellar atmospheres and interiors, star formation and evolution, variable stars, neutron stars, pulsars, black holes, the nature of galaxies, and the expansion of the universe.

Units: 3

Course Typically Offered: Spring

PHYS 151. Observational Astronomy

Prerequisites: PHYS 4C. Celestial coordinates, time, stellar motions, constellations, star charts, catalogs, astronomical sources, observational limits, telescopes, detectors, atmospheric effects, digital image processing, photometry, and spectroscopy. (3 lecture, 3 lab hours). (Formerly PHYS 175T)

Units: 4

Course Typically Offered: Fall

PHYS 155. Seminar in Biomedical Physics/Neurosci-

ences
Prerequisite: Biomedical Physics Major or permission of the Department Chair. One-to-one interaction with invited speakers giving talks onthe state-of-the-art in medical imaging including MR, CT, PET, SPECT, etc, new radiation oncology systems such as CYBERKNIFE, IMRT, etc, neurobiology, radiobiology, and molecular imaging.

Units: 1, Repeatable up to 2 units

PHYS 156. Diagnostic X-Ray Imaging Physics
Prerequisite: PHYS 136. The fundamentals of x-ray production, image quality, digital radiography, fluoroscopy, and computed tomography. Image artifacts. Quality assurance or equipment and radiation dose. Lab at the VACCHCS. (3 lecture hours, 3 lab hours)

Units: 4

PHYS 157. Nuclear Medicine Physics
Prerequisite: PHYS 136. Fundamentals of nuclear imaging. Gamma camera, basic principles and performance characteristics. Emission tomography: SPECT and PET, basic principles and performance characteristics. Clinical applications. Lab at the VACCHCS. (3 lecture hours, 3 lab hours).

Units: 4

PHYS 158. Radiation Oncology Physics
Prerequisite: PHYS 136. Introduction to linear accelerators, geometry of photon beams, photon beam and electron beam dosimetry, treatment planning, brachytherapy, clinical applications, and new techniques. (3 lecture hours).

Units: 3

PHYS 162. Condensed Matter Physics
Prerequisites: PHYS 102, or CHEM 110B and permission of instructor. Classification of solids; crystalline state and lattice vibrations; properties of metallic lattices and dielectrics; magnetic properties of solids; free electron theory and band theory of metals; semiconductors; imperfections.

Units: 3

PHYS 168S. Physics Outreach
Prerequisite: Any one of the following courses: NSCI 1A, PHYS 10, PHYS 2A, PHYS 4A. Provides science majors and future teachers hands-on experience demonstrating physics in K-12 schools. Best practices based on education research, theories of science instruction, and core concepts in physics in a service-learning environment. (2 lecture, 3 lab hours) FS

Units: 3

PHYS 170A. Mathematical Physics
Prerequisite: PHYS 4A and MATH 81. Application of mathematical methods to the solution of problems in physics.

Units: 3

Course Typically Offered: Spring

PHYS 171. Analytical Methods
Prerequisite: PHYS 102, PHYS 110, PHYS 105A, PHYS 105B, PHYS 107A, PHYS 115, PHYS 140 (PHYS 105B and PHYS 115 may be taken concurrently). Advanced analytical techniques in solving problems in core physics disciplines

Units: 2

PHYS 175T. Topics in Contemporary Physics
Designed to provide students with special work in such areas of physics as biophysics, modern optics, plasmas, high energy physics, solid state, chaos theory, nuclear structure, astrophysics, low temperature phenomena. Some topics may have labs.

Units: 1-4, Repeatable up to 12 units

PHYS 175T. Introduction to Particle Physics
This course will serve as an introduction to particle physics and the ATLAS (A Toroidal LHC ApparatuS) experiment of the Large Hadron Collider (LHC) at the European Organization for Nuclear Research (CERN). This course is intended for advanced undergraduate students, especially those who are interested in working at CERN or other ATLAS sites or ATLAS research projects during summer with CSU ATLAS program..

Units: 3, Repeatable up to 12 units

PHYS 175T. Introduction to Medical Imaging
Introduction to Medical Imaging for Nurses, Physical Therapists and other Professionals in the Healt This course will cover an overview of multiple modalities in medical imaging such as x-rays, nuclear medecine. fluoroscopy, CT, MRI, etc.

Units: 3

PHYS 180. Seminar in Physics
Prerequisite: senior or graduate physics major or permission of department chair.

Units: 1, Repeatable up to 3 units

Course Typically Offered: Fall, Spring

PHYS 190. Independent Study
See Academic Placement - Independent Study. Approved for RP grading.

Units: 1-3, Repeatable up to 6 units

Course Typically Offered: Fall, Spring

PHYS 203. Classical Mechanics
Prerequisites: PHYS 105B, PHYS 170A. Advanced treatment of classical analytical mechanics including Lagrange's and Hamilton's formulation of the laws of motion, special relativity, small oscillation theory, hydrodynamics.

Units: 4

PHYS 220A. Advanced Electricity and Magnetism
Prerequisites: PHYS 107B, PHYS 170A. Electromagnetic theory and its applications; electrostatics, boundary-value problems in electrostatics, dielectrics, multipoles, magnetostatics, Maxwell's equations, electromagnetic radiation, optical properties of materials, wave guides and resonant cavities.

Units: 3

PHYS 220B. Advanced Electricity and Magnetism
Prerequisites: PHYS 107B, PHYS 170A. Electromagnetic theory and its applications; electrostatics, boundary-value problems in electrostatics, dielectrics, multipoles, magnetostatics, Maxwell's equations, electromagnetic radiation, optical properties of materi-

als, wave guides and resonant cavities.

Units: 3

PHYS 222A. Quantum Mechanics I

Prerequisite: PHYS 115, PHYS 170A. Quantum Dynamics: representations and pictures, path integrals, evolution operator, propagators. Angular Momentum: orbital and spin, addition. Perturbation Theory: time-independent and time-dependent problems, sudden and adiabatic approximations. Scattering: Lippman-Schwinger equations, scattering matrix, Born approximation, partial waves.

Units: 3

PHYS 222B. Quantum Mechanics II

Prerequisite: PHYS 222A. Identical Particles: fermions and bosons, second quantization. Electromagnetic Fields: radiation field, photons, coherent states, vacuum state and Casimir effect, interactions with charged particles. Relativistic Quantum Mechanics: Klein-Gordon and Dirac equations, relativistic hydrogen atom, perturbation theory adn Feynman diagrams.

Units: 3

PHYS 262. Advanced Condensed Matter Physics

Prerequisites: PHYS 115, PHYS 162, PHYS 170A. Binding and crystal structure, crystal electron theories, elementary excitations, transport theories, crystal defects, superconductivity.

Units: 3

PHYS 270. Advanced Mathematical Physics

Prerequisite: PHYS 170A. Group theory, including continuous (Lie) groups, Lie algebras, and an introduction to the theory of representations, Green's functions and their applications to physical problems, and integral equations including diagrammatic methods of solution.

Units: 3

PHYS 272. General Relativity

Prerequisite: PHYS 203. The principle of equivalence, tensor calculus in curved space-times, the Einstein-Hilbert equations, the Schwarzschild solution, tests of general relativity, gravitational radiation, introduction to cosmology.

Units: 3

PHYS 275T. Topics in Contemporary Physics

Advanced topics in such areas as modern optics, plasma physics, high energy physics, astrophysics, nuclear physics, biophysics. Some topics may have labs.

Units: 1-3, Repeatable up to 6 units

PHYS 290. Independent Study

See Academic Placement - Independent Study. Approved for RP grading.

Units: 1-3, Repeatable up to 6 units

PHYS 298. Project

Prerequisite: permission of instructor. Scholarly investigation by the advanced graduate student as a culminating experience for the master's degree, including a written project report and an oral defense, and followed by a competency exam. Approved for RP grading.

Units: 2-6

PHYS 298C. Project Continuation

Prerequisite: Project PHYS 298. For continuous enrollment while completing the project. May enroll twice with department approval. Additional enrollments must be approved by the Dean of Graduate Studies.

Units: 0

PHYS 299. Thesis

Prerequisite: See Criteria for Thesis and Project. Preparation, completion, and submission of an acceptable thesis for the master's degree. Approved for RP grading.

Units: 2-6

PHYS 299C. Thesis Continuation

Prerequisite: Thesis PHYS 299. For continuous enrollment while completing the thesis. May enroll twice with department approval. Additional enrollments must be approved by the Dean of Graduate Studies.

Units: 0

PLANT SCIENCE (PLANT)

PLANT 1. Introduction to Plant Science

Principles of plant structure, heredity, physiology and climate in relation to growth, adaptation and management of crops. Emphasis is placed on food and fiber crops.

Units: 3

PLANT 99. Introduction to Biometrics

Prerequisite: satisfactory completion of an intermediate algebra course or ELM. Introduction to experimental methods and statistical procedures with particular emphasis on applied biological systems. Design of experiments; statistical analysis and interpretation.

Units: 3

Course Typically Offered: Fall

PLANT 100. Aspects of Crop Productivity

Prerequisite: BIOL 11. Study of the growth, development, and basic physiological processes of cultivated crops. Environmental influences on crop growth and development processes and management techniques to minimize stresses and maximize crop yield and quality.

Units: 3

Course Typically Offered: Fall, Spring

PLANT 105. Food, Society, and Environment

Prerequisites: General Education Areas B1, B2, and D completed (or Concurrent enrollment). Linkages among food production systems, human social behavior, and environmental quality. Basic principles of environmental and agricultural sciences as applied to interrelationships among social value systems, agricultural activi-

ties adn environmental resources. G. E. Intergration IB.

Units: 3

Course Typically Offered: Fall, Spring

GE Area: IB

PLANT 107. Plant Propagation

Prerequisite: BIOL 11, CHEM 3A. Principles and practices of propagating plants, sexual and asexual. Seeds, cuttings, layering, grafting, buddling, and tissue culture. Propagation media and rooting aids. (2 lecture, 3 lab hours; field trips)

Units: 3

Course Typically Offered: Spring

PLANT 108. Micropropagation

Prerequisites: BIOL 11, and BIOL 161 or CHEM 150 or permission of instructor. Principles of plant propagation by aseptic cell and organ culture as a means of rapid cloning, elimination of systemic plant diseases, production of somatic hybrids, ploidy change, and other genetic variants for use in plant breeding. (2 lecture, 3 lab hours) (Formerly PLANR 102)

Units: 3

Course Typically Offered: Fall

PLANT 110W. Dimensions in Agriculture

Prerequisites: satisfactory completion of the ENGL 5B or ENGL 10 graduation requirement. Current agricultural problems and developments; nature of agricultural industries in a changing world. Interrelationships among agriculture, government, labor, adn the public. Meets the upper-division writing skills requirement for graduation.

Units: 3

Course Typically Offered: Fall, Spring

PLANT 134. Micrometeorology

(GEOG 114 same as PLANT 134.) Prerequisites: MATH 75 (or equivalent) and GEOG 5 (or equivalent), or permission of instructor. Micrometeorological influences on local climates including natural ecosystems and varying agricultural canopies. Local climate influences on wildlife, domestic animals, and humans. Manipulation of local climate including frost protection, irrigation and wind sheltering. Microclimates of non-uniform terrain and urban environment.

Units: 3

PLANT 150. Crop Improvement

Prerequisite: BIOL 11. Application of genetic, cytological and environmental principles to improvement of plants; heredity and variation in plants, effects of environmental factors, biotechnology, self- and cross-fertilization, principles and results of selection and hybridization in plant improvement.

Units: 3

Course Typically Offered: Fall

PLANT 170T. Topics in Plant Science

Prerequisite: junior standing. Selected topics in plant science, agronomy, horticulture, and other associated areas. Topics may require lab hours.

Units: 1-4, Repeatable up to 6 units

PLANT 180. Undergraduate Research

Open to juniors and seniors. Exploratory work on a suitable agricultural problem in plant science. Approved for RP grading.

Units: 1-4

Course Typically Offered: Fall, Spring

PLANT 190. Independent Study

See Academic Placement--Independent Study. Approved for RP grading.

Units: 1-3, Repeatable up to 6 units

PLANT 194. Agricultural Internship

Prerequisite: junior standing; approval of faculty adviser and department chair. Field experience in your career specialty that integrates with classroom instruction. Written reports of knowledge and experience gained are required. CR/NC grading only.

Units: 1-8

Course Typically Offered: Fall, Spring

PLANT 196. Crop Projects

Prerequisite: MEAG 3, appropriate production course, UAL Tractor License, and permission of instructor. Knowledge gained from classroom instruction applied to field conditions. Students will participate in growing and marketing a crop using the University Agricultural Laboratory. Approved for RP grading.

Units: 1, Repeatable up to 4 units

PLANT 250T. Topics in Plant Science

Prerequisites: upper-division plant science COURSE appropriate to study topic; or permission of instructor. Advanced studies in a selected area of Plant Science which could include new or emerging issues and technologies. Topics may require lab hours.

Units: 3, Repeatable up to 6 units

PLANT 250T. Agroecology and Sustainable Food Systems

This course will provide an understanding of the principles of agroecology. Ecological, economic, and social concepts that contribute to agroecosystem processes and the sustainability of food systems will be examined. Aspects of agroecological components, processes, and dynamics in annual and perennial cropping systems of California and other parts of the world will be discussed.

Units: 3, Repeatable up to 6 units

PLANT 251. Soil-Plant-Water Relations

Prerequisites: BIOL 161 and SW 100. Water flow and solute transport through the soil-plant-atmosphere continuum (SPAC). Soil-plant-water relationships affecting water use efficiency, agriculture productivity, and environmental quality. Management of salinity, drainage, and trace elements. Irrigation scheduling and water quality. (2 lecture, 3 lab hours)

Units: 3

PLANT 252. Plant Nutrition

Prerequisite: BIOL 161, and SW 100, or permission of instructor. Soil factors influencing nutrient availability, mineral requirements of plants, acquisition and translocation of nutrients and their role in plant metabolism. Soil and tissue analysis for fertility management. (2 lecture, 3 lab hours)

Units: 3

PLANT 255. Advanced Plant Breeding

Prerequisite: PLANT 150. Principles and techniques of plant improvement, breeding methods, combining ability, sterility systems, quantitative genetic analysis, heritability estimates, experimental designs for plant breeding.

Units: 3

PLANT 257. Physiology of Cultivated Plants

Prerequisite: BIOL 161, or permission of instructor. Plant cell structure and function. Response of cultivated plants to the environment. Physiology and hormonal control of flower induction, fruit set, and development. Review of pertinent current publications.

Units: 3

PLANT 261. Advanced Plant Health Management

Prerequisites: PLTH 108 or permission of instructor. Comprehensive study of arthropod, disease, and weed problems in California cropping systems. Examination of complex relationships among crop plants and other biological organisms in agro-ecosystems design crop health management programs that are economically viable and ecologically sound.

Units: 3

PLANT 270. Seminar in Plant Science

Reviews of published and/or original research in the broad areas of crop science, soil and water relations, and plant health.

Units: 1, Repeatable up to 4 units

PLANT 290. Independent Study

See Academic Placement - Independent Study. Approved for RP grading.

Units: 1-3, Repeatable up to 6 units

PLANT 299. Thesis

Prerequisite: prior advancement to candidacy. See Criteria for "Thesis and Project." Thesis research work and preparation and submission of an acceptable, written thesis for the master's degree. Oral presentation of thesis research required. Must take 3 units in each of two semesters. Approved for RP grading.

Units: 3, Repeatable up to 6 units

PLANT 299C. Thesis Continuation

Prerequisite: Thesis 298. For continuous enrollment while completing the thesis. May enroll twice with department approval. Additional enrollments must be approved by the Dean of Graduate Studies.

Units: 0

POLITICAL SCIENCE (PLSI)

PLSI 1. Modern Politics

Introduction to the study of democratic and authoritarian political systems; evaluation of the historical, cultural, and economic contexts of modern politics around the world; institutional structures and functions; political ideologies; individual and group participation in the political process; current issues. G.E. Breadth D3.

Units: 3

Course Typically Offered: Fall, Spring

GE Area: D3

PLSI 2. American Government and Institutions

The development and operation of government in the United States; study of how ideas, institutions, laws, and people have constructed and maintained a political order in America. Meets the United States Constitution requirement and the federal, California state, and local government requirement. Not open to students with credit in PLSI 101. Not available for CR/NC grading. G.E. Breadth D2. (CAN GOVT 2)

Units: 3

Course Typically Offered: Fall, Spring

GE Area: D2

PLSI 2H. American Government and Instituition

Meets the United States Constituition requirement and the federal, California state, and local government requirement. No open to students with credit in PLSI 101. Developemtn and operation of government in the Unted States; study of how ideas, instituitions, laws and people have constructed and maintained a political order in America. G.E. Breadth D2.

Units: 3

GE Area: D2

PLSI 71. Introduction to Environmental Politics

Introduction to study of environmental politics and policy making in the United States; a brief history of environmentalism; basic principles in environmental policy making, including policy making for interest groups, legislatures, and levels of government; and selection of current topics in environmental issues. G.E. Breadth D3.

Units: 3

GE Area: D3

PLSI 71H. Introduction to Environmental Politics

Introduction to the study of environmental politics and policy making in the United States; a brief history of enviromnetalism; basic principles in environmental policy making including interest groups, legislatures, and levels of government selection of current topics in environmental issues. G.E. BReadth D3.

Units: 3

GE Area: D3

PLSI 90. Methods of Analysis of Quantitative Political Data

An introduction to hypothesis testing in political science, with applications to the analysis of quantitative political data; the formulation of research problems and hypotheses; accuracy and precision in measurements; problems of evidence and inference; basic techniques of statistical analysis.

Units: 3

Course Typically Offered: Fall, Spring

PLSI 102. California Government and Institutions

Not open to students with credit in PLSI 2. Open only to students who have satisfied United States Constitution requirement but

have not satisfied California state and local government requirement. Examination of legislative, executive, judicial, and local government problems in California. Not available for CR/NC grading.

Units: 1

Course Typically Offered: Fall, Spring

PLSI 103. California Politics

Satisfies California state and local government requirement, if not used for political science major. Emphasis on the historical development of politics in California and the factors and institutions important to contemporary politics: characteristics of the electorate, voter registration, primaries and general elections, candidates and campaigning, party organizations and leaders, interest groups, and current issues.

Units: 3

PLSI 107. Women in US Politics

(WS 107 same as PLSI 107). Prerequisites: at least one 3 unit WS or PLSI course. The course examines how women have shaped and been shaped by U.S. politics along with how gender impacts U.S.political thought, institutions, and practices.

Units: 3

PLSI 110. Seminar in History of Political Thought to Machiavelli

Development of political thought from Plato to Machiavelli: law, justice, the state, authority, forms of government, and church-state relations in light of the philosophy of history.

Units: 3

Course Typically Offered: Fall, Spring

PLSI 111. Seminar in History of Political Thought Since Machiavelli

Freedom and individual rights, democracy, majority rule, equality, law and authority, power, constitutionalism, property, social class and structure, and revolution traced through the writings of Hobbes, Locke, Rousseau, Hume, Burke, Bentham, Hegel, Tocqueville, and Mill.

Units: 3

PLSI 114. Seminar in American Political Thought

Analysis of democracy, majority rule and minority rights, constitutionalism, federalism, representation, pluralism, property, separation of powers, and judicial review based on the perspectives of representative early and contemporary American thinkers.

Units: 3

Course Typically Offered: Spring

PLSI 119T. Topics in Political Theory

Possible topics include theories of democracy; the Marxian tradition; political thought of specific authors, historical periods and countries; peace and war; church-state relations; the nature of politics and of political science.

Units: 1-4, Repeatable up to 8 units

PLSI 119TZ. British Political Thinkers

Units: 3, Repeatable up to 8 units

PLSI 120. International Politics

Prerequisites: G.E. Foundation and Breadth Area D. Dynamics of political interactions of nations; nationalism, imperialism and interdependence; national power and diplomacy; types of conflict, including war; peaceful settlement of disputes; current issues involving competing foreign policies, national development, energy, and national liberation movements. G.E. Multicultural/International MI.

Units: 3

Course Typically Offered: Fall, Spring

GE Area: M/I

PLSI 120Z. International Politics

Prerequisites: G.E. Foundation and Breadth Area D. Dynamics of political interactions of nations; nationalism, imperialism and interdependence; national power and diplomacy; types of conflict, including war; peaceful settlement of disputes; current issues involving competing foreign policies, national development, energy, and national liberation movements. G.E. Multicultural/International MI.

Units: 3

GE Area: M/I

PLSI 121. American Foreign Affairs

Prerequisite: PLSI 2. Formulation and execution of American foreign policy; constitutional frame work; role of the president and the executive branch, Congress, pressure groups and public opinion; contemporary problems and policies.

Units: 3

PLSI 122. Politics of Foreign Aid

Theory and practice of foreign aid, including U.S. policy, current debates, continuing challenges, approaches, issue-areas, and key actors (governmental and non-governmental, domestic and international organizations). (Formerly PLSI 128T)

Units: 3

PLSI 125. Russian Foreign Policy

Historical and ideological sources of foreign policy of Russia and other former Soviet republics; continuity and change in methods, strategy, and tactics; policy formulation and application in specific geographic and subject matter areas.

Units: 3

PLSI 126. International Law and Organization

The sources and subjects of international law; state jurisdiction and responsibility; international agreements; the regulation of force and the peaceful settlement of disputes through international law and organization, including the League of Nations, the United Nations, and regional organizations.

Units: 3

Course Typically Offered: Fall

PLSI 128T. Topics in International Relations

Politics of military power; arms limitation and control; peace theory; ecopolitics; regionalism and cooperation; shifts in balance of power; nationalism; imperialism; neutralism and nonalignment; foreign policies of specific nations.

Units: 1-4, Repeatable up to 8 units

PLSI 128T. Global Governance & Human Rights
This course examines the issue of international human rights as a core component of global governance. Exploring the evolution of international human rights from WWII to today, students will learn about the key players, issues, and obstacles in the protection of human rights around the world. Different rights and violations will be examined in different parts of the world, and the role and approaches available to states, international organizations, non-governmental organizations, and individuals for improving human rights will be studied.

Units: 3

PLSI 140. Approaches to Comparative Politics
Prerequisite: PLSI 1. Exploration of theories, models, and conceptual frameworks for the comparative study of political systems and subsystems; methodological rather than an area emphasis.

Units: 3

Course Typically Offered: Fall, Spring

PLSI 141. Russian Politics
A study of the political systems of Russia and other former Soviet republics. Changes in relations between state and society; change and continuity in political culture; trends in policy making; issues of relations between nationality groups.

Units: 3

PLSI 142T. Area Studies in Western Europe
Government and politics of Western Europe (Britain, France, Germany, and Italy), Northern European Countries (Finland, Denmark, Norway, Sweden); or government and politics, of selected countries.

Units: 1-4, Repeatable up to 8 units

PLSI 143T. Area Studies in Eastern Europe
Government and politics of Eastern Europe; or government, politics, and institutions of selected countries.

Units: 1-4, Repeatable up to 8 units

PLSI 144T. Area Studies in Africa and Middle East
Government and politics of Sub-Sahara Africa, Middle East; or government, politics, and institutions of selected countries.

Units: 1-4, Repeatable up to 8 units

PLSI 144T. Middle East Politics
This course is designed to present a comparative introduction to the political history, processes, issues and international relations of the Middle East. The course will focus on the Israeli-Palestenian conflict, U.S. involvement in the Middle East, Petroleum politics, and the domestic political systems of Egypt, Israel, Turkey, Iran, Iraq and Afghanistan.

Units: 3, Repeatable up to 8 units

PLSI 145T. Area Studies in Asia
Government and politics of selected countries in East and Southeast Asia.

Units: 1-4, Repeatable up to 8 units

PLSI 146T. Area Studies in Latin America
Possible topics include politics of South America; politics of Central America and Caribbean countries; roles of selected groups in Latin American politics.

Units: 1-4, Repeatable up to 8 units

PLSI 146T. Comtemporary Political Issues
Political philosophies, goals, and strategies of Chicanos and Latinos as reflected in their attempts to gain political power.

Units: 3, Repeatable up to 8 units

PLSI 147. East Asian Politics
Examines the governments, institutions, politics, and policy of China, Japan, North and South Korea, and selected Southeast Asian Nations. (Formerly PLSI 145T)

Units: 3

PLSI 148. Latin American Politics
Discusses the role of the military and violence in Latin American politics, the role of civilian groups with emphasis on democratization, and the influence of other nations - especially the United States - on Latin American politics. (Formerly PLSI 146T)

Units: 3

PLSI 149T. Seminar in Comparative Government
Parliamentary systems, problems and goals of developing nations, federal systems, comparative local government, parties and pressure groups, and multi-party systems.

Units: 1-4, Repeatable up to 8 units

PLSI 150. Public Policy Making
Examines the institutional and political processes by which public policy is formulated, adopted, and implemented. Individual instruction on student papers (students with fundamental writing deficiencies will be required to enroll in ENGL 1L, 1 unit, concurrently).

Units: 3

Course Typically Offered: Fall, Spring

PLSI 151. Political Participation and Political Parties
Political parties; nature and extent of citizen political activity; election of public officials; political organization of government.

Units: 3

PLSI 152. Public Opinion and Political Behavior
Examines the origins and expression of political attitudes and beliefs, including voting and other political participation, and how public opinion influences public policy. Special attention is given to partisanship, elections, and voting. (Formerly PLSI 156T)

Units: 3

PLSI 153. Presidential Politics
Examines the history, development, and operation of the U.S. Presidency. Special attention is given to the rise of the modern presidency, presidential power (constitutional and extra-constitutional), presidential speech, presidential elections, and the importance of public opinion for presidential power. (Formerly PLSI 159T)

Units: 3

Course Typically Offered: Fall

PLSI 154. Congressional Politics
Examines the history, development, and operation of the U.S. Congress. Special attention is given to congressional elections, congressional-presidential relations, and the policy-making process. (Formerly PLSI 159T)

Units: 3

Course Typically Offered: Spring

PLSI 155. Interest Group Politics
In this course students learn why people join interest groups, study the size and ideological diversity of the national interest group system, and learn the circumstances under which lobbyists for these groups can influence how American public policy is made.

Units: 3

PLSI 156T. Topics in Political Behavior
Voting behavior, political alienation, leadership, political perceptions and knowledge, environmental effects on political participation, group processes, and political socialization.

Units: 1-4, Repeatable up to 8 units

PLSI 156T. Campaigns and Elections
This advanced course is about how elections work in contemporary America, and about the role of governments, campaigns, political parties, candidates, organized interests, election administration, and voters in electoral politics.

Units: 3, Repeatable up to 6 units

PLSI 157. Environmental Politics
Examines theory, concepts, and practices in U.S. environmental politics and policy. Topics include ecological principles, the history and philosophy of environmentalism, the contemporary political conflict over environmental policy, and environmental policy analysis. (Formerly PLSI 189T)

Units: 3

PLSI 158. Internship in Political Science
Prerequisite: permission of instructor. Maximum credit toward the political science major, 3 units. Supervised work experience in legislative offices and/or political campaigns to provide student with an opportunity to fuse theory and practice. CR/NC grading only.

Units: 2-6

Course Typically Offered: Fall, Spring

PLSI 159T. Seminar in American Government and Politics
Congressional committee operations, policy making by the courts, political implications of civil service, executive initiation of legislation, minority groups and politics, political implications of news reporting; jurisprudence and legal philosophy; legal institutions; conflict resolution.

Units: 1-4, Repeatable up to 8 units

PLSI 160. State and Local Governments
The organization, structure, powers, and functions of state and local governments.

Units: 3

Course Typically Offered: Fall

PLSI 161. Social Movement Politics
Students will learn how and why social movements form, including what kinds of grievances lead to political organization. They will also study the tactics movements use, and why some movements are successful in their political advocacy while others are not.

Units: 3

PLSI 163. Municipal Government
Organization, powers, and functions of city government; types of city charters, relationship between city and state government; police and fire protection, education, water supply, health and sanitation, city planning, debts and taxation, public utilities.

Units: 3

PLSI 169T. Seminar in Metropolitan Government and Politics
Regional and area intergovernmental relations, urban renewal, human relations agencies, and taxation methodologies.

Units: 1-4, Repeatable up to 8 units

PLSI 170. Constitutional Law, the Federal Structure
Judicial Review, powers of the president, powers of Congress, federalism, and the contract clause and due process -- economic rights through case studies of leading Supreme Court decisions.

Units: 3

Course Typically Offered: Fall

PLSI 171. Constitutional Law, Civil Liberties, and Civil Rights
Free speech and association, freedom of press, commercial free speech, obscenity, religion guarantees, fourth, fifth, sixth, and eighth amendment issues, and social and political equality through case studies of leading Supreme Court decisions.

Units: 3

Course Typically Offered: Spring

PLSI 174. Politics and the Court
An introduction to the judicial process: jurisprudence, courts and social policy, instruments and limitations of judicial power, fact finding, precedents and legal reasoning, statutory and constitutional interpretation, and the search for standards.

Units: 3

PLSI 175. Water Politics and Policy
This course focuses on the development of policy regarding the ownership and use of surface and ground water in the American West, California, and the Central Valley. It also examines the political clash between economic and environmental demands for water.

Units: 3

PLSI 179T. Moot Court Oral Advocacy
The purpose of this course is to educate undergraduate students about the American legal system, jurisprudence, and appellate advocacy. Students receive training in oral advocacy and deliver arguments before a panel of judges.

Units: 3, Repeatable up to 8 units

PLSI 181. Public Administration

General analysis of the field of public administration; administrative theories; policy and administration; behavioralism; budgeting, planning, and legal framework.

Units: 3

Course Typically Offered: Fall

PLSI 182. Administrative Analysis: Management and Organization

Administrative organization; methods; systems and procedures; problem solving; systems analysis; reports and records; resources management.

Units: 3

Course Typically Offered: Spring

PLSI 183. Comparative Administration

Theories of comparative public administration; cross-national comparisons of administrative processes; institutions, policy formation, and behavior with consideration of cultural, social, and economic environments.

Units: 3

PLSI 184. Public Budgeting and Economy Policy

Examines the administrative and political considerations of revenue generation and expenditure; budget types; the budgetary process and analysis; capital budgeting and debt administration; intergovernmental fiscal relations; monetary and fiscal policy.

Units: 3

Course Typically Offered: Spring

PLSI 185. Public Personnel Management

Examines the evolution of public personnel administration including the development of merit principles, equal employment opportunity, and affirmative action; recruitment, selection, and career development; classification techniques; theories of motivation; public sector labor relations.

Units: 3

Course Typically Offered: Fall

PLSI 187. Internship in Public Administration

Prerequisite: permission of instructor. Maximum credit toward public administration major, 3 units. Supervised work experience in public agencies to provide the student with an opportunity to fuse theory and practice. CR/NC grading only.

Units: 2-6

Course Typically Offered: Fall, Spring

PLSI 188T. Topics in Public Administration

Treatment of current topics and problems in fiscal administration, public personnel administration, and planning.

Units: 1-4, Repeatable up to 9 units

PLSI 190. Independent Study

See Academic Placement --Independent Study. Approved for RP grading.

Units: 1-3, Repeatable up to 6 units

Course Typically Offered: Fall, Spring

PLSI 191. Directed Readings

Directed readings and supplemental and original source material for enrichment of regular offerings in the subdiscipline.

Units: 1

PLSI 200. Seminar in Methods and Political Systems

Prerequisite: permission of instructor. Systematic analysis of major political cultures and economic systems. Emphasis upon the leading theoretical models of the contemporary international system, issues of political economy, and methods of cross-cultural research.

Units: 3

PLSI 210. International Relations and Political Theory

(PLSI 210 same as AETH 201.) Prerequisite: permission of instructor. Inquiry into philosophies of international relations with particular emphasis on moral foundations of international law in light of Western political theory. Some contemporary problems selected for in-depth analysis and student research.

Units: 3

PLSI 220. Seminar in Politics and Conflict

Prerequisite: permission of instructor. Analysis of sources of political conflict and methods of conflict resolution with application to selected topics, such as the foreign policy of major powers, the dynamics of political transformation, interaction in regional subsystems, or national defense and arms control.

Units: 3

PLSI 240. Seminar in Politics of Resources and Modernization

Prerequisite: permission of instructor. Analysis of global interdependence and national examples in selected resource areas. Emphasis on approaches to modernization in developing nations and relations between rich nations and poor nations.

Units: 3

PLSI 250. Seminar in Politics and Policy

Prerequisite: permission of instructor. Policy formulation, implementation, and evaluation from a comparative perspective. Examines substantive policy issues common to modern industrial and developing nations from the perspectives of policy analysis and decision-making; considers the role of bureaucracy, the welfare state, political economy, and competing ideologies.

Units: 3

PLSI 270. Advanced Research and Writing in International Relations

Students will conduct primary research on IR topics of their choice, deepening their understanding of key issues, literature, and the application of theory, and gaining essential skills in research, analysis, and writing up to the journal level standard in IR.

Units: 3

PLSI 290. Independent Study

See Academic Placement --Independent Study. Approved for RP

grading.

Units: 1-3, Repeatable up to 6 units

PLSI 299. Thesis

See Criteria for Thesis and Project. Approved for RP grading.

Units: 3-6

PLANT HEALTH (PLTH)

PLTH 1. Introduction to Plant Health

Not open to students with previous credit in upper-division PLT H courses. Origin, history, and evaluation of protective measures (chemical, biological, and cultural) for management of insects, diseases, weeds, and rodents in the field and around the home.

Units: 3

PLTH 102. Pesticides

Prerequisite: CHEM 3B or CHEM 8. Typical uses, modes of action, mechanisms of selectivity, environmental interactions, and user safety of insecticides, herbicides, fungicides, nematocides, rodenticides, and plant growth regulators. Effective and safe use of agriculture chemicals by reading labels and following laws/regulations.

Units: 3

Course Typically Offered: Fall

PLTH 103. Economic Entomology

Prerequisite: BIOL 11. Biology, ecology, management and taxonomy of economically important arthropods, with special emphasis on agricultural ecosystems in California. (2 lecture, 3 lab hours)

Units: 3

Course Typically Offered: Fall

PLTH 104. Plant Nematology

Prerequisites: BIOL 1A or BIOL 11. Biology, taxonomy, host-parasite relationships, soil ecology, conventional and innovative controls, plant diagnosis and laboratory techniques with emphasis on plant-parasitic species.

Units: 3

Course Typically Offered: Fall

PLTH 105. Weed Science

Prerequisites: BIOL 11; CHEM 3A. Vegetation management in California. Identification of common weeds. Fundamentals of preventive, cultural, biological, physical, and chemical weed control methods. (2 lecture, 3 lab hours)

Units: 3

Course Typically Offered: Spring

PLTH 106. Plant Pathology

Prerequisite: BIOL 1A or BIOL 11. Study of the causal agents, disease cycles, and control of plant diseases. (2 lecture, 3 lab hours)

Units: 3

Course Typically Offered: Spring

PLTH 107. Biological Control

Prerequisite: PLTH 103. Study of the action of parasites, predators, and pathogens on the population dynamics of their host/prey organisms; focus on arthropods, with additional emphasis on microorganisms, weeds, nematodes, and vertebrates.

Units: 3

PLTH 108. Integrated Pest Management

Prerequisite: PLTH 103. Concepts and principles of integrated pest management. Insect and mite pest problems; sampling techniques; biology and ecology of major agricultural crop pests; integration of control measures for management of economic pests. (2 lecture, 3 lab hours)

Units: 3

Course Typically Offered: Spring

PLTH 109. Diagnosis and Control of Plant Diseases

Prerequisite: PLTH 106. Techniques for diagnosis of specific diseases in California and selection criteria for control strategies. Students will practice diagnostic techniques for selecting preventative, cultural, biological, physical, and chemical disease control strategies for major plant diseases.

Units: 3

Course Typically Offered: Fall

PORTUGUESE (PORT)

PORT 1A. Elementary Portuguese

Prerequisite: G.E. Foundation A2. Beginning course in conversational and written Portuguese, including Luso-Brazilian cultural traditions (literature, music, philosophy and lifestyle). Not open to those with two or more years of high school Portuguese credit.

Units: 4

Course Typically Offered: Fall

GE Area: C2

PORT 1B. Elementary Portuguese

Prerequisite: G.E. Foundation A2; PORT 1A recommended or permission of instructor. Second semester course in conversational and written Portuguese. Not open to those with three or more years of high school Portuguese credit. G.E. Breadth C2.

Units: 4

Course Typically Offered: Spring

GE Area: C2

PORT 2A. Intermediate Portuguese

PORT 1B recommended or permission of instructor. Intermediate course emphasizing speaking, listening, reading longer texts, writing compositions, grammar, and Luso-Braizilian culture.

Units: 3

Course Typically Offered: Fall

PORT 2B. Intermediate Portuguese

PORT 2A recommended or permission of instructor. Continuation of PORT 2A emphasizing speaking, listening, grammar, reading longer literature, writing compositions, and Luso-Brazilian culture.

Units: 3

Course Typically Offered: Spring

PHYSICAL SCIENCE (PSCI)

PSCI 21. Elementary Astronomy
Prerequisite: G.E. Foundation B4 (except for those with declared majors in the College of Science and Mathematics.)Recommended: second-year high school algebra. Concepts, theories, important physical principles, and history of astronomy. Stellar properties, distances, and evolution. Three field trips for observing with telescopes. G.E. Breadth B1. (3 lecture, 2 lab hours) (Course fee, $34)

Units: 4

GE Area: B1

PSCI 131. Concepts of Classical Physics from Babylon to Maxwell
Prerequisites: General Education Quantitative Reasoning and Area B Breadth requirements. Concepts, theories, and laws of classical physics. Mathematics, astronomy, mechanics, light, electricity, magnetism, thermodynamics, chemistry, and the atom. G.E. Integration 1B.

Units: 3

GE Area: IB

PSCI 168. Energy and the Environment
Prerequisite: G.E. Foundation an Breath Area B. Analysis of energy crisis; introduction to various forms of energy, energy conversion processes and environmental effects; present energy supply and energy projections; future energy demands and ways of evaluating alternatives. G.E. Integration IB

Units: 3

GE Area: IB

PSCI 180T. Topics in Physical Science
Detailed discussion of special topics within the realm of physical science.

Units: 1-3, Repeatable up to 9 units

PSYCHOLOGY (PSYCH)

PSYCH 10. Introduction to Psychology
Not open to students with more than 6 units in psychology. Introduction to psychology as an empirical science; biological and social bases of behavior; scientific principles of psychology in perception, learning, motivation, intelligence, and personality. G.E. Breadth D3. (CAN PSY 2)

Units: 3

Course Typically Offered: Fall, Spring

GE Area: D3

PSYCH 36. Biological Psychology
An introduction to the role of the nervous system in psychological processes, including the basis of nerve conduction, the role of neurotransmitters, and basic neuroanatomy. The course also addresses the neurophysiology underlying sensory processes, motivation, emotion, sleep and dreaming, language, learning and memory, addiction, and mental disorders.

Units: 3

Course Typically Offered: Fall, Spring

PSYCH 40T. Topics in Research Design and Statistics
Introductory research methods and statistics in psychology. Introduction to scientific procedures and empirical research. Participation in research, data analysis, and APA research report writing. (May include lab hours)

Units: 2-8, Repeatable up to 12 units

PSYCH 42. Introductory Statistics
Basic statistical methods for analysis of data; parametric tests of significance; linear regression and correlation; analysis of variance; introduction to non-parametric techniques.

Units: 4

PSYCH 60T. Psychology as a Behavioral Science
Current topics in psychology that are not covered in other courses. (May include lab hours).

Units: 1-5, Repeatable up to 6 units

PSYCH 61. Personal Adjustment
Not open to students with credit in PSYCH 171. General adjustment behavior with regard to health, social, academic, and emotional problems; application of principles for prevention of health, social, academic, and emotional problems. G.E. Breadth E1.

Units: 3

Course Typically Offered: Fall, Spring

GE Area: E1

PSYCH 62H. Introduction to Social and Cultural Psychology
Interaction between social environments and behavior with an emphasis on culture and cultural differences. Includes topics such as social influence and beliefs, conformity, the self, attidtude change, group influence, prejudice and racism, aggression, attraction and intimacy, altruism and helping. G.E. Breadth D3.

Units: 3

GE Area: D3

PSYCH 63. Introduction to the Psychology Major
Preparation for success as a psychology student: explores the nature of the science and practice of psychology, contrasts a variety of career options in psychology and related fields, and highlights strategies for pursuing those careers

Units: 2

Course Typically Offered: Fall, Spring

PSYCH 66. Abnormal Psychology
Study of the origins, symptoms, and treatments of behavioral and personality disturbances from childhood through senescence; application of current DSM. (Formerly PSYCH 166)

Units: 3

Course Typically Offered: Fall, Spring

PSYCH 101. Child Psychology
Not open to students with credit in PSYCH 155. The dynamics of infant and child development and adjustment.

Units: 3

Course Typically Offered: Fall, Spring

PSYCH 102. Adolescent Psychology
Adjustment of youth to self and society.

Units: 3

PSYCH 103. Psychology of Aging
(GERON 103 same as PSYCH 103.) Psychological study of maturity and old age; physiological and sociological considerations.

Units: 3

PSYCH 120T. Topics in Cognition, Perception & Behavioral Neuroscience
Prerequisite: psychology major or minor status or permission of instructor. Empirical evidence and theoretical issues in learning, motivation, cognition, language, perception, sensory, and physiological processes. Section may be limited to animal or human studies; research and reporting. (May inlcude lab hours)

Units: 2-5, Repeatable up to 12 units

PSYCH 120T. Cognitive Principles in Forensics and Law Enforcement
This course is intended to acquaint students with a comprehensive view of the psychological principles involved in law enforcement tactical, investigative and courtroom contexts, from the perspective of contemporary experimental psychology and neuroscience. The course will present and review the necessary principles and demonstrate their application to field situations. Material presented will be situated both in current theory and in application to current and developing law enforcement contexts.

Units: 4, Repeatable up to 12 units

PSYCH 120T. Brain, Mind, and Memory
This course explores the mind/brain from a cognitive perspective, with specific emphases on neurocognition memory. The question of “who we are” has traditionally been addressed through philosophy, but recent advances in cognitive neuroscience suggest that consciousness may be explained by the product of neural processing. The position, here, is that the mind is what the brain does. In addition to the issue, this course explores memory from behavioral and neurocognitive perspectives as a partial definition of self. The goal of this course is to merge aspects of cognitive psychology, cognitive neuroscience, and philosophy as a way of attempting to understanding the mind.

Units: 4, Repeatable up to 12 units

PSYCH 121. Learning and Memory
Prerequisites: Psychology major or minor status, or permission of instructor. Combined survey of (1) principles from the human and animal laboratory with theoretical interpretations and applications; and (2) principles of operation of the human memory system with theoretical interpretations.

Units: 4

PSYCH 122. Motivation
Psychology Major or Minor status or permission of the instructor. Initiation and continuation of behavior, acquisition, and modification of motives.

Units: 4

PSYCH 123. Developmental Psychobiology
Psychology major or minor status or permission of instructor. Biological and psychological foundations of behavioral development. Topics include issues in developing systems, genetics and evolution of behavioral development, behavioral embryology, comparative development of nervous systems, development of cognitive and effective behaviors, and ecological and multicultural influences on biobehavioral development. (Formerly PSYCH 120T)

Units: 4

PSYCH 124. Sensation and Perception
Prerequisites: Psychology Major or Minor status or permission of instructor. Study of sensory and perceptual processes in vision, touch, and hearing. Emphasis is placed on how basic perceptual principles operate in everyday life as well as in lab settings.

Units: 4

PSYCH 125. Behavioral Neuroscience
Prerequisites: Psychology Major or Minor status or permission of instructor. (PSYCH 36 is recommended.) An in-depth look at the neuroanatomical, endocrine, molecular, and neurophysiological mechanisms that mediate behavior and the technologies used to study them. Emphasis is placed on the integration and critical analysis of original neuroscience literature. (May include lab hours)

Units: 4

PSYCH 126. Cognitive Neuroscience
Biological mechanisms which mediate cognitive processes. Topics include the nervous system substrates for perception memory, language, cerebral lateralization and specialization, attention, and consciousness.

Units: 3

PSYCH 128. Cognitive Psychology
Prerequisites: psychology major or minor status or permission of instructor. An introduction to theory and research in human information processing. Topics include attention, memory, neurocognition, mental representation, imagery, problem solving, reasoning, language, and other higher mental processes.

Units: 4

PSYCH 132. Psychology of Sexuality
Prerequisite: upper-division standing. Psychological aspects of human sexual behavior: influence on personality, various behavioral manifestations and pathologies.

Units: 3

PSYCH 136. Human Learning and Behavior
Introduction to learning principles as they interact with perception, cognition, and motivation. Relevance of these principles in understanding human adaptation to school, home, and social environments.

Units: 3

PSYCH 140T. Topics in Psychological Methods

Prerequisite: PSYCH 10. Research methods and statistics in psychology: introduction to scientific procedures, experimental research, survey research, and qualitative research. Participation in research, data analysis and APA research report writing. (May include lab hours)

Units: 4, Repeatable up to 8 units

PSYCH 143. Intermediate Computer-based Statistical Analysis

Prerequisites: Psychology Major or Minor or permission of instructor. Intensive study of analysis of variance with research emphasis. Topics include single and multifactor designs both with and without repeated measures, multiple comparisons, trend tests, analysis of covariance and nultivariate analysis of variance. (May include lab hours)

Units: 4

PSYCH 144. Research Designs and Experimental Methods

Prerequisite: PSYCH 10 and PSYCH 42. Basic course in experimental psychology: research design and inferential statistics; introduction to scientific procedures and methods in psychology; participation in research, data analysis, and report writing. (May include lab hours)

Units: 5

Course Typically Offered: Fall, Spring

PSYCH 145. Computer and Information Skills in Psychology

A survey of computer and information skills in the behavioral sciences. Applications of information technology include use of word processors, electronic communications, spreadsheets, statistical packages, and other specialized computer programs for psychology. Emphasis will be on developing information competence including locating, gathering, organizing, and reporting computer-based information.

Units: 3

PSYCH 149. Psychological Testing

Prerequisites: Psychology major or minor status or permission of instructor. Theories of psychological testing stressing the logic and limits of measurement. Emphasis on technical and individual tests.

Units: 4

PSYCH 150T. Evolution and Psychology

Psychologists explore a model of human personality and individual differences based on theories of natural and sexual selection. This course will explore several theoretical issues from this perspective (i.e., mating rituals, sex roles, parental investment and kin investment). Those issues will provide a springboard to be applied to broader societal issues such as sexism, racism, war, and peace.

Units: 4, Repeatable up to 12 units

PSYCH 150T. Immigrant Families

This course will take a developmental psychological examination of various issues that are faced by immigrant children and families such as: the immigrant paradox; behavior and health outcomes across generations; the cultural adaptation process at both the individual and family level; and family and community factors affecting academic outcomes in this particular sector of the population.

Units: 4, Repeatable up to 8 units

PSYCH 151. Health Psychology

Prerequisite for this course is psychology major status or permission of the instructor. This course provides a general introduction to the field of health psychology -- the application of psychological principles to health and the health care system. Both theoretical and applied perspectives are considered. Formerly PSYCH 150T.

Units: 3

PSYCH 153. Developmental Research and Inquiry for Practitioners

PSYCH 101, PSYCH 155, or CFS 31 and CFS 39 recommended prior to enrollment in this course. Empirical and theoretical treatment of developmental issues. Emphasizes understanding the process of scientific discovery and learning to accurately interpret and evaluate development research. Examines theories and methods that guide research on physical, social, cognitive, and emotional development.

Units: 3

Course Typically Offered: Fall, Spring

PSYCH 154. Personality

Prerequisites: Psychology Major or Minor status or permission of instructor. Major contemporary theories of personality; techniques for research in personality. (May include lab hours)

Units: 4

PSYCH 155. Developmental Psychology

Prerequisites: Psychology Major or Minor status or permission of instructor. Empirical and theoretical treatment of human development throughout the life span; genetic, phys-iological, and sociocultural influences upon development; physical, emotional, motivational, intellectual-cognitive, and social facets of development. (May include lab hours)

Units: 4

PSYCH 156. Social Psychology

Prerequisite: Psychology Major or Minor status or permission of instructor. Examination of the interaction between social environments and behavior. Application of social psychological theories and principles to interpersonal relationships, education, work, health, and the media. (Formerly PSYCH 134)

Units: 4

PSYCH 160T. Topics in Clinical Processes

Prerequisite: Psychology Major or Minor status or permission of instructor. Examination of individual behavior and small-group processes; include such topics as clinical psychopathology, sensitivity training, and intragroup dynamics, consciousness, dreams, and imagination.

Units: 2-5, Repeatable up to 12 units

PSYCH 160T. Movies and Psychological Disorders

Students will review websites, research articles, instructor mini-lectures, and films to obtain knowledge about important issues related to mental illness so that they will be able to recognize myths and stereotypes about mental illness and its treatment. Issues include: severe and persistent mental health disorders, self stigma, family burden of care, psychiatric institutions and patient rights, psychoanalytic and self-psychologies, behavior therapy, professional and ethical behavior of therapists, long term effects of child abuse, and criminal personalities. Students knowledge of course topics and critical thinking about the topics will be evaluated via short quizzes with content and reflection questions, discussion board participation, and a multi-media movie review project. This course fulfills the Topics Area requirement of the Psychology Major and a Psychology Elective requirement of the Criminology Major Forensic Behavioral Sciences Option at California State University, Fresno.

Units: 3, Repeatable up to 12 units

PSYCH 162. Introduction to Clinical Psychology

Overview of clinical psychology, including history, ethics, applied roles, conceptual and technical approaches to assessment and intervention, applying to graduate school, and anticipated future developments.

Units: 4

PSYCH 163. Multicultural Psychology

Prerequisites: Psychology major or minor status or permission of instructor. This course reviews the field of Multicultural Psychology and emphasizes the development of critical thinking, cultural sensitvity, and cultural self-awareness. Major topics include: world views, immigration and acculturation, stereotyping, prefjudice, racism, privilege, cultural identity development, health disparities, and multicultural competence. Formerly PSYCH 160T.

Units: 4

PSYCH 169. Psychological Aspects of Physical Disability

Psychological theory and research pertaining to physical disability and disabled persons. Attitudes regarding disability and the impact of disability on individual behavior. Primarily deals with blindness, deafness, orthopedic handicap, and epilepsy, and secondarily with cardiovascular disease, cancer, and diabetes.

Units: 3

PSYCH 170T. Topics in Psychological Applications

Applications of psychology; human factors; clinical psychology, learning applications, clinical quantitative, learning, creativity, computer, and other applied topics. (May include lab hours)

Units: 2-5, Repeatable up to 12 units

PSYCH 170T. Community Mental Health

This course surveys the field of community mental health. Students will learn about how human service systems and community based organizations help people with significant life traumas and mental health problems. They will learn about how paraprofessionals have counseling, support, and educator roles that require knowledge of both basic and applied psychology. As a service learning course, they will learn to be engaged community members throughout their lifetime.

Units: 4, Repeatable up to 12 units

PSYCH 170T. Applied Behavior Analysis for Organization and Systems

Applied Behavior Analysis extends to the level of analyzing the behavior of individuals in groups. This is highly relevant for business and organizational settings and overlaps with fields such as I/O psychology. This course will cover current literature and practice in Organizational behavior Management as well as system analysis. Students will learn several models for consultation in businesses as well as special topics relevant to group level behavior analysis.

Units: 4, Repeatable up to 12 units

PSYCH 172. Applied Behavior Analysis

Prerequisite: psychology major or minor status or permission of instructor. Introduction to the philosophy and research of applied behavior analysis. Includes the methods of research, basic principles, and applied techniques used in the field. Presents ethical and legal standards under which behavior analysts work. (Formerly Psych 170T)

Units: 4

PSYCH 173. Environmental Psychology

The scientific study of the effects of human behavior on the environment and the psychological effects of the environment on human behavior. Topics include issues related to overpopulation, pollution, urbanization, noise, and environmental disaster, as well as environmental policies and grass-roots movements worldwide. G.E. Integration ID.

Units: 3-4

GE Area: ID

PSYCH 174. Introduction to Counseling

(COUN 174 same as PSYCH 174.) An overview of basic counseling models, including psychoanalytic, behavioral, cognitive, and humanistic approaches. Includes a personal counseling experience.

Units: 3

PSYCH 175. Family Counseling

Theory and application of major counseling models. Family problems, relationships and systems. Application of child development principles, relevant communication theory and current research to therapy with couples, families, children, and groups.

Units: 3

Course Typically Offered: Fall, Spring

PSYCH 176. Industrial Psychology

Occupational assessment, training procedures, production efficiency, morale determinants, human engineering, decision processes, organization theory.

Units: 3

PSYCH 177. Behavioral and Cognitive Change Techniques

Prerequisites: Psychology major or minor status or permission of instructor. Introduction to learning principles and their applications to behavioral and cognitive change. Methods and techniques used

for changing self, children, adolescents, and adults.

Units: 4

PSYCH 178S. Psychology of Special Populations

Prerequisites: Psychology major or minor status, or permission of instructor. In depth exploration of the psychology of a specific group of people through a combination of classroom didactic learning and applied hands on experience providing service to a targeted population.

Units: 4

Course Typically Offered: Fall

PSYCH 179. Supervised Field Experience

Prerequisites: Psychology major or minor status or permission of instructor. Supervised field experience in community settings. Placements may include schools, hospitals, institutions for the aged, community service agencies, and legal settings, depending on student interests. Regular class meetings.

Units: 4

PSYCH 180T. Seminar in Psychology

Prerequisites: 9 units in psychology, permission of instructor. Undergraduate seminar in specialized areas, new developments and synthesis of psychological processes, thought, and theory.

Units: 1-5, Repeatable up to 12 units

PSYCH 180T. Stereotypes, Prejudices and Discrimination

In this course, we will examine the cognitive and affective bases of social discrimination among humans. Topics include prejudice and discrimination, stereotypes, old-fashioned and contemporary forms of prejudice, individual differences and prejudice, the experience of discrimination, and reducing stereotyping, prejudice, and discrimination.

Units: 3, Repeatable up to 6 units

PSYCH 182. History and Systems

Prerequisite: Psychology Major or Minor status; senior standing or permission of instructor; 12 upper-division units in the major. Historical, philosophical, and scientific background in psychology; review and integration of theoretical issues and current systems in the field. Lecture and discussion.

Units: 4

Course Typically Offered: Fall, Spring

PSYCH 183A. Honors Seminar

Prerequisite: application and acceptance into the department's honors program. Advanced experience in psychology for selected majors that includes critical and creative thinking about topics in psychology, individualized research training, and exploration

Units: 1-3, Repeatable up to 6 units

Course Typically Offered: Fall

PSYCH 183B. Honors Seminar

Prerequisite: application and acceptance into the department's honors program. Advanced experience in psychology for selected majors that includes critical and creative thinking about topics in psychology, individualized research training, and exploration of options in psychology. (Formerly PSYCH 180T)

Units: 1-3, Repeatable up to 6 units

Course Typically Offered: Spring

PSYCH 184A. Community Intervention & Behavior Support

Prerequisites: One course in behavior analysis with a grade of B or higher. Meets content requirements for certification in applied behavior analysis at the associate level. Includes using and monitoring reinforcement systems; ethics and informed consent; training direct care workers; maintaining behavior change in natural settings; establishing support from agencies and professionals. Students work directly with clients. (Formerly PSYCH 170T)

Units: 3

PSYCH 184B. Community Intervention & Behavior Support

Prerequisites: one course in behavior analysis with a grade of B or higher. Meets content requirements for certification in applied behavior analysis at the associate level. Includes using and monitoring reinforcement systems; ethics and informed consent; training direct care workers; maintaining behavior change in natural settings; establishing support from agencies and professionals. Students work directly with clients. (Formerly PSYCH 170T)

Units: 3

PSYCH 190. Independent Study

See Academic Placement - Independent Study. Approved for RP grading.

Units: 1-3, Repeatable up to 6 units

Course Typically Offered: Fall, Spring

PSYCH 199. Senior Thesis

Concentrated empirical or theoretical study of specific topic in psychology; emphasis on independent and creative activity. Copy of thesis required for Psychology Department file.

Units: 2-4

PSYCH 200T. Seminar in Developmental Psychology

May be repeated with different topics. Prerequisite: permission of instructor. Seminars in development and genetic psychology, special topics for particular age ranges and problem areas. (May include lab hours)

Units: 2-4, Repeatable up to 15 units

2PSYCH 205. Seminar in Child Development

Prerequisite: a course in child or developmental psychology or permission of instructor. Advanced survey of current and classic research in child development. Examines issues such as nature/nurture, plasticity, direction-of-effect, continuity/discontinuity and content relevant to theoritical and applied areas of social and cognitive development.

Units: 4

PSYCH 220T. Seminar in Learning and Related Problems

Prerequisite: undergraduate core. Advanced current developments in learning, perception, language, memory, and cognitive psychology. (May include lab hours)

Units: 2-4, Repeatable up to 15 units

PSYCH 220T. Applied Behavior Analysis for Organizations and Systems

Applied Behavior Analysis extends to the level of analyzing and behavior of individuals in groups. This is highly relevant for business and organizational settings and overlaps with fields such as I/O psychology. This course will cover current literature and practice in Organizational Behavior Management as well as system analysis. Students will learn several models for consultation in businesses as well as special topics relevant to group level behavior analysis.

Units: 4, Repeatable up to 15 units

PSYCH 221. Advanced Learning and Behavior

Prerequisites: core Psychology courses (PSYCH 10 PSYCH 42, and PSYCH 144). Recommended: PSYCH 136 or PSYCH 172. This course will examine a broad range of topics as they relate to the underlying principles of behavior. Topics will include mechanisms of learning, associative and non-associate processes, operant and respondent conditioning, schedules of reinforcement, and verbal processes.

Units: 4

PSYCH 223. Verbal Behavior

Verbal Behavior is a special topics seminar that will examine behavior analytic approaches to language, including Skinner's analysis of Verbal Behavior and Relational Frame Theory. We will discuss recent research, application, interactions, and controversies surrounding main approaches.

Units: 4

PSYCH 225T. Seminar in Psychobiological Bases of Behavior

Prerequisite: permission of instructor. Recent advances in psychophysiology, physiological psychology, psychopharmacology, behavior genetics, sensory processes and related topics. (May include lab hours)

Units: 2-4, Repeatable up to 15 units

PSYCH 231. Ethics and Philosophy of Behaviorism

This course will familiarize students with the ethical responsibilities for basic and applied behavior analysts required by leading organizations. The philosophical underpinnings of behavior analysis will be covered along with the larger concepts of researching and practicing as a behavior analyst, professional, and member of society.

Units: 3

PSYCH 240T. Seminar in Quantitative Methods for Behavioral Research

Prerequisite: PSYCH 143. Methods for analysis of multivariate data; factor analysis; multiple regression; advanced analysis of variance procedures. Computer applications and use of computers for analysis of data. (May include lab hours)

Units: 2-4, Repeatable up to 15 units

PSYCH 240T. Community Applications of Psychology

Review local community challenges and how psychological research informs methods used to address them. Students will work in community-based organizations addressing human service issues and acquire research data analyst skills for working in human services.

Units: 4, Repeatable up to 15 units

PSYCH 240T. Practicum in Research Analysis

Examines attitudes towards empirical methods and data analysis as valid methods for assessing the validity of community-based services. Provides advanced training in methods and skills associated with research analysis; spreadsheet and database management; service learning placement with a community-based organization or institutional research office in an educational setting.

Units: 2, Repeatable up to 5 units

PSYCH 244A. Measurement, Research Methods & Statistics

Prerequisites: PSYCH 143 or permission of instructor. Examination of measurement, advanced research design and statistical techniques in behavioral research. Part of a two-semester sequence of PSYCH 244A and PSYCH 244B. (May include lab hours)

Units: 4

PSYCH 244B. Measurement, Research Methods & Statistics

Prerequisites: PSYCH 143 or permission of instructor. Examination of measurement, advanced research design and statistical techniques in behavioral research. Part of a two-semester sequence of PSYCH 244A and PSYCH 244B. (May include lab hours)

Units: 4

PSYCH 245. Research Methods in Behavior Analysis

Prerequisite: PSYCH 288. Single subject research designs and behavioral measurement techniques, assessment of graphed data; social validity.

Units: 4

PSYCH 250T. Seminar in Personality and Related Areas

Prerequisite: undergraduate core in psychology. In-depth examination of the recent developments in personality and clinical psychology. (May include lab hours)

Units: 2-4, Repeatable up to 12 units

PSYCH 255T. Seminar in Social Psychology and Related Areas

Prerequisite: permission of instructor. Theories and research about individual functioning in society; also includes such topics as environment psychology and the psychology of women. (May include lab hours)

Units: 2-4, Repeatable up to 15 units

PSYCH 255T. Current Topics in Social Psychology

This course will explore current topics under discussion in the field of social psychology and look at contemporary theories emerging today in comparison with the foundation of social psychology. Students will examine the past and present theories and see how the field has evolved into what it is today. Special emphasis will be placed on the application of these theories to current social issues.

Units: 3, Repeatable up to 15 units

PSYCH 267. Internship in School Psychology

Prerequisites: PSYCH 284, PSYCH 285, PSYCH 288, and permission of instructor. University and school-based supervised internship in school psychology.

Units: 3-6, Repeatable up to 12 units

PSYCH 268. Practicum in Applied Behavior Analysis

Prerequisite: PSYCH 288 and permission of instructor. University and site-based supervision of practica in applied behavior analysis. CR/NC grading only.

Units: 1, Repeatable up to 4 units

PSYCH 270T. Seminar in Applied Behavioral Science

Prerequisite: permission of instructor. Topics in applied behavioral research; conflict management, group dynamics, organization development, sensitivity training, and related processes. For students in the fields of business, communications, education, psychology, and the social sciences. (May include lab hours) CR/NC grading only.

Units: 1-6, Repeatable up to 15 units

PSYCH 270T. Introduction to Graduate First Semester

Introduction to graduate education for first semester MA students. Covers professional ethics, the culture of empiricism in the psychological sciences, university resources, career paths and preparing for doctoral study in psychology.

Units: 2, Repeatable up to 15 units

PSYCH 271. Community Intervention & Behavior Support

This course is designed to give students hands-on experience in the application of principles used by behavior analysts to train direct care workers in clinical, school, and home settings.

Units: 3

PSYCH 272. Seminar in Lab Teaching

Enrollment restricted to and required of graduate students teaching discussion sections in psychology laboratories. Class discussion of teaching techniques and procedures used to demonstrate princi ples in introductory psychology. Course may be repeated for maximum of 4 units credit. CR/NC grading only.

Units: 1, Repeatable up to 4 units

PSYCH 274S. Multicultural Psychology

Examine diverse cultural aspects related to psychology and education. Students explore multiple aspects of culture and investigate how they are manifested in our society and in education settings through reading, writing, discussion and service to the local communities.

Units: 4

PSYCH 277. Role and Function of the School Psychologist

Prerequisites: graduate standing and admittance to School Psychology Program. State and federal education codes and court decisions related to the practice of school psychology; types of community resources and referral services. Includes supervised practicum experience in schools.

Units: 4

PSYCH 278. Intervention and Prevention in School Psychology

Prerequisite: PSYCH 277, PSYCH 279, PSYCH 282, and PSYCH 288. Roles and responsibilities of the school psychologist including prevention, individual and group techniques for early intervention, and strategies for modification of individual programs and educational environments. Includes supervised practicum experience.

Units: 4

PSYCH 279. Consultation and Supervision

Prerequisite: PSYCH 277 and PSYCH 288. Types of consultation services offered by school psychologists and variables which influence consultation effectiveness including organizational and systems issues. Emphasizes development of consultation and supervisory skills. Includes supervised practicum experience.

Units: 4

PSYCH 282. Cognitive and Behavior Therapy

Prerequisites: a course in learning or behavior modification and permission of instructor. Historical and current trends, research issues, and designs. Application of the behavior approach in a variety of settings. Includes supervised practicum experience. (Class fee, $45)

Units: 4

PSYCH 283T. Topics in Clinical Intervention

Prerequisite: permission of instructor. Advanced study in specialized areas in psychotherapy. May include topics such as clinical hypnosis, health psychology, family therapy, group therapy, etc. Practicum training usually included. Topics may not be repeated. CR/NC grading only.

Units: 1-4, Repeatable up to 12 units

PSYCH 283T. Group Counseling in the Schools

This course will outline the basic issues, key concepts of group process and applications to working with children and adolescents. Students will explore professional and ethical issues involved in group counseling with minors. The course will cover typical application of group counseling in school such as social skills, study skills, anger management, self-esteem and grief counseling.

Units: 2, Repeatable up to 12 units

PSYCH 284. Assessment of Intellectual Abilities

Prerequisites: a course in psychological testing and permission of instructor. Review of theories of intelligence. Administration, scoring, and interpretation of individual and group measures of intelligence. Supervised practicum includes case studies. (Class fee, $130)

Units: 4

PSYCH 285. Assessment of Learning and Developmental Problems

Prerequisite: PSYCH 284. Administration, scoring, and interpreting measures of learning disorders, physical-motor development, psychomotor abilities, social maturity, tests, school achievement, and vocational selection. Supervised practicum emphasizing proscriptive adn rehabilitive recommendations in case studies. (Class fee, $30)

Units: 4

PSYCH 286. Instructional Consultation and Intervention

This course will develop student's skills at using assessment data to target areas of need for students. Upon identifying student needs, skills in consulting with teachers about how to develop, implement, and evaluate instructional interventions will be discussed (e.g. materials, strategies, etc)

Units: 4

PSYCH 287. Practicum in School Psychology

Prerequisites: Enrollment in the Ed. S. in Psychology program. University and school based supervision of practice in school psychology. CR/NC grading only.

Units: 1, Repeatable up to 6 units

PSYCH 288. Advanced Applied Behavior Analysis

Prerequisite: PSYCH 177. Applied use of classical and operant conditioning and social learning theory as behavior change techniques. Emphasis will be on functional assessment of behavior, including structured observations and behavior rating instruments. Students will also learn to develop and evaluate single subject research designs. Includes supervised practicum experience.

Units: 4

PSYCH 289. Functional Assessment and Intervention

Prerequisite: PSYCH 288. Advanced strategies of functional behavioral assessment and intervention for adults and children across school, home, and community settings; ethical and procedural considerations of assessment and intervention; issues of system support and maintenance.

Units: 4

PSYCH 290. Independent Study

See Academic Placement - Independent Study. Approved for RP grading.

Units: 1-3, Repeatable up to 6 units

PSYCH 298. Project

Prerequisite: See Criteria for Thesis and Project. An individual scholarly investigation of an advanced topic in education or psychology as the culminating experience for the Ed.S. degree. Approved for RP grading.

Units: 3-6

PSYCH 299. Thesis

Prerequisite: See Criteria for Thesis and Project. Preparation, completion, and submission of an acceptable thesis for the master's degree in compliance with Psychology Department regulations. Approved for RP grading.

Units: 3-6

PSYCH 299C. Thesis Continuation

Prerequisite: Thesis PSYCH 299. For continuous enrollment while completing the thesis. May enroll twice with department approval. Additional enrollments must be approved by the Dean of Graduate Studies.

Units: 0

RECREATION ADMINISTRATION (RA)

RA 55. Foundations and Careers in Recreation, Parks, and Tourism

Philosophical, theoretical, and historical basis for recreation service in contemporary American society; exploration of the various facets of recreation parks and tourism including public, nonprofit, therapeutic, and commercial recreation. (CAN REC 2)

Units: 3

Course Typically Offered: Fall, Spring

RA 60. Technologies in Recreation, Parks and Tourism

The course emphasizes the basics of computer and social media technologies. Students will learn the basics of entering data and building organized workbooks through Microsoft Excel, budgeting and evaluation of RPT programs. An examination of proprietary program registration and league scheduling systems will be conducted.

Units: 1

Course Typically Offered: Fall, Spring

RA 70. Residential Life and Student Involvement Leadership

Exploration into principles and theories of leadership within residential life and student involvement. Focus is on personal decision-making, diversity, human and group development. Outcomes will be achieved through discussion, self-assessment, experiential exercises, and observation of leadership practice. (Formerly RA 192T)

Units: 2, Repeatable up to 8 units

Course Typically Offered: Spring

RA 73S. Leadership in Recreation, Parks, and Tourism

Course addresses leadership as a field of study and personal development with a focus on theory, technique, and direct service application in a recreation setting. A service learning component will be integrated to foster reflection and growth.

Units: 3

Course Typically Offered: Fall, Spring

RA 77S. Recreation, Parks, and Tourism Programming

Course covers the recreation program process including an introduction to activity plans, program design, delivery, and evaluation. Student will design and implement two recreation programs through service-learning projects to foster skill application and practice

Units: 3

Course Typically Offered: Fall, Spring

RA 80. Lifelong Learning in the Natural Environment

Exploration of the social, psychological, and physiological implications of experiential learning and personal growth using experiences based in the natural environment. Dymanics of identifying personal interests and skills. Discovering resource-based leaarning opportunities in leisure appropriate across the life stages. G.E. Breadth E1.

Units: 3

Course Typically Offered: Fall, Spring

GE Area: E1

RA 101. Leisure and Human Behavior

Prerequisite: RA 55. Exploration of leisure as related to the individual and society. Forces and factors affecting its role on human behavior are examined within the context of current social issues. (Students may incur minimal expenses related to field trips.)

Units: 3

Course Typically Offered: Fall

RA 106. Challenge Course Facilitation

Facility-based adventure programming skills (e.g., ropes courses and climbing walls) taught on the E.D.G.E. Challenge Course. Students will learn specific sequencing, processing, debriefing, and leadership techniques for adventure education. Covers competencies established by the Association for Challenge Course Technology. (CSU liability insurance fee, $8)

Units: 3

Course Typically Offered: Spring

RA 113. Serving At-Risk Youths

Examination of the forces and factors that place youth at risk. Review of service models and leadership styles that affect outcomes for at-risk youths with emphasis on agencies that hoave developed successful program approaches. (Formerly RLS 192T)

Units: 3

Course Typically Offered: Spring

RA 115. Community Placements in Leisure Settings

Prerequisite: Concurrent enrollment with RA 113 or RA 117 or RA 146 or RA 150. Service oriented course providing opportunites to observe, interact, and learn from community placement in leisure services. Hour requirements are supported through writing and discussion on issues and solutions. CR/NC grading only. (Formerly RLS 192T) (CSU liability insurance fee, $8)

Units: 1-3, Repeatable up to 6 units

Course Typically Offered: Fall, Spring

RA 117. Special Event Planning

Special techniques and requirements for planning and conducting large community functions such as street fairs, commmunity festivals, major fund-raisers, corporate events, and joint sponsorship. Emphasis on community laws and regulations, activity selection and planning, advertising, and funding. Field trips and/or other off-campus experiences will be required. (Students may incur minimal expenses related to field trips.)

Units: 3

Course Typically Offered: Fall, Spring

RA 119. Conference, Convention, and Meeting Planning

As examination of the conference, convention, and meeting industry, inclusive of the design, budgeting, and programming principles utilized within the industry. Provide an essential understanding of the components involved in the operation of successful meetings, conventions, and conferences.

Units: 3

Course Typically Offered: Spring

RA 121. Community and Non-Profit Recreation Services

Prerequisite: RA 55 or concurrent (for RA majors only). Philosophical foundations and future outlook of non-profit and municipal recreation programs. Review of service providers including organization, service provision, legal base, funding profiles, and current trends analysis. (Field trips may be required.) (Formerly RA 121)

Units: 3

Course Typically Offered: Fall

RA 125. Diversity and Inclusive Practices in Recreation, Parks, and Tourism

Prerequisite: RA 55 for RA majors. Introduction to diverse populations including terminology, etiology, legislation, facilities, trends, barriers, and relationship to leisure. Understanding alternative views of exceptionality and appreciating similarities and differences. Awareness of adaptations/strategies to maximize participation opportunities.

Units: 3

Course Typically Offered: Fall, Spring

RA 128. Legal and Financial Aspects of Recreation, Parks, and Tourism

Prerequisite: RA 55 and RA 77S. Legal and financial aspects of recreation, parks, and tourism; funding sources, budget development and administration, legal issues, and risk management and their role in recreation administration. (Formerly RLS 128)

Units: 4

Course Typically Offered: Fall

RA 130. International Tourism: Multicultural Issues and Impacts

Prerequisites: GE Foundation and Breadth Area D. Prepares students to live in an international multicultural world, as both a responsible tourist or gracious host who appreciates cultural differences, respects the environment, and understand the impacts of international tourism.

Units: 3

Course Typically Offered: Fall, Spring

GE Area: M/I

RA 131. Foundations of Commercial Recreation and Tourism

Prerequisite: RA 55. Historical and philosophical foundations of leisure service provisions by commercial recreation and tourism agencies. Review of selected service providers including organization, assessment, service provision, legal base, funding profiles, and current trends analysis. (Field trips may be required.)

Units: 3

Course Typically Offered: Fall

RA 133. Recreation and Parks Facilities Planning and Operations

Prerequisite: RA 77S. Emphasis will be on the planning, management, and operations of recreation and parks facilities. Facility layout for use in activity presentation, safety procedures, staffing,

risk management, and maintenance. (Field trips may be required.) (Formerly RLS 133)

Units: 3

Course Typically Offered: Spring

RA 135. Recreation, Parks, and Tourism Marketing

Prerequisite: RA 77S for RA majors only. Analysis and development of marketing and promotion strategies for recreation, parks, and tourism programs and services, and an in-depth analysis of recreation feasibility plans.

Units: 3

Course Typically Offered: Fall

RA 139. Research and Evaluation in Recreation, Parks, and Tourism

Prerequisites: RA 128 and RA 128L, and completion of Upper Division Writing Requirement. Overview of research and evaluation methods as applied to recreation, parks, and tourism services.

Units: 3

Course Typically Offered: Spring

RA 142. Foundations of Therapeutic Recreation Services

Prerequisites: RA 55 and RA 125 or permission of instructor. Historical review and future outlook of theraputic recreation; identification of interventions used for specific population groups. Review etiology characteristics, terminology and support systems. Facility design, use, and adaptation. Practical experienced required.

Units: 3

RA 144A. Assessment and Documentation in Therapeutic Recreation

Prerequisite: RA 142. Application of therapeutic recreation methods including assessment, program design, documentation, and evaluation. (Formerly RLS 144A)

Units: 3

RA 144B. Facilitation Techniques in Therapeutic Recreation

Prerequisites: RA 142; RA 144A. Practical experiences in applying therapeutic recreation intervention methods.

Units: 3

RA 146. Adventure Based Programming

Prerequisite: RA 55 and RA 80 for RA majors. Explore adventure based programming skills through outdoor pursuits and experiential activities on the E.D.G.E. Challenge Course. (2 lecture, 2 lab hours) (Students will incur expenses related to required field trips)

Units: 3

Course Typically Offered: Fall

RA 148. Process and Principles in Therapeutic Recreation

Prerequisites: RA 144A, RA 144B. Designing and evaluating therapeutic recreation programs for healthcare and community settings. Practical program experience required. (Formerly RLS 148)

Units: 3

RA 149. Trends and Issues in Therapeutic Recreation

Prerequisites: RA 148. In-depth examination of contemporary professional issues and their relationship to current and future development of therapeutic recreation services.

Units: 3

RA 150. Sports and Entertainment Facility Management

Prerequisite: RA 55 is recommended for RA majors. Examination of the ownership & governance, function, programming, and management of sports and entertainment facilities including arenas, performing arts centers, stadiums, convention and conference centers. Economic impacts, professional associations, and career development in this industry are also covered.

Units: 3

Course Typically Offered: Fall

RA 152. Sports and Entertainment Facility Booking, Promotion and Box Office Operations

Prerequisites: RA 150; RA 135 or MKTG 100S, plus Concurrent enrollment in RA 154 Booking , promotion and box office operations techniques for sports and entertainment facilities and their events.

Units: 3

Course Typically Offered: Spring

RA 154. Sports and Entertainment Facility Operations

Prerequisites: RA 150; RA 135 or MKTG 100S, plus Concurrent enrollment in RA 152. Operations of sport and entertainment facilities including: set-up configurations, event staffing, event production, security & crowd control, merchandise, food & beverage, ADA, risk management, housekeeping and maintenance. Includes field trips (3 lecture, 2 lab hours)

Units: 4

Course Typically Offered: Spring

RA 179. Supervision and Administration in Recreation, Parks, and Tourism

Prerequisite: RA 73S. Preparation for a supervisory role in recreation, parks, and tourism agencies. Recruitment, motivation, performance evaluation, training and development, and other supervisory and management practices.

Units: 3

Course Typically Offered: Spring

RA 180. Professional Placement in Recreation, Parks, and Tourism

Prerequisite: may only be taken the semester prior to internship. Professionalism and internship search procedures in recreation, parks, and tourism.

Units: 1

Course Typically Offered: Fall, Spring

RA 184. Internship in Recreation, Parks, and Tourism

Prerequisites: completion of all major, General Education, and university graduation requirements. Honors internship requires placement approval in RA 180. Directed supervisory experience with a nonprofit, public, or commercial recreation agency. Individual development in administration, supervision, program planning,

and public relations. Reports and conferences required. (It is recommended before registering for internship that students have the equivalent of 1,000 hours of recreation related experience, either paid or volunteer, in a recreation service agency.) (CSU liability insurance fee, $8)

Units: 12

Course Typically Offered: Fall, Spring

RA 187. Internship in Therapeutic Recreation

Prerequisites: completion of all major, General Education, and university graduation requirements. Honors internship requires placement approval in RA 180. Supervised, directed full-time experience in the field of therapeutic recreation; reports and conferences required. (It is recommended before internship registrarion that students have the equivalent of 1,000 hours of recreation related experience, either paid or volunteer, in the field of recreation service).

Units: 12

Course Typically Offered: Fall, Spring

RA 190. Independent Study

See Academic Placement - Independent Study. Approved for RP grading.

Units: 1-3, Repeatable up to 6 units

Course Typically Offered: Fall, Spring

RA 192T. Topics in Recreation, Parks, and Tourism

Prerequisite: permission of instructor. Investigation of selected topics related to: administration, supervision and leadership in public recreation; therapeutic recreation; camping; and workshops related to skills in leisure oriented activities.

Units: 1-3, Repeatable up to 8 units

RECREATION ADMINISTRATION (REC)

REC 74. Games for All Ages

Planning, design, and leadership techniques for a variety of games appropriate for diverse populations and age groups. CR/NC grading only.

Units: 1

REC 75. Adventure Ropes Course Experience

An experiential journey of self-awareness, esteem building, and group processing through initiative games and high ropes elements. CR/NC grading only. (Course fee, $30)

Units: 1

Course Typically Offered: Fall, Spring

REC 82. Wilderness Survival Skills

Backcountry skills for preventing or responding to emergency situations in the wilderness, such as fire and shelter building, signaling, and land navigation. Explores interpersonal and intrapersonal reactions to crisis situations. (Formerly RLS 192T) CR/NC grading only.

Units: 1

REC 83. Whitewater Rafting

Learn fundamental skills for traveling down America's streams and rivers. Topics include safety, levels and conditions, rescues, and river craft. The course will culminate in a whitewater rafting trip on the upper Kings river. (Course fee, $65) CR/NC grading only.

Units: 1

REC 84. Orienteering

Fundamental skills and knowledge for traveling outdoors by map and compass, and by knowledge of natural features. (Formerly RLS 192T) CR/NC grading only.

Units: 1

REC 86. Backpacking in the Sierra Mountains

Fundamental skills and knowledge for backpacking, carcamping, and hiking in the Sierra Mountains or similar settings. Includes skills for camping, hiking, basic navigation, trip planning, and outdoor cooking, plus safety and environmental issues. (Formerly RLS 192T) CR/NC grading only.

Units: 1

Course Typically Offered: Spring

REC 87. A Yosemite Experience

A multidimensional Yosemite National Park experience including history, park planning, recreation uses, and natural resources and tourism management issues. Includes an overnight field trip with recreation activities (Course fee, $30)

Units: 1

Course Typically Offered: Spring

REC 88. Rock Climbing

Basic skills and knowledge of rockclimbing including history, trends, equipment, climbing technique, top roping, knot tying, rappelling, training, safety, and environmental issues. (Formerly RLS 192T) CR/NC grading only.

Units: 1

Course Typically Offered: Fall

REC 92. Discount Travel

Learn about the travel industry and how to get discounts for airfare, hotels, rental cars, tours, and other travel services for both domestic and international travel.

Units: 1, Repeatable up to 8 units

REC 178. Supervision in Recreation and Parks

Units: 3

REC 179. Problems in Recreation Parks

Units: 3

REC 181. Relations in Recreation and Park Services

Community and public relations in recreational agency work, and in recreation and park work.

Units: 3

REHABILITATION COUNSELING (REHAB)

REHAB 201. Seminar in Rehabilitation Counseling

Seminar in the fundamental concepts of rehabilitation counseling and vocational rehabilitation including examination and analysis of historical, philosophical, organizational, and functional principles. Community rehabilitation agency or orientation visit.

Units: 3

REHAB 203. Work Evaluation Procedures

Study of systems and procedures of work evaluation assessment by public and private rehabilitation agencies to assess culturally diverse persons with disabilities. Include principles of testing; test selection (including situational assessments and work samples), administration and interpretation, and report generation. (Formerly COUN 280T)

Units: 3

REHAB 204A. Medical Aspects of Psychiatric Disability & Basic Psychopharmacology

Seminar on treatment of etiology, functional limitations, and vocational implications of psychiatric and neurological disabilities, inlcuding review of the DSM. Student presentation of case studies.

Units: 3

REHAB 204B. Medical Aspects of Physical and Neurological Disabilities

Seminar on treatment etiology, functional limitations, vocational implications of physical and neurological disabilities. Student presentation of case studies.

Units: 3

REHAB 205. Career Placement in Rehab Process

A seminar concerning the attitudes, skills, and abilities necessary to provide effective vocational and career placement services to people with disabilities, including vocational diagnosis, career development, placement techniques, job analysis, affirmative action, and appropriate legislation.

Units: 3

REHAB 206. Psychological and Social Aspects of Disability

Seminar in psychological and sociological effects of physical and mental disability and the dynamics of adjusting to disabling conditions. Student presentation of case studies.

Units: 3

REHAB 211. Current Professional Issues in Rehabilitation Counseling

Seminar on current professional issues in the field of rehabilitation counseling and vocational rehabilitation programs in the public and private sectors with emphasis on ethical standards, legal concepts, and professional development responsibilities.

Units: 3

REHAB 237. Case Practices in Rehabilitation Counseling

Prerequisites: REHAB 201, REHAB 204A or REHAB 204B; COUN 200. Seminar in methods for facilitating client rehabilitation including interviewing, case recording, plan development, ethical practices; field placement in a community rehabilitation agency. (2 seminar, 6 lab hours) (CSU liability insurance fee, $8) (Formerly COUN 257)

Units: 4

REHAB 238. Rehabilitation Counseling Practicum

Prerequisites: COUN 200; REHAB 201, REHAB 204A or REHAB 204B, REHAB 205, REHAB 237. Laboratory rehabilitation counseling experiences with clients who are disabled, supervised individual counseling sessions, analysis of the effects of disability on personal and vocational development, methods of facilitating vocational rehabilitation, observations, critiques, report writing. Students must carry professional liability insurance. (2 seminar, 4 lab hours)

Units: 4, Repeatable up to 8 units

REHAB 239. Internship in Rehabilitation Counseling

Prerequisites: COUN 200, COUN 202; REHAB 201, REHAB 203, REHAB 204A, REHAB 204B, REHAB 205, REHAB 206, REHAB 211, REHAB 237, REHAB 238, REHAB 268A-B-C or permission of instructor. Full-time, supervised field placement in one of a variety of settings including case responsibilities. Approved for RP and CR/NC grading. (CSU liability insurance fee, $8) (Formely COUN 269)

Units: 12

REHAB 262. Assistive Technology

Seminar on systems and procedures for the rehabilitation counselor in providing technology solutions for persons with disabilities including assessment to determine need and fit, adjustment counseling, training in use and maintenance, funding procurement and high and low technology resource development. (Formerly COUN 280T)

Units: 3

REHAB 264. Rehabilitaion of the Industrially Injured Worker

Seminar on multiple aspects of worker's compensation system including policy, law, practice, case services and strategies that affect industrially injured workers. Includes differences between public and private rehabilitation and related insurance programs. (Formerly COUN 264)

Units: 3

REHAB 265. Introduction to Substance Abuse Rehabilitation

Introductory seminar in substance abuse covering patterns and extent of substance abuse, models of addiction, assessment and diagnosis, legal ramifications, physiological effects, drug characteristics, treatment approaches, prevention, and ethical issues. Includes readings, lectures, guest presentations, class discussions, and student activities. (Formerly COUN 265)

Units: 3

REHAB 268A. Advanced Career Placement: Job Retention

Prerequisites: REHAB 205, REHAB 237; COUN 200. Supervised practical application of case management and job development, placement, retention, and advancement principles. Students work holistically with welfare department referrals to develop and implement individualized service plans with primary emphasis on

vocational goals. Liability insurance required. (1 seminar, 2 lab hours) (Formerly COUN 268)

Units: 3

REHAB 268B. Advanced Career Placement - Workability IV

Prerequisites:REHAB 205, REHAB 237; COUN 200. Supervised practical application of case management and job development, placement, retention, and advancement principles. Students work holistically with Department of Rehabilitation referrals to develop and implement individualized service plans with primary emphasis on vocational goals. Liability insurance required. (1 seminar, 2 lab hours) (Formerly COUN 268B)

Units: 3

REHAB 268C. Advanced Career Placement: Ticket to Work

Prerequisites: REHAB 205, REHAB 237; COUN 200. Supervised practical application of case management and job development, placement, retention, and advancement principles. Students work holistically with Social Security Administration referrals to develop and implement individualized service plans with primary emphasis on vocational goals. Liability insurance required. (1 seminar, 2 lab hours) (Formerly COUN 268)

Units: 3

REHAB 268D. Advanced Career Placement: Transition

Prerequisites: REHAB 205, REHAB 237; COUN 200. Supervised practical application of case management and job development, placement, retention, and advancement principles. Students work with young adult transition students with developmental, learning and/or physical disabilities, transition successfully toward independent living, employment, and educational opportunities.

Units: 3

REHAB 280T. Advanced Topics in Rehabilitation Counseling

Varies based on topic.

Units: 1-3, Repeatable up to 12 units

REHAB 290. Independent Study

See Academic Placement - Independent Study. Approved for RP grading.

Units: 1-3, Repeatable up to 6 units

REHAB 298. Project

Prerequisites: advancement to candidacy for the master's degree; B average on 24 units of the master's program including ERE 220. See Criteria for Thesis and Project. A project consists of a significant undertaking appropriate to counseling such as the development of a program for counseling service delivery, development of audio-visual materials or computer software for counselor education or service delivery. An approved proposal is required for enrollment. Approved for RP grading.

Units: 3

REHAB 298C. Project Continuation

Prerequisite: Project REHAB 298. For continuous enrollment while completing the project. May enroll twice with department approval. Additional enrollments must be approved by the Dean of Graduate Studies.

Units: 0

REHAB 299. Thesis

Prerequisites: advancement to candidacy for the master's degree; B average on 24 units of the master's program including ERE 220 and completion of an acceptable thesis proposal. See Criteria for Thesis and Project. Preparation, completion, and submission of an acceptable thesis for the master's degree. See Kremen School of Education and Human Development's graduate programs coordinator for school thesis guidelines. Approved for RP grading.

Units: 3, Repeatable up to 6 units

REHAB 299C. Thesis Continuation

Prerequisite: Thesis REHAB 298. For continuous enrollment while completing the thesis. May enroll twice with department approval. Additional enrollments must be approved by the Dean of Graduate Studies.

Units: 0

REVISING AND EDITING SKILLS (RES)

RES 4A. Spelling and Word Formation

Developing awareness of the systematic nature of English spelling in relation to the sound system and rules for word formation in the language. Mastery of the system rather than word memorization

is emphasized.

Units: 1

RES 4B. Vocabulary Development

Acquiring greater sensitivity to the literal and implied meanings of words, developing an awareness of the processes of word formation in English, and expanding the active vocabulary.

Units: 1

RES 4C. Sentence Structure

Developing skill in writing clear, mature sentences. Focus is on structure that is, on the alternative ways of phrasing the same idea and the consequences of choosing one alternative and not another. Sentence and phrase expansion, reduction, combination, and rearrangement are emphasized, not traditional grammar.

Units: 1

SANSKRIT (SKT)

SKT 10A-B. Sanskrit (3-3 units)

Introduction to the Sanskrit language and the Devanagari script. Core grammatical structure and vocabulary. Reading of Sanskrit texts. Literary tradition and lifestyle of the speakers of the language, and relationship with Greek, Latin, and Germanic languages.

Units: 3-3

SOCIOLOGY (SOC)

SOC 1. Principles of Sociology

Introduction to the principles and theoretical perspectives of sociology and their application to the fundamental problems of social life. Discussion of sociological methods and findings in such areas as family, race relations, deviance. “S” sections (SOC 1S) include a Service-Learning requirement. For more information, visit www.fresnostate.edu/cesl. G.E. Breadth D3.

Units: 3

GE Area: D3

SOC 1S. Principles of Sociology

Introduction to the principles and theoritical perspectives of sociology and their application to problems of social life. Discussion of sociological methods and findings in such areas as family, race relations, deviance. S sections include a service-learning requirement (see page 45) G.E. Breadth D3. (CAN SOC 2)

Units: 3

Course Typically Offered: Fall, Spring

GE Area: D3

SOC 3. Critical Thinking About Society

Prerequisites: Grade of C or better in SOC 1 for sociology majors and minors. Theory and practice in basic skills of critical thinking and sociological analysis. Skills demonstrated by oral and written performance including analysis of computerized data sets. Topics covered and assignments vary with instructor. G.E. Foundation A3. (2 lecture, 2 lab hours)

Units: 3

Course Typically Offered: Fall, Spring

GE Area: A3

SOC 3S. Critical Thinking About Society

Prerequisite: grade of C or better in SOC 1 for sociology majors and minors. Theory and practice in basic skills of critical thinking and sociological analysis. Skills demonstrated by oral and written performance including analysis of computerized data sets. Topics covered and assignments vary with instructor. S sections include a service-learning requirement. G.E. Foundation A3

Units: 3

Course Typically Offered: Fall, Spring

GE Area: A3

SOC 111. Sociology of Race and Ethnicity

Prerequisites: G.E. Foundation and Breadth Area D. Dominant and minority group relations historically, cross-culturally, and in contemporary American society. Primarily, the bases examined are in terms of ethnicity-race, religion, nationality, country-of-origin, nativity, and language. G.E. Multicultural/International MI.

Units: 3

Course Typically Offered: Fall, Spring, Summer

GE Area: M/I

SOC 122. Social Movements

Theory of nonviolent direct action in the pursuit of social justice and social change. Discussion of goals, ideology, norms, organizational structure, leadership, strategy, tactics, and social roots of social movements.

Units: 3

Course Typically Offered: Spring - odd

SOC 125. Statistics for the Social Sciences

Prerequisite: completion of Math requirement in G.E. Foundation, B4; grade of C or better in SOC 1 or SOC 1S and SOC 3 or SOC 3S for sociology majors and minors. Introduction to quantitative methods as an aid to the understanding of research in the social sciences. Application of basic descriptive and inductive statistics to the social sciences. (2 lecture, 2 lab hours)

Units: 4

Course Typically Offered: Fall, Spring

SOC 130W. Contemporary Social Issues

Prerequisite: satisfactory completion (C or better) of the ENGL 5B or ENGL 10 graduation requirement; grade of C or better in Tier One courses (SOC 1 or 1S and SOC 3 or SOC 3S for sociology majors and minors). A sociological perspective is used to examine currently debated public issues. Often, public issues involve present or proposed public policies; the impact of these policies on different segments of society is assessed. Meets the upper-division writing skills requirement for graduation.

Units: 4

SOC 130WS. Contemporary Social Issues

Prerequisites: satisfactory completion (C or better) of the ENGL 5B or ENGL 10 graduation requirement; grade of C or better in SOC 1 or SOC 1S and SOC 3 or SOC 3S for sociology majors and minors. Currently debated public issues are examined using a sociological perspective. Often, public issues involve present or proposed public policies; the impact of these policies on different segments of society is assessed. Meets upper-division writing skills graduation requirement. S sections include a service-learning requirement (see page 45).

Units: 4

SOC 131. Sociology of Sex and Gender

Prerequisites: G.E. Foundation and Breadth Area D. Introduces students to the sociological study of sex and gender. Looks at how men and women experience differently such social structures as work and the economy, family and courtship, and media. Examines the evidence for the persistence of gender differences and their importance. G.E. Integration ID.

Units: 3

GE Area: ID

SOC 132. Women and Work

(SOC 132 same as WS 132.) An examination of women and work in contemporary society including housework, labor force participation, employment in various occupations, and career planning.

Units: 3

Course Typically Offered: Fall, Spring

SOC 142. Sociology of Popular Culture

Prerequisites: G.E. Foundation and Breadth Area D. Impact of

popular culture on modern society. Includes movies, television, fiction, and other forms of popular culture. The meaning, the creation and production, and the future of popular culture. G.E. Multicultural/International MI. Accepted for G.E. program for spring 2002 through fall 2002.

Units: 3

GE Area: M/I

SOC 143. Deviance and Control

Prerequisites: G.E. Foundation and Breadth Area D. Rule-breaking behavior (such as crime, delinquency, mental illness) and responses to it. Examines deviance as a social phenomenon, its causes and consequences, and formal and informal social control activities. G.E. Integration ID.

Units: 3

GE Area: ID

SOC 144. Social Policy Analysis

Interdisciplinary social science methods for approaching local and national social problems. Analysis of selected public issues emphasizing evaluation of social costs and benefits of alternative policies.

Units: 3

SOC 147. Medical Sociology

Political and economic organization of American medical health care system and cross-cultural comparisons. Analysis of social relations and interactions among members of the health professions affecting designations of persons as ill and their subsequent treatment.

Units: 3

Course Typically Offered: Fall, Spring

SOC 148. Sociology of Education

A sociological examination of education as an institution, including its social determinants, functions, and consequences.

Units: 3

SOC 150T. Special Topics Seminar

Prerequisite: permission of instructor. Topics include those areas of advanced theoretical and empirical studies that will orient the student to contemporary sociological endeavors.

Units: 1-3, Repeatable up to 9 units

SOC 150T. Effective Administration of Volunteers

Planning for, facilitating and creating an organizational culture conducive to community engagement and volunteer participation requires managers capable of working collaboratively to build projects that engage citizens in meaningful, goal directed work that addresses the organizational mission and meets identified need. Designed to address the issue of community participation and the management of volunteers this online course draws on material developed by for the Council for Certification for Volunteer Administration which promotes and certifies excellence in volunteer administration to advance the capacity of communities to effectively engage volunteers.

Units: 1, Repeatable up to 9 units

SOC 150T. Prepare to Graduate

This workshop will use a sociological perspective to prepare students to document the knowledge and skills they are accumulating in college for work or for further study in graduate and professional programs. Students will use the Library and the World Wide Web to access information about jobs and graduate/professional programs, prepare graduation portfolios with samples of their best work, adapt chronological resumes to functional resumes suitable for particular job applications, write letters of application matching their education and experience with specific job or program requirements, meet with Sociology alums now in a variety of occupations, network in person and email students and alums with similar interests. This course is an essential preparatory course for helping students transition from the university to full-time professional employment. The skills they acquire here will allow them to document the skills and knowledge they have acquired and developed while at California State University, Fresno.

Units: 1, Repeatable up to 9 units

SOC 151. Social Classes and Inequality

Prerequisites: Grade of C or better in Tier One and Tier Two courses (SOC 1 or 1S; SOC 3 or 3S; SOC 125; and SOC 130W/WS or UDWE) or permission of instructor. Examines classical and contemporary theoretical approaches to the sociological study of socioeconomic inequality, including the social causes and consequences of stratification. This course will also address key policy debates, major research findings, and methodological approaches to the study of inequality.

Units: 4

Course Typically Offered: Fall, Spring

SOC 152. Classical Sociological Theory

Prerequisites: Grade of C or better in Tier One and Tier Two courses (SOC 1 or 1S; SOC 3 or 3S; SOC 125; and SOC 130W/WS or UDWE) or permission of instructor. Evolution of classical sociological theories. Consideration of their origins in society and culture. Examination of such theorists as Marx, Weber, Durkheim, Simmel, Mead, and others

Units: 4

Course Typically Offered: Fall, Spring

SOC 153. Sociological Theory

Prerequisites: Grade of C or better in Tier One and Tier Two courses (SOC 1 or 1S; SOC 3 or 3S; SOC 125; and SOC 130W/WS or UDWE) or permission of instructor. Survey of classical and contemporary sociological theoretical perspectives developed after the “classical” period. Theories covered may include: micro-sociological perspectives of phenomenology and symbolic interactionism, social behaviorism, structural-functionalism, neo-Marxian perspectives and critical theory, accounts of modernity and post-modernity, feminist theory, systems theories, and others

Units: 4

Course Typically Offered: Fall, Spring

SOC 157. Social Change

Analysis of directions, patterns, and processes of social and cultural change.

Units: 3

Course Typically Offered: Spring - even

SOC 161. Population Analysis

Population theories and history; demographic processes and variables in contemporary society. Analysis of census data.

Units: 3

SOC 162. Social Psychology

Prerequisites: Tier One courses (SOC 1, SOC 3, SOC 25, and SOC 130W or UDWE). Social factors affecting the development of social personality, attitudes and behavior. Basic social processes involved in interpersonal interaction. Demonstrations and student observations to increase an understanding of social processes in everyday life

Units: 3

Course Typically Offered: Fall, Spring

SOC 163. Urban Sociology

Prerequisites: G.E. Foundation and Breadth Area D. The urban concept; form and development of urban areas; scientific study of urban places and populations; effect of urbanization on social institutions and social relations. G.E. Integration ID

Units: 3

Course Typically Offered: Fall, Spring

GE Area: ID

SOC 165. The Family

The family in historic and contemporary society, theoretical frameworks for analyzing the family, family dynamics; changes in family functions, structures, and roles.

Units: 3

Course Typically Offered: Fall, Spring

SOC 168. Interpersonal Relationships

Exploration of the basic elements of interpersonal relationships including listening, disclosure, feedback, empathy. (Formerly SOC 150T section)

Units: 3

Course Typically Offered: Spring

SOC 169. Sociology of Religion

Major sects, denominations, and churches; integrative and disintegrative processes in the United States; contemporary religious phenomena.

Units: 3

Course Typically Offered: Spring

SOC 170T. Research Topics

Content of course will vary from semester to semester. Topics include an introduction to computer data analysis, a more in-depth discussion of computer data analysis, survey research, observational techniques, measurement, sampling.

Units: 1-3, Repeatable up to 6 units

SOC 172. Computer Applications

No prior knowledge of computers is necessary. Introduction to computer applications in the social sciences, spreadsheets, database management, statistical applications, e-mail, data archives, Internet, Lexis-Nexis. (2 lecture, 2 lab hours)

Units: 3

SOC 174. Computer Data Analysis

An introduction to the use of one of the most widely utilized computer packages for in the social sciences - SPSS (Statistical Package for the Social Sciences). No prior knowledge of computers is necessary.

Units: 3

SOC 175. Quantitative Research Methods in Sociology

Prerequisites: Grade of C or better in Tier One and Tier Two courses (SOC 1 or 1S; SOC 3 or 3S; SOC 125; and SOC 130W/WS or UDWE) or permission of instructor. The research process with special emphasis on measurement, sampling, data collection, data analysis, and report preparation. Basic assumptions and dilemmas of social science research.

Units: 4

Course Typically Offered: Fall, Spring

SOC 176. Qualitative Research Methods in Sociology

Prerequisites: Grade of C or better in Tier One and Tier Two courses (SOC 1 or 1S; SOC 3 or 3S; SOC 125; and SOC 130W/WS or UDWE. Overview of qualitative research methods in sociology, including interviews, participant observation, historical research, and content analysis of print and audio/visual media. Examines qualitative theory, ethics, proposals, choosing a site, informant relationships, collecting and analyzing data, writing reports, and disseminating research.

Units: 4

Course Typically Offered: Fall, Spring

SOC 183S. Philanthropy and Grant Making

Reviews the history and evolving role philanthropy in American society. Students investigate local social problems, research community benefit organizations (CBOs) that address those issues, develop a request for proposals (RFP) to fund specific projects, and evaluate funding proposals

Units: 3

SOC 184S. Grant Writing & Evaluation

Conceptual aspects of developing, writing, and evaluating a grant proposal in the context of fund development strategies for CBOs. Emphasizes researching and preparing grant proposals as well as reading, discussing, and writing critiques of grant proposals and evaluating grant-funded programs

Units: 3

SOC 185. Field Experience in Sociology

Prerequisite: 2.75 minimum cumulative GPA., Junior/Senior standing in Sociology and completion of Tier 1 courses. Individually-planned field experience relating sociology coursework with applied community-based experience. Hours TBA. CR/NC grading only. (Minimum of 3 field hours per week per credit unit.)

Units: 1-6

Course Typically Offered: Fall, Spring

SOC 186S. Governance, Administrative Principles, & Financial Literacy

Introduces standards of excellence for effective community benefit organizations, including governance, administration and steward leadership, and fiscal management and oversight; allows for

application in community-based settings. Examines elements of becoming an independent consultant to CBOs, including client assessment, contracting, reporting, and approximately 35 hours of consulting with CBOs.

Units: 3

Course Typically Offered: Fall

SOC 187S. Entrepreneurial Approaches to Sustainable CBOS

Applies a team-centered, open-ended, problem-solving approach and assessment utilizing service-learning and entrepreneurial methodology to enhance the organizational capacity and long-term sustainability of community benefit organizations (CBOs), including approximately 35 hours of consulting with CBOs.

Units: 3

SOC 190. Independent Study

See Academic Placement --Independent Study. Approved for SP grading.

Units: 1-3, Repeatable up to 6 units

Course Typically Offered: Fall, Spring

SPANISH (SPAN)

SPAN 1A. Elementary Spanish

Beginning course in conversational and writtten Spanish. Emphasis on reading, writing, listening, speaking, and culture of Spanish-speaking peoples.

Units: 4

Course Typically Offered: Fall, Spring

SPAN 1B. Elementary Spanish

Prerequisite: G.E. Foundation A2; SPAN 1A recommended or permission of instructor. Second semester course in conversational and written Spanish. G.E. Breadth C2.

Units: 4

Course Typically Offered: Fall, Spring

GE Area: C2

SPAN 2A. Spanish for Communication

Prerequisite: G.E. Foundation A2. Second year course that emphasizes speaking and reading skills. G.E. Breadth C2.

Units: 3

Course Typically Offered: Fall, Spring

GE Area: C2

SPAN 2B. Spanish for Communication

Prerequisite: G.E. Foundation A2. Second year course the emphasizes speaking and reading skills. G.E. Breadth C2.

Units: 3

Course Typically Offered: Fall, Spring

GE Area: C2

SPAN 3. Reading and Writing

Prerequisite: G.E. Foundation A2; SPAN 2A or SPAN 2B recommended. Opportunity to increase reading and writing skills in preperation for upper-division coursework in Spanish. G.E. Breadth C2.

Units: 3

Course Typically Offered: Fall, Spring

GE Area: C2

SPAN 4A. Spanish for the Bilingual Student

Prerequisite: G.E. Foundation A2. For the native speaker of Spanish who has intensive life experience using the Spanish language. Grammar is stressed, but speaking, reading, and writing skills are also further developed. G.E. Breadth C2.

Units: 3

Course Typically Offered: Fall, Spring

GE Area: C2

SPAN 4B. Spanish for the Bilingual Student

Prerequisite: G.E. Foundation A2. Recommended: SPAN 3 or permission of instructor. For students from a bilingual background who have previous formal study of Spanish. Emphasis on productive language skills, grammar, advanced reading comprehension, and culture using peninsular and Latin American texts. G.E. Breadth C2.

Units: 3

Course Typically Offered: Fall, Spring

GE Area: C2

SPAN 5. Spanish for Conversation

SPAN 2A or SPAN 2B recommended. Emphasis on spoken Spanish; development of oral fluency through class discussion, conversation games, and vocabulary exercises.

Units: 3

SPAN 8T. Fundamental Skills in Spanish

Instruction in fundamental problems in writing and word usage, such as accentuation, spelling, and vocabulary. Intended primarily for students who need more work in specific areas of writing and speaking. CR/NC grading only.

Units: 1-2, Repeatable up to 4 units

SPAN 10. Spanish in Context

Two years of high school Spanish, SPAN 1B recommended or permission of instructor. Intended for those who are enrolled in our summer study abroad program. Emphasizes speaking, reading, and cultural interaction with members of the community. (Summer only)

Units: 3-6

Course Typically Offered: Summer

SPAN 110T. Practical Spanish for Professionals

Applicable for minor. Preparation of professionals and paraprofessionals in California Spanish to work with the Spanish speaking in the following fields: health, education, social work, business, law, agriculture, and psychology.

Units: 3, Repeatable up to 12 units

SPAN 112. Reader's Theater in Spanish
SPAN 3 or SPAN 4B recommended. Dramatic readings of prose and poetry selections performed by students in front of the class. Discussion focuses on a critical reading of the text and preparation of the performance. Public presentations and recordings optional.

Units: 3

SPAN 113. Structure of Spanish
SPAN 3 or SPAN 4B recommended. An introductory descriptive survey of the structure of standard Spanish: sounds, spelling, word formation, and grammar.

Units: 3

SPAN 115. Basic Principles of Translation
SPAN 3 or SPAN 4B recommended. Specific problems of Spanish to English and English to Spanish translation, with emphasis on idiomatic expressions. Some attention to specialized vocabulary. Use of bilingual dictionaries.

Units: 3

SPAN 117. Advanced Conversation and Reading
SPAN 3 or SPAN 4B recommended. Reading and discussion of current periodicals, newspapers, and magazines that reflect the cultural patterns of the Spanish-speaking countries.

Units: 3

SPAN 119. Advanced Grammar
SPAN 3 or SPAN 4B recommended. Special emphasis on grammar review and development of writing skills. Analysis of grammatical constructions.

Units: 3

Course Typically Offered: Fall, Spring

SPAN 121A. Composition A
SPAN 119 highly recommended. Refinement of writing skills through vocabulary development, spelling exercises, and composition. Special emphasis on problems created by differences between the spoken and written language.

Units: 3

Course Typically Offered: Fall, Spring

SPAN 121B. Composition B
Prerequisite: SPAN 121A. Greater refinement of writing skills necessary for SPAN 140 and further upper-division courses in Hispanic literature. Special emphasis on anlyzing a literary text by written means.

Units: 3

Course Typically Offered: Fall, Spring

SPAN 124. Oral and Written Expression
SPAN 2B, SPAN 3, SPAN 4B, or SPAN 10 recommended. Systematic analysis of students'ability to express themselves, both orally and in writing. Development of vocabulary, pronunciation, and grammatical structures. (Summer only)

Units: 3

Course Typically Offered: Summer

SPAN 125. Hispanic Cultural Productions (taught in Spanish)
Prerequisite: G.E. Foundation and Breadth Area C. Recommended: SPAN 3 or SPAN 4B. Interdisciplinary approach to global examination of cultural productions of Spain and Latin America through readings, lectures, films, and other media. This course is taught in Spanish. G.E. Integration IC.

Units: 3

Course Typically Offered: Fall, Spring

GE Area: IC

SPAN 129. Mexican Culture (taught in Spanish)
Prerequisites: G.E. Foundation and Breadth Area C. Recommended: SPAN 2B, or SPAN 3, or SPAN 4B. Interdisciplinary approach to Mexican culture. Study of geography, history, politics, the arts, aspects of daily life, and cultural patterns by means of reading assignments, lectures by the instructor and invited guests, films and other media. This course is taught in Spanish. G.E. Integration IC.

Units: 3

Course Typically Offered: Fall, Spring

GE Area: IC

SPAN 130. Introduction to Spanish Linguistics
SPAN 119 recommended or permission of instructor. Basic principles of Spanish linguistics, including aspects of syntax, morphology, phonetics, dialectology, and historical linguistics.

Units: 3

Course Typically Offered: Fall

SPAN 134. Spanish in Bilingual Schools
Prerequisites: SPAN 119 and SPAN 121A recommended or permission of instructor. Emphasis on Spanish language development for bilingual teachers at the elementary level. Presentation of specialized vocabulary in teaching elementary courses. Development and evaluation of bilingual teaching materials in Spanish. (Formerly SPAN 104)

Units: 3

Course Typically Offered: Fall, Spring

SPAN 137. Applied Spanish Linguistics
SPAN 130 recommended or permission of instructor. Analysis of Spanish with emphasis on areas of phonetics, pronunciation, and grammar which cause the greatest problems in learning and teaching the language. Readings and practice in the development of instructional strategies and materials.

Units: 3

Course Typically Offered: Spring

SPAN 139. Spanish of the Southwest
SPAN 3 or SPAN 4B recommended. Research on dialect differences in California and the Southwest, including the linguistic, social, and cultural determinants. Emphasis on the Spanish of the San Joaquin Valley.

Units: 3

SPAN 140. Introduction to Literary Analysis
Required: SPAN 119, SPAN 121B, or permission of instructor. Readings and appreciation of Hispanic literature to familiarize the

student with fiction and poetry as art forms.

Units: 3

Course Typically Offered: Fall, Spring

SPAN 142. Introduction to Spanish Literature

SPAN 3 or SPAN 4B recommended. Selected readings from those literary works which have fundamentally affected the development of Spanish civilization, from El Cid to Lorca. Provides a historical framework for the study of Spanish literature.

Units: 3

Course Typically Offered: Fall, Spring

SPAN 143. Introduction to Spanish-American Literature

SPAN 3 or SPAN 4B recommended. Selected readings from those literary works which have fundamentally affected the development of Spanish American civilization, from Hernan Cortes to Octavio Paz. Provides an historical framework for the study of Spanish American literature.

Units: 3

Course Typically Offered: Fall, Spring

SPAN 145. Mexican Literature

SPAN 140 or permission of instructor. Study of the works of such major Mexican literary figures as Sor Juana, Gutierrez Najera, Azuela, and Fuentes.

Units: 3

Course Typically Offered: Fall

SPAN 147. Twentieth Century Spanish-American Literature

SPAN 140 or permission of instructor. Intensive study of selected Spanish-American works including writings of Azuela, Fuentes, Carpenter, Vargas Llosa; outstanding poets such as Neruda, Vallejo, and Paz.

Units: 3

Course Typically Offered: Spring

SPAN 148T. Major Themes in Hispanic Literature

SPAN 140 or permission of instructor. Reading and in-depth analysis of the works of major Hispanic authors and/or themes.

Units: 3, Repeatable up to 6 units

SPAN 149. The Golden Age

SPAN 140 or permission of instructor. A study of Spanish Renaissance Man and his environment. His sociopolitical, esthetic, and literary ideas are studied through readings in Garcilaso, San Juan de la Cruz, and other authors.

Units: 3

Course Typically Offered: Spring

SPAN 150. Twentieth Century Spanish Literature

SPAN 140 or permission of instructor. A study of Spanish Existential Man. His sociopolitical, esthetic, and literary ideas are studied through readings in Unamuno, Ortega y Gassett, Lorca, Jose Hierro, and other authors.

Units: 3

Course Typically Offered: Fall

SPAN 165. Modernismo - 1950

Prerequisite: SPAN 140, SPAN 142, & SPAN 143, or permission of instructor. In-depth study of the authors from Modernismo and Vanguardia: Dario, Machado, Vallejo, Huidobro, Lorca, Neruda, Paz, and Bombal. Introduction to the ideas of Marx, Nietzsche, and Freud.

Units: 3

Course Typically Offered: Spring

SPAN 170. Senior Seminar in Spanish Studies

Senior standing, 20 upper-division units of Spanish coursework recommended, SPAN 140 required, or permission of instructor. Culminating experience in the major that includes summative assessment of language, linguistic, cultural, and literary proficiency. Readings and research projects. Addresses individual needs of graduating majors. (Spring semester)

Units: 3

Course Typically Offered: Fall, Spring

SPAN 190. Independent Study

See Academic Placement - Independent Study. Approved for RP grading.

Units: 1-3, Repeatable up to 6 units

Course Typically Offered: Fall, Spring

SPAN 201. Teaching Spanish as a Foreign Language

Strategies for implementing Spanish curriculum at post-secondary level. Study of instructional techniques, procedures, resources, and methods of assessing student performance in post-secondary settings. Practical application of second language acquisition research.

Units: 3

SPAN 202. Introduction to Literary Theory

Prerequisite: Spanish major or permission of instructor. Introduction to the study of theory, from Plato to Derrida to Post-Colonialism, as it relates to the study of Hispanic literature.

Units: 3

SPAN 203. Applied Literary Theory

Prerequisite: SPAN 202. Theory and practice of literary analysis. Application of research, bibliographical and critical methods to literary texts.

Units: 3

SPAN 204. Spanish Syntax

Prerequisite: Spanish major or permission of instructor. An analysis of the grammatical structures of the Spanish language. Includes contrastive analysis of Spanish and English syntax.

Units: 3

SPAN 205. History of the Spanish Language

Phonological, morphosyntactic, lexical and semantic development of the Spanish language, from the Pre-Roman period to Modern Spanish.

Units: 3

SPAN 210. Spanish American Short Story

Prerequisite: Spanish major or permission of instructor. Study of the short story as an art form in Latin America and analysis of short stories of such writers as Quiroga, Arreola, Rulfo, Bombal, Borges and Cortazar.

Units: 3

SPAN 214. Generation of '98

Prerequisite: Spanish major or permission of instructor. Advanced analysis of the literature of Spain written at the time of the final collapse of Spain's empire. Includes works by Azorin, Baroja, Unamuno, Valle-Inclan, Machado, Ortega, and Jimenez.

Units: 3

SPAN 215. Hispanic Women Writers

Prerequisite: Spanish major or permission of instructor. Discussion and close written analysis of poetry, novels, theater and essays written by Hispanic women from 1535 to present.

Units: 3

SPAN 216. Masterpieces of Hispanic Theater

Prerequisite: Spanish major or permission of instructor. Discussion and close written analysis of peninsular and Spanish American theater masterpieces, historical milieu and cultural context.

Units: 3

SPAN 218T. Topics in Hispanic Literary Studies

Prerequisite: Spanish major or permission of instructor. Hispanic literary topics such as Hispanic Realism, Novel and Cinema, Violence in Hispanic Literature, Novel of Dictatorship, Novel of the Indian in Latin America.

Units: 3, Repeatable up to 6 units

SPAN 219T. Top Creat Writ

Prerequisite: Spanish major or permission of instructor. Topics in advanced creative writing in Spanish including poetry, fiction and/or non-fiction.

Units: 3, Repeatable up to 9 units

SPAN 222. Cervantes

Prerequisite: Spanish major or permission of instructor. In-depth study of Don Quixote and selected Novelas ejemplares. Includes discussion of works, lectures, and written research.

Units: 3

SPAN 224. Major Hispanic Novelists

Prerequisite: Spanish major or permission of instructor. Research and in-depth study of the novels of major Hispanic novelists.

Units: 3

SPAN 225. Modernismo - 1950

Prerequisite: Spanish major or permission of instructor. Research and in-depth study of the literature from Modernismo through 1950. Discussion and written analysis of the major authors from the period.

Units: 3

SPAN 226. Major Hispanic Poets

Prerequisite: Spanish major or permission of instructor. Research and in-depth study of the poetry of major Hispanic poets. Discussion and written analysis of the poetry on one of the following poets: Machado, Lorca, Dario, Neruda.

Units: 3

SPAN 227. Novel of Formation

Analysis of the Latin American novel of formation. Discussion of issues such as the formation of an individual's sense of gender, race, and class, ane the role of travel, memory, orality, and writing in the socialization of youth.

Units: 3

SPAN 230. History of Spanish

The linguistic development of the Spanish language from Latin to the present day including the sound system, word formation and etymology, and grammar, within a social and cultural context.

Units: 3

SPAN 245. Mexican Literature

Prerequisite: Spanish major or permission of instructor. Discussion and analysis of representative works of Mexican literature from the Precolombian Period through the 1980s. Includes study of major cultural and artistic movements in literature, the visual arts and film.

Units: 3

SPAN 247. The Spanish American "Boom"

In-depth study of the Spanish-American "new novel" that emerged in the 1960s. Analysis of factors leading to this "boom" and impact of this new narrative style on subsequent writers in Latin America and on a broader scale.

Units: 3

SPAN 249. Golden Age

Advanced analysis of prose narratives, poems, and theatrical works from Spain's Renaissance and Baroque periods in their historical and cultural contexts.

Units: 3

SPAN 250. Spanish Post-War Literature

Prerequisite: Spanish major or permission of instructor. Discussion and analysis of representative works of Spanish literature from 1939 through the 1980s. Examines literary production during the Francoist Dictatorship and the transition to a democratic government.

Units: 3

SPAN 255. Nineteenth Century Spanish Literature

Prerequisite: Spanish major or permission of instructor. Discussion and analysis of representative works of Spanish literature from the Romantic, Realist, and Naturalist Movement.

Units: 3

SPAN 257. Spanish American Testimonio

Analysis of Spanish American Testimonio genre through representative texts. Discussion of aesthetic, etical, and ideological issues related to the production and diffusion of these texts, such as authority/authorship, literature/anthropology, writing/orality, memory, political engagement, manipulation, and resistance.

Units: 3

SPAN 259. The Poetics of Caribbeanness
Prerequisites: Spanish major or permission of instructor. Analysis of literary and artistic movements in the Spanish Caribbean, from the colonial times to the present, through representative works, emphasizing how the interactions of race, gender, and ethnicity affect the construction of individual and national identities.

Units: 3

SPAN 267. Early 20th Century Spanish Literature
Prerequisite: Spanish major or permission of instructor. Discussion and analysis of represnetative works of Spanish literature from Modernismo, the Generation of 1914, and the Generation of 1927.

Units: 3

SPAN 270. Research Methods
Training in the search for, proper selection of, and proper use of secondary sources in support of a research paper's thesis that participates in currently scholarly debates related to Hispanic literature of all time periods.

Units: 3

SPAN 290. Independent Study
See Academic Placement - Independent Study. Approved for RP grading.

Units: 2-3, Repeatable up to 6 units

SPAN 298. Project
See Criteria for Thesis and Project. Writing and/or editing materials suitable for school programs from elementary through high school level, such as children's literature, original poetry, testing devices, and translations. Approved for RP grading.

Units: 3-6

SPAN 298C. Project Continuation
Prerequisite: Project SPAN 298. For continuous enrollment while completing the project. May enroll twice with department approval. Additional enrollments must be approved by the Dean of Graduate Studies.

Units: 0

SPAN 299. Thesis
Prerequisite: See Criteria for Thesis and Project. Preparation, completion, and submission of an acceptable thesis for the completion of the master's degree. Approved for RP grading.

Units: 3-6

SPAN 299C. Thesis Continuation
Prerequisite: Thesis 298. For continuous enrollment while completing the thesis. May enroll twice with department approval. Additional enrollments must be approved by the Dean of Graduate Studies.

Units: 0

SPECIAL EDUCATION (SPED)

SPED 120. Introduction to Special Education
Prerequisites: EHD 50. Introduction to identification, characteristics, theories, curriculum, and instruction for students with mild to severe disabilities, legislative guidelines, nondiscriminatory assessment, paren

Units: 3

Course Typically Offered: Fall, Spring

SPED 121. Teaching Students with Special Needs in the Secondary General Education Setting
Prerequisites: Concurrent enrollment in EHD 155A. This course provides basic knowledge, skills and strategies for teaching special populations including students with disabilities, students on behavior plans, and gifted and talented students in the secondary general education settings. (Formerly EHD 180T)

Units: 2

Course Typically Offered: Fall, Spring

SPED 125. Positive Behavioral and Social Supports
Addresses effective behavior and social supports, emphasizing philosophical approach, prevention, intervention, and corrective strategies for teaching new behaviors. Completion of implementation with special education students required.

Units: 3

Course Typically Offered: Fall, Spring

SPED 126. Applied Behavior Analysis
Prerequisite: completion of semesters 1 and 2 coursework. Designed to introduce the philosophy and research of applied behavior analysis in delivering systemic instruction to students with disabilities. Course focuses on behavior management and academic content area instruction by using the principles of behavior analysis.

Units: 3

SPED 130. Assessing Students with Special Needs
Prerequisites: EHD 50, CI 100 and SPED 120. This course is designed to provide teacher candidates with knowledge and skills of formal and informal assessment that addresses special education students' strengths and needs, cultural, ethnic and language characteristics; as well as the environments used by the students and their families.

Units: 3

Course Typically Offered: Fall, Spring

SPED 135. Assessment and Instruction in the Special Education Academic Curriculum
Addresses non-biased assessment for placement, curriculum development, instruction, and implementation across placement options. Completion of assessment and instruction of special education students in field sited required. (2 seminar, 2 lab hours)

Units: 3

Course Typically Offered: Fall, Spring

SPED 136. Assessment, Curriculum Design and Instruction for Students with Mild/Moderate Disabilities
Prerequisites: Completion of semester 1. Concurrent enrollment in SPED 171. Provides a knowledge base of strategies and interventions for students who are not responding to the current instructional environment with a focus on evidence-base curricula and

instructional methods that are effective with students with mild/moderate disabilities.

Units: 3

Course Typically Offered: Fall, Spring

SPED 145. Designing Effective Environments for Students with Moderate/Severe Disabilities

Prerequisites: EHD 50, CI 100 and SPED 120.. This course examines the characteristics of high-quality integrated and inclusive educational programs and key practices for effective instruction of diverse classroom, including students with significant/complex support needs. (2 seminar, 2 lab hours)

Units: 3

Course Typically Offered: Fall, Spring

SPED 146. Assessment and Instruction for Students with Moderate/Severe Disabilities

Prerequisites: Completion of semester 1 coursework. Concurrent enrollment in SPED 172. This course reviews the ecological assessment process, student, family-centered, and culturally responsive assessment, and curriculum-based assessment. It addresses provision of both academic and activity-based systematic instruction and systems for monitoring student progress data.

Units: 3

Course Typically Offered: Fall

SPED 155. The Professional in Special Education

Prerequisites: admission to special education program or permission of instructor. Focuses on advanced application of models for collaboration, application of foundations, and theory in special education; advanced professional, legal, and ethical standards; and advocacy and self-advocacy.

Units: 3

Course Typically Offered: Fall, Spring

SPED 156. Effective Communication and Collaborative Partnerships

Prerequisites: Concurrent enrollment in SPED 137 and SPED 175 (MM), or SPED 147 and SPED 176 (MS); and SPED 177. This course will examine the educational, psychological, and political issues that arise when developing collaborative relationships with families, interdisciplinary team members, general educators, agency professionals, and students themselves.

Units: 3

SPED 158. Differentiated Instruction in Inclusive Secondary Settings

For the purpose of establishing an inclusive community of teachers and learners, teacher candidates will appreciate their responsibilities related to IDEA/ADA, and design instruction and learning environments that provide differentiation and choice to meet the needs of all learners, with focus on special populations.

Units: 3

SPED 160F. Fieldwork in Special Education

Prerequisite: Admission to special education internship program. Supervised observation and support of teacher interns in the areas of behavior. IEP's, instruction, assessment, and collaboration. (CSU liability insurance fee, $8)

Units: 1-3, Repeatable up to 12 units

Course Typically Offered: Fall, Spring

SPED 171. Initial Practicum in Mild/Moderate Disabilities

Prerequisites: Successful completion of all coursework in semester 1. Concurrent enrollment in SPED 136. This course is the third of four required supervised field experiences in the program. Teacher candidates will take part in a 16 hour/week, full semester experience in K-12 classroom, RSP or SDC, serving students identified with Mild/Moderate disabilities.

Units: 3

Course Typically Offered: Fall, Spring

SPED 172. Initial Practicum in Moderate/Severe Disabilities

Prerequisites: Completion of all coursework in semester 1. Concurrent enrollment in SPED 146. This course is the third of four required supervised field experiences in the program. Teacher candidates will take part in a 16 hour/week, full semester experience in K-12 classroom or SDC, serving students identified with Mild/Moderate disabilities.

Units: 3

Course Typically Offered: Fall

SPED 175. Final Practicum in Mild/Moderate Disabilities

Prerequisites: Successful completion of all coursework in semesters 1, and 2. Taken concurrently with SPED 146 and EHD 170A. This course is the final of four required supervised field experience in a K-12 classroom, RSP or SDC, serving students identified with Mild/Moderate disabilities. (CSU liability insurance fee, $8)

Units: 6

SPED 176. Final Practicum in Moderate/Severe Disabilities

Prerequisites: Successful completion of all coursework in Semesters 1 and 2. SPED 176 is taken concurrently with SPED 247 and EHD 170A. Final Practicum in Moderate/Severe Disabilities is the final of four required supervised field experiences in the program. Teacher candidates will take part in full semester experience in a K-12 classroom or SDC, serving students identified with Moderate/Severe disabilities. (CSU liability insurance fee, $8)

Units: 6

Course Typically Offered: Fall, Spring

SPED 177. Practicum Seminar in Mild/Moderate and Moderate/Severe Disabilities

Prerequisites: Completion of semesters 1, 2, and 3 coursework; Concurrent enrollment in SPED 175, SPED 176. This course seminar is designed to help candidates become reflective practitioners through structured activities to encourage examination of classroom practices and behaviors, goals, outcomes, beliefs, and values. The course will provide a forum for collaborative, critical inquiry based on their student teaching experience.

Units: 2

SPED 179. Differentiated Instruction and Classroom Management

Prerequisites: CI 175, CI 176, LEE 177, EHD 178. If not concurrently enrolled in EHD 170, must make arrangements with the instructor. Through collaboration with others, for the purpose of establishing an inclusive community of learners, teacher candidates will adapt instruction and manage the learning environment to meet the needs of all learners, with focus on students with special needs.

Units: 3

Course Typically Offered: Fall, Spring

SPED 180T. Topics in Special Education

Prerequisites: Permission of instructor. Topics may include special education legislation, parenting, transitional programming, parents as teachers, adolescents and adults with disabilities, current research, child abuse, gifted and talented.

Units: 1-3, Repeatable up to 12 units

SPED 190. Independent Study

See Academic Placement - Independent Study. Approved for RP grading.

Units: 1-3, Repeatable up to 6 units

Course Typically Offered: Fall, Spring

SPED 205. Nature and Needs of Individuals with Serious Emotional Disturbance/Behavior Disorders

Addresses the characteristics and needs of the child with emotional behavioral disorders, and service delivery systems and agencies which exist to meet those needs. (2 seminar, 2 lab hours)

Units: 3

SPED 209A. Application of Theory into Practice in Special Education Settings

Supervised field experience with special education students and their families with integration of applied research and theory into practice in special education. Development of induction plan will include the candidate, university supervisor, and employer school district representative/support provider. (Minimum of 45 hours per unit) (Formerly SPED 209) (CSU liability insurance fee, $8)

Units: 3

SPED 209B. Application of Theory into Practice in Special Education Settings

Coordination of ongoing support for professional self-assessment, goal-setting, and other induction plan components of SPED 209A. Support is provided by collaboration between university and school district/agency personnel. (Minimum of 45 hours per unit) (Formerly SPED 209) (CSU liability insurance fee, $8)

Units: 3

SPED 217. Advanced Instruction of Individuals with Serious Emotional Disturbance/Behavior Disorders

Serious Emotional Disturbance/Behavior Disorders (3) Designed to provide information relevant for planning, organizing, and managing instructional programs for students with emotional and behavioral disorders in a variety of settings. (2 seminar, 2 lab hours)

Units: 3

SPED 219. Effective Communication and Collaborative Partnerships

Prerequisite: Concurrent enrollment in SPED 246 and 175 (MM), or SPED 247 and 176 (MS). Examines educational, psychological, and political issues that arise when developing collaborative relationships with families, general educators, and other professionals. Primary focus is on the development of materials, strategies, and skills to work with families, including the culturally and linguistically diverse.

Units: 3, Repeatable up to 6 units

SPED 233. Seminar in the Special Educator as Researcher

Examines the special educator as researcher from several perspectives through reading and analysis of contemporary and emerging research in special education; attending colloquia with special educators who are conducting research; and developing and beginning implemention of pilot research adn project designs.

Units: 3

SPED 235. Seminar in program Development and Induction: Mild/Moderate and Moderate/Severe Disabilities

Development and remediation of social skills and affective abilities. Model programs for normal children adn prescriptive interventions foar those with social and personal behavior disorders. (2 seminar, 2 lab hours) (Formerly SPED 213)

Units: 3

SPED 236. Seminar in Advanced and Applied Pedagogy: Mild/Moderate and Moderate/Severe Disabilities

Research and practice in assessment and instruction of communication and social interaction curriculum; advanced behavioral, emotional, and environmental supports for students with moderate to severe disabilities. Includes analysis of behavior, communication systems, adapted technology, and team participation with other specialists.

Units: 3

SPED 238. Clinical Field Experience in Serious Emotional Disturbance/Behavior Disorders

Designed to provide clinical experience in diagnosis and evaluation of the serious emotionally and behaviorally disordered, prescriptive program development, prescriptive instruction, and program management. Experience to include data gathering, program planning and execution, evaluation, consulting, and collaboration. (2 seminar, 2 lab hours)

Units: 3

SPED 243. Applications of Research Methods in Special Education

This course prepares Master's students to develop and apply skills and methods for educational research. Students learn principles and methods of educational research, to plan and conduct a research study, and to interpret, critique, and study published research.

Units: 3

SPED 246. Specialized Academic Instruction for Students with Mild/Moderate Disabilities

Completion of all required courses in semesters 1 & 2. Concurrent enrollment in SPED 175. This course prepares Education Special-

ist Credential candidates to design specialized academic instruction for students with a variety of mild to moderate disabilities.

Units: 3

SPED 247. Advanced Environmental Design and Instruction for Students with Moderate/Severe Disabilities

Completion of all required courses in semesters 1 & 2. Concurrent enrollment in SPED 176. This course prepares Education Specialist Credential candidates to assess and implement instructional strategies to develop individualized communication systems and related goals. This course also addresses development of peer relationships and other social supports and revisits understanding challenging behavior.

Units: 3

SPED 250. Foundation Knowledge and Practical Skills for Educating Diverse Learners on the Autism Spectrum

Definitions and characteristics of ASD will be introduced. Emphasis on incidence and prevalence trends, characteristics associated with language/communication, cognition/neurology, social skills and behavior will be addressed. Fieldwork is required to complete assignments.

Units: 3

SPED 251. Systematic Approach to Social Skills Programming for Individuals with ASD

Candidates will demonstrate how to think about research-based interventions addressing the need for social programming for children and adolescents with ASD. Fieldwork is required to complete assignments.

Units: 3

SPED 252. Designing Comprehensive Individualized Autism Planning Systems

Candidates will learn to design comprehensive intervention plans that are responsive to the strengths and needs of individuals of all ages with ASD. Supervised fieldwork is required to complete assignments.

Units: 3

SPED 279. Differentiated Instruction and Classroom Manag

Through collaboration and establishment of an inclusive community of learners, candidates will differentiate, manage the environment and utilize research to make informed pedagogical and behavioral decisions to meet the needs of all learners, with focus on students with special needs.

Units: 3

SPED 280T. Advanced Topics in Special Education

Prerequisites: postbaccalaureate standing and permission of instructor. Topics may include special education legislation, parenting, transitional programming, parents as teachers, adolescents and adults with disabilities, current research, child abuse, gifted and talented.

Units: 1-3, Repeatable up to 12 units

SPED 290. Independent Study

See Academic Placement - Independent Study. Approved for RP grading.

Units: 1-3, Repeatable up to 6 units

SPED 298. Project

Prerequisites: advancement to candidacy for the master's degree; B average on 24 units of the master's program including ERE 220. See Criteria for Thesis and Project. A project consists of a significant undertaking appropriate to special education such as the development of courses of study, instructional manuals, teachers' guides. interventions programs, and computer software. An approved propsal is required for enrollment. Approved for RP grading.

Units: 4

SPED 298C. Project Continuation

Prerequisite: Project SPED 298. For continuous enrollment while completing the project. May enroll twice with department approval. Additional enrollments must be approved by the Dean of Graduate Studies.

Units: 0

SPED 299. Thesis

Prerequisites: advancement to candidacy for the master's degree; B average on 24 units of the master's program including ERE 220 and completion of an acceptable thesis proposal. See Criteria for Thesis and Project. Preparation, completion, and submission of an acceptable thesis proposal. Preparation, completion, and submission of an acceptable thesis for the master's degree. See Kremen School of Education and Human Development's graduate programs coordinator for school thesis guidelines. Approved for RP grading.

Units: 4

SPED 299C. Thesis Continuation

Prerequisite: Thesis SPED 298. For continuous enrollment while completing the thesis. May enroll twice with department approval. Additional enrollments must be approved by the Dean of Graduate Studies.

Units: 0

SOCIAL SCIENCE (SSCI)

SSCI 16. Introduction to Global Studies

Introduction to a range of topics to enhance literacy for global awareness. Includes an interdisciplinary approach, concentration on human diversity, and attention to historic, political, legal, economic, sociological, anthropological, and geographic issues. Fulfillls lower division requirement for Global Awareness Certificates.

Units: 3

SSCI 110. California Studies

Prerequisites: G.E. Foundation and Breadth Area D. Origins and development of California as a unique cultural area; relationships over time among geography and natural resources, human populations and cultures, political institutions, economic pursuits, and land use practices; distinctive architecture, arts, and literature; and

socio-economic patterns, processes, and trends. G.E. Integration ID.

Units: 3

Course Typically Offered: Fall, Spring

GE Area: ID

SSCI 150T. Topics in the Social Sciences

Discussion and analysis of current topics in the social sciences with an interdisciplinary focus and structure. Topics will be rotated.

Units: 1-3

Course Typically Offered: Fall, Spring

SSCI 150T. Social Science Honors Symposium

This "Research Series" would meet once per week during the semester and feature various COSS faculty who would share their insights and experiences with research (students would also be able to use a portion of the class time to share their own research agendas and pursuits and get feedback from others).

Units: 3, Repeatable up to 9 units

SSCI 150T. Gender in Islam History

Course examines gender issues in Islamic societies from the seventh century to the present. Topics covered include the lives of notable women in Islamic history; gender and sexuality in Islamic law; Middle Eastern feminisms and their relationship to Islam, secularism, nationalism, and colonialism; gender roles and sexuality; the politics of masculinity and machismo; veiling; and the impact of Orientalism scholars; understanding of gender in the modern Middle East.

Units: 3, Repeatable up to 6 units

SSCI 180. Diversity in the U.S.

Prerequisites: G.E. Foundation and Breadth Area D. Interdisciplinary course designed for the four-year liberal studies major. Integrates historical, sociological, political, cultural, and ethnic aspects of American culture. Historical developments and immigration patterns, race, class, gender issues, and demographic and statistical analysis of local and regional education trends. G.E. Multicultural/International MI.

Units: 3

Course Typically Offered: Fall, Spring

GE Area: M/I

SSCI 185. Internship

Prerequisite: upper-division or graduate standing; permission of instructor. Supervised work experience in the applied aspects of the social science disciplines. Hours to be arranged. CR/NC grading only.

Units: 1-6

Course Typically Offered: Fall, Spring

SOIL AND WATER (SW)

SW 2. Agricultural Water

Water resources and problems in California; water requirements for agricultural and ornamental crops; irrigation scheduling and application methods. (2 lecture, 3 lab hours)

Units: 3

Course Typically Offered: Fall

SW 100. Soils

Prerequisites: CHEM 3A, intermediate algebra. Physical, chemical, and biologic properties of soils as a medium for plant growth and as a natural body, factors that influence soil formation; food and fiber production; fertilizer and soil amendment use and environmental impact; soil's role in the biosphere.

Units: 3

Course Typically Offered: Fall

SW 100L. Soils Lab

Prerequisite: SW 100 or concurrently. Physical, chemical, and biological analysis. Interpretation of field and laboratory data. (3 lab hours) (Saturday field trip)

Units: 1

Course Typically Offered: Fall

SW 100N. Soils in the Environment

Prerequisite: CHEM 3A. Physical, chemical, and biolgoical properties of soils as the interconnecting link in the biosphere; factors that influence soil formation; role of soil in food and fiber production. Not open to Plant Science and Viticulture & Enology majors. (2 lecture; 3 lab hours). No credit if taken after SW 100.

Units: 3

Course Typically Offered: Fall

SW 101. Crop Nutrition

Prerequisite: SW 100. Evaluation of nutrient elements in soils; application of fertilizers and organic waste to meet nutrient requirements; soil and plant tissue analysis and interpretation; fertilizer recommendations for different crops. (3 lecture, 3 lab hours)

Units: 4

Course Typically Offered: Spring

SW 104. Soil and Water Management

Prerequisites: SW 2, SW 100 (may be taken concurrently). Management of irrigated soils with particular emphasis on crop water requirements, irrigation scheduling, salinity, and other physical and chemical soil problems of field crops, permanent crops and landscapes.

Units: 3

Course Typically Offered: Fall

SW 111. Irrigation Systems

Prerequisite: SW 2. Principles of planning, installation and evaluation of irrigation systems for field crops, permanent crops and ornamental horticulture. Pressurized systems (sprinkler and drip irrigation) emphasized. This course may be supplemented with optional labs in agricultural systems (SW 111AG) or landscape systems (SW 111OH)

Units: 3

Course Typically Offered: Spring

SOCIAL WORK (SWRK)

SWRK 20. Introduction to Social Work
Social, economic, political, historical, and philosophic components in development of social welfare and social work in western society.

Units: 3

Course Typically Offered: Fall, Spring

SWRK 122T. Topics in Social Work
Topics in fields of social work practice, basic social work theories, and social work methods.

Units: 1-3, Repeatable up to 15 units

SWRK 123. Social Welfare Policies and Programs
Prerequisite: SWRK 20 or by permission of instructor. Basic policies and major programs in contemporary social welfare; consumption, income supports, job provision, housing, health, civil rights, consumer advocacy, population control, environmental standards; principles of social security, administration of social services, roles of government and citizen participation.

Units: 3

Course Typically Offered: Fall

SWRK 124. Social Welfare Policy Advocacy
A two-day course offered in March of the Spring semester at the state capital in Sacramento, California, providing beginning skill-building in advocacy and political action on current social welfare policy issues.

Units: 1

SWRK 125. Social Services for the Aging
(SWRK 125 same as GERON 125.) Students will be acquainted with the common bio-psycho social needs of the aging in the United States and the social services available to meet those needs. Within the context of social work values and problem-solving methods, attention will be given to issues of ethnicity, gender, and gaps in services.

Units: 3

Course Typically Offered: Spring

SWRK 128. Child Welfare
History, development, and provision of child welfare services in the United States. Meets State of California pre-licensure requirements for child abuse assessment and reporting content.

Units: 3

Course Typically Offered: Fall, Spring

SWRK 129. Treatment of Chemical Dependency
Intervention and treatment of the chemically dependent and of family members. Meets State of California requirements for Licensed Master Social Work through the California Board of Behavioral Sciences.

Units: 3

Course Typically Offered: Fall, Spring

SWRK 135. Human Behavior and the Social Environment
Prerequisite: SWRK 20 or by permission of instructor. A general systems approach focused on the interaction of biological, psychological, and cultural phenomena with individuals, small groups, complex organizations, and communities.

Units: 3

Course Typically Offered: Fall

SWRK 136. Cultural Diversity and Oppression
Cultural, economic, ethnic, social, and psychological considerations for helping members of groups who suffer oppressed status in our heterogeneous society. G.E. Multicultural/International MI. (except for social work majors)

Units: 3

Course Typically Offered: Fall, Spring

GE Area: M/I

SWRK 137. Principles in Cross-Cultural Competence
Prerequisite: SWRK 136. Theory of practice framework for skill-based cross-cultural competency in human services delivery; formulation of problems and interaction with diverse populations. Skills in practice and interaction with diverse clients in educational, business, and public/ private human services settings. Problem formulation and interaction skills with diverse populations. Required for Cross-Cultural Competency Certificate.

Units: 3

Course Typically Offered: Fall, Spring

SWRK 152. Introduction to Mediation & Conflict Resolution for Human Service Professionals
To provide students a knowledge base in mediation as a method of conflict resolution and enable them in development of beginning level skills in mediating conflicts as a part of social work practice.

Units: 3

SWRK 160. Social Work Practice: Professional Identity
Prerequisite: SWRK 20 or by permission of instructor. The development of professional identity in generalist social work practice.

Units: 3

Course Typically Offered: Fall

SWRK 161. Social Work Processes
Prerequisites: SWRK 20, SWRK 123, SWRK 135 and SWRK 160. Foundation for generalist Social Work Practice. (Formerly SWRK 130.)

Units: 3

Course Typically Offered: Spring

SWRK 161S. Social Work Processes
Prerequisites: SWRK 20, SWRK 123, SWRK 135, and SWRK 160. Foundation for generalist social work practice. A service learning component will be integrated for further reflection and professional growth.

Units: 3

Course Typically Offered: Spring

SWRK 170. Quantitative Research in Social Work: Theory and Application

Prerequisites: SWRK 20, SWRK 123, SWRK 135, and SWRK 160. Introduction to social work research and quantitative methods. Focuses on the scientific methods, quantitative methods, data analysis, and presentation. (Formerly SWRK 127).

Units: 3

Course Typically Offered: Spring

SWRK 171. Qualitative Research in Social Work: Theory and Application

Prerequisite: SWRK 170. Introduction to the use of qualitative research methods. Focuses on an inductive approach to building knowledge for practice. Content includes development of research questions, study design, sampling, data collection, and data analysis. (Formerly 176)

Units: 3

Course Typically Offered: Fall

SWRK 180. Seminar in Macro Practice

Prerequisites: SWRK 20, SWRK 123, SWRK 135, SWRK 136, SWRK 160, SWRK 161, SWRK 161S and UDWS requirement. Must be taken concurrently with SWRK 181. Analysis of intervention strategies in large groups, organizations, and the community. In conjuction with field, this class represents the macro culminating experience in the social work major. (Formerly SWRK 139 and 141.)

Units: 3

Course Typically Offered: Fall

SWRK 181. Field Instruction A

First semester Field internship. Prerequisites: senior standing; minimum 2.0 GPA, completion of UDWS requirement, GE Foundation and Breadth, and SWRK 20, SWRK 123, SWRK 135, SWRK 136, SWRK 160, SWRK 161, SWRK 161S. Concurrent enrollment in SWRK 180. Guided social work practice experience with individuals, groups, families and organizations. Liability insurance required during internship. CR/NC grading only. (CSU liability insurance fee, $8)

Units: 6

Course Typically Offered: Fall

SWRK 182. Field Instruction B

Second semester field internship. Prerequisites: senior standing, minimum 2.0 GPA, SWRK 181, Concurrent enrollment in SWRK 183. Guided social work practice experience with individuals, groups, families and organizations. Liability insurance required. CR/NC grading only. (Formerly SWRK 181, second semester), (CSU liability insurance fee, $8)

Units: 6

Course Typically Offered: Spring

SWRK 183. Seminar in Micro Practice

Prerequisite: SWRK 180 and SWRK 181. Must be taken concurrently with SWRK 182. Acquisition of micro social work practice skills integrating human behavior and social environment theories, research, and social policy in interventions with individuals, families and small groups. With field, seminar represents the culminating experience in micro practice in the social work major. (Formerly SWRK 140.)

Units: 3

Course Typically Offered: Spring

SWRK 190. Independent Study

See Academic Placement - Independent Study. Approved for RP grading.

Units: 1-3, Repeatable up to 6 units

SWRK 200. Social Welfare Policy I

Philosophical and historical foundations of the profession of social work and the domain of social welfare. Includes review of major federally sponsored social policies and programs in the United States and the relationship between social problems, and programmatic professional responses.

Units: 3

SWRK 203. Social Welfare Policy II

Prerequisite: SWRK 200. Concurrent enrollment in SWRK 272T, is recommend. Analysis of social welfare policies, including social, economic, cultural, political, legislative, administrative and legal dimensions. Comparison of various policy analysis frameworks. The role of social workers in the policy-making process.

Units: 3

SWRK 204. Social Work Policy Advocacy I

A two-day course offered in March of the Spring semester in the state capital of Sacramento, California, providing advanced skill-building in advocacy and political action on current social welfare policy issues. It is suggested, but not requierd, that students be currently enrolled in SWRK 203, Social Welfare Policy II.

Units: 1

SWRK 212. Human Behavior in the Social Environment: A Multisystems Approach

Provides knowledge of the theories that attempt to bring understanidng to the behavior of people as individuals, members of families, groups, organizations and communities.

Units: 3

SWRK 213. Human Behavior and Social Environment: Cultural Diversity and Oppression

Prerequisite: SWRK 212. Theoretical knowledge-based implications for advanced social work practice with culturally diverse and oppressed populations. (Formerly SWRK 216).

Units: 3

SWRK 220. Seminar in Foundations for Social Work Practice I

Concurrent enrollment in SWRK 280 required. Seminar about the development of social work practice with an emphasis upon intervention with individuals, families, small groups, organizations and communities.

Units: 4

SWRK 221. Seminar in Foundations for Social Work Practice II

Prerequisite: SWRK 220 and Concurrent enrollment SWRK 281.

Analysis and application of the theories, principles and techniques of social work practice with individuals, familes, groups, organizations, and communities.

Units: 4

SWRK 224. Seminar in Advanced Social Work Practice with Individuals

Prerequisites: SWRK 203, SWRK 213, SWRK 221, SWRK 261, SWRK 281 and Concurrent enrollment in SWRK 282. Analysis and application of the theories, principles and techniques of social work practice with individuals from a strength-based, empowerment persepective.

Units: 3

SWRK 225. Seminar in Advanced Social Work Practice with Task and Treatment Groups

Prerequisites: SWRK 200, SWRK 203, SWRK 212, SWRK 213, SWRK 220, SWRK 221, SWRK 260, SWRK 261, SWRK 280, and SWRK 281. Concurrent enrollment in SWRK 224, SWRK 246, SWRK 282, SWRK 292. Analysis and application of the theories, principles and techniques of skills used in task and treatment groups.

Units: 3

SWRK 227. Seminar in Advanced Social Work Practice with Couples and Families

Prerequisites: SWRK 224, SWRK 225, SWRK 246, SWRK 282 and Concurrent enrollment in SWRK 247 and SWRK 283. Analysis and application of theories, principles and techniques of social work practice with couples and families from a strength-based, empowerment perspective.

Units: 3

SWRK 246. Seminar in Advanced Social Work Practice with Formal Organizations

Prerequisite: SWRK 203, SWRK 213, SWRK 221, SWRK 261, SWRK 281 and Concurrent enrollment in SWRK 224, SWRK 225, and SWRK 282. Theory and practice of the administration of formal social service organizations.

Units: 2

SWRK 247. Seminar in Advanced Social Work Practice with Communities

Prerequisite: SWRK 203, SWRK 213, SWRK 221, SWRK 261,SWRK 282, and Concurrent enrollment in SWRK 227 or SWRK 283. Theory and practice of social work intervention with communities.

Units: 3

SWRK 260. Quantitative Social Work Research

Concurrent enrollment: SWRK 200, SWRK 212, SWRK 220, and SWRK 280. Foundation course on social work research and evaluation using quantitative methods that prepare students for the master's project/thesis: The nature of inquiry, scientific method, ethics, research designs, sampling strategies and data analysis and presentation.

Units: 3

SWRK 261. Qualitative Social Work Research

Prerequisite: SWRK 200, SWRK 212, SWRK 220, SWRK 260, SWRK 280. Concurrent enrollment: SWRK 203, SWRK 221, SWRK 281. Foundation course on social work research and evaluation using qualitative methods that prepare students for the master's project/thesis: the nature of qualitative inquiry, ethics, topic selection, reserach approaches, methods of observation and data collection, and data analysis and presentation.

Units: 3

SWRK 269. Advanced Practice Public Mental Health Services I

Knowledge and skills for advanced graduate social work practice in public mental health. Content covers values/ethics, diversity, public policies, practice interventions, services organization and delivery. Required for CalSWEC Public Mental Health Stipend students. Prerequisite: Completion of foundation year course work.

Units: 3, Repeatable up to 8 units

SWRK 270. Advanced Practice Public Mental Health Services II

Advanced public mental health practice. Recovery Model, skills, and evidence-based practice. Required for CalSWEC Public Mental Health stipend students. Prerequisites: Completion of foundation year course work and SWRK 269 PMHS I, or permission of instructor.

Units: 3, Repeatable up to 8 units

SWRK 271T. Seminar in Social Work Specializations

In-depth study of specific treatment modalities or methods, e.g., community or ganization, community development, crisis intervention, personality adjustment.

Units: 1-3, Repeatable up to 9 units

SWRK 271T. Bilingual/Bicultural Advanced Social Work Practice I

The Latino Mental Health Project for Central California will offer a distinctive opportunity for graduate Social Work students (MSW) who want to provide effective cultural and linguistic prevention, intervention and treatment in mental health and substance abuse for Latino children, adolescent and transitional youth. Spanish curriculum coupled with Spanish practice will prepare students with necessary skills to apply culturally sensitive techniques to assist in providing quality mental health care to a fast growing population. This unique training project will examine identify methods to evaluate the identification of idiosyncratic manifestations of mental illness/distress in Latinos; and apply current best practices and/or evidence-based interventions appropriate for Latino clients at multiple systems levels (micro, mezzo, and macro).

Units: 3, Repeatable up to 9 units

SWRK 273. Advanced Social Work Practice and Sexuality

Multi-systems assessment and treatment of sexual disorders from a culturally competent, empowering perspective. Current conceptualization of gender, sexual orientation, varieties of sexual expression, AIDS/HIV, other sexually transmitted diseases. Effects of global trafficking on vulnerable populations. Meets State of California pre-licensure requirements for human sexuality content.

Units: 3

SWRK 274. Advanced Social Work Practice in Schools

Addresses the specific knowledge and skills for advanced social work practice in school settings. A requirement for the Pupil Personnel Services credential in school social work and child welfare and attendance services.

Units: 3

SWRK 275. Advanced Social Work Practice in Schools II

Prerequisite: SWRK 274. Addresses specific target populations, strategies for intervention and evaluation of advanced social work practice in school settings. A requirement for the Pupil Personnel Services credential in school social work and child welfare and attendance services.

Units: 3

SWRK 276. Psychosocial Assessment and Treatment Planning for Clinical Social Work

Prerequisite: SWRK 224. Develop competence in clinical assessment, identify a collaborative treatment plan, and understand the part various mental, behavioral, and emotional problems play in assessment and treatment planning in clinical social work practice.

Units: 3

SWRK 277. Advanced Practice Seminar on Trauma and Abuse

Prerequisite: SWRK 220. Analysis of the effects of trauma and abuse on victims. Historical context of trauma and post-traumatic stress reactions. Effects of trauma and abuse on child and adult development and on individuals and families across cultures and nations. (Formerly SWRK 271T)

Units: 3

SWRK 278. Advanced Child Welfare Practice

Designed to assist students in development of practice skills (assessment, treatment, and intervention planning) in work with children and families involved within the child welfare system. Required for Title IV-E Child Welfare Program students. Meest State of California pre-licensure requirements for child abuse assessment and reporting content. (Formerly SWRK 271T)

Units: 3

SWRK 279. Seminar in Advanced Social Work Practice with Elders

Advanced multi-systems practice course focused on assessment and intervention with older adults and their families. Recommended prerequisite: SWRK 125. Course may be used to meet requirements for gerontology certification. Meets State of California requirements for licensure and continuing education.

Units: 3

SWRK 280. Field Instructed Practice I

Prerequisite: permission of field coordinator and Concurrent enrollment in SWRK 220. First of two semesters applying foundation theories and concepts in field-instructed practice with individuals, groups, families, formal organizations, and communities. Approved for RP grading. CR/NC grading only.

Units: 2-3, Repeatable up to 5 units

SWRK 281. Field Instructed Practice II

Prerequisite: SWRK 280, Concurrent enrollment in SWRK 221, and permission of Field Coordinator required. Second of two semesters applying foundation theories and concepts in field instructed practice experience with individuals, families, groups, formal organizations and communities. Approved for RP grading. CR/NC grading only. (Formerly SWRK 250) (CSU liability insurance fee, $8)

Units: 2

SWRK 282. Advanced Field Instructed Practice I

Prerequisites: SWRK 281, Concurrent enrollment in SWRK 224, SWRK 225, and SWRK 246, and permission of Field Coordinator. First of two semesters applying advanced theories and concepts in field instructed practice with individuals, families, groups, formal organizations and communities. Approved for RP grading. CR/NC grading only. (Formerly SWRK 251). (CSU liability insurance fee, $8)

Units: 3

SWRK 283. Advanced Field Instructed Practice II

Prerequisites: SWRK 282, Concurrent enrollment in SWRK 227, and SWRK 247, and permission of Field Coordinator. Second of two semesters applying advanced theories and concepts in field instructed practice with individuals, families, groups, formal organizations and communiities. Approved for RP grading. CR/NC grading only. (Formerly SWRK 251). (CSU liability insurance fee, $8)

Units: 3

SWRK 290. Independent Study

See Academic Placement - Independent Study. Approved for SP grading.

Units: 1-3, Repeatable up to 6 units

SWRK 292. Seminar in Thesis/Project

Prerequisite: SWRK 203, SWRK 213, SWRK 221, SWRK 261 and SWRK 281. Concurrent enrollment in SWRK 224, SWRK 225, SWRK 246, and SWRK 282. Seminar for developing and implementing thesis or project research that adds to social work practice and knowledge. (Formerly SWRK 272T).

Units: 2

SWRK 298. Project

Prerequisites: SWRK 292 and Advancement to Candidacy. See Criteria for Thesis and Project. Preparation, completion, and submission of an acceptable project for the master's degree. Approved for RP grading.

Units: 2, Repeatable up to 4 units

SWRK 298C. Project Continuation

Prerequisite: Project SWRK 298. For continuous enrollment while completing the project. May enroll twice with department approval. Additional enrollments must be approved by the Dean of Graduate Studies.

Units: 0

SWRK 299. Thesis

Prerequisite: SWRK 292 and Advancement to Candidacy. See Criteria for Thesis and Project. Preparation, completion, and sub-

mission of an acceptable thesis for the master's degree. Approved for RP grading.

Units: 2, Repeatable up to 6 units

SWRK 299C. Thesis Continuation

Prerequisite: Thesis SWRK 299. For continuous enrollment while completing the thesis. May enroll twice with department approval. Additional enrollments must be approved by the Dean of Graduate Studies.

Units: 0

UNIVERSITY (UNIV)

UNIV 1. An Introduction to Learning and the University

Assists students to acquire attitudes and skills needed to be effective lifelong learners. Individual and group activities focus on adaptation to change, study skills, goal setting, time management, career planning, information competence, community engagement, health and wellness. Exposure to campus resources. GE Area E1.

Units: 3

GE Area: E1

UNIV 8. Reading Skills Application

Teaches skills to improve college success. Improves reading comprehension, study, and test-taking skills. Literal comprehension (topic sentences, paragraph patterns, signal words), critical comprehension (intent, tone, figurative language, propaganda, attitude), and vocabulary development.

Units: 1-3

UNIV 20. Academic Learning Strategies

Units: 3

UNIV 20T. Academic Success

UNIV 20T is a 3 unit course designed to guide students through the academic process and to help ensure their success. The course lays a cornerstone for higher education and the advanced study and helps develop skills for a lifelong learning and achievement. Students gain an understanding of college life, career exploration, and the development of a purposeful community. Strategies to cope with both academic and social demands are presented, as well as rewards and responsibilities of lifelong learners.

Units: 3

UNIV 20T. Writing Skills

Units: 1, Repeatable up to 6 units

UNIV 20T. Connect to Careers

The course is intended to integrate students' academic knowledge with career-related experiences. The course will help students assess their own skills, expose them to careers, and understand a variety of organizational structures and operational procedures of a work environment. Students will be required to find an approved placement experience to help them further develop or enhance their professional skills.

Units: 1, Repeatable up to 6 units

UNIV 50H. Information Literacy in a Digital Age

Open to students in the Smittcamp Family Honors College only. Introduction to theoretical background of digital and information literacy; conducting university research ethically with new media such as wikis, blogs, social networking, and online library databases. Hybrid course delivery.

Units: 3

GE Area: E1

UNIV 100. Succeeding at the University

Assists transfer and upper division students acquire skills needed to be effective learners: study habits, goal setting, time management, academic planning, campus/community involvement, and information competence. Exposure to campus resources.

Units: 1

VITICULTURE AND ENOLOGY (VEN)

VEN 210. Grape and Wine Chemistry

Prerequisite: CHEM 150. Mechanistic basis for the chemistry and biochemistry of vines, grapes, yeast and bacteria used in wine-making, wine spoilage, and health issues of alcohol and wine. Critical evaluation of the literature pertaining to the above subjects.

Units: 4

VEN 229. Graduate Seminar

Prerequisite: permission of the instructor. Oral presentation on topics of current interest in viticulture and enology. Develops skills in critical review and analysis of current literature and recent advances.

Units: 1, Repeatable up to 2 units

VEN 250T. Topics in Viticulture and Enology

Prerequisites: Admission to a graduate program in the College of Agriculture Sciences and Technology and permission of the instructor. Advanced studies of current topics in viticulture and enology selected by instructor. Students will be required to prepare oral and written presentations demonstrating an in-depth understanding of the chosen topic(s). Participation in classroom discussion will be required as part of the grade.

Units: 1-3, Repeatable up to 6 units

VEN 280. Research in Viticulture and Enology

Prerequisite: AGRI 200 and AGRI 220. History, current trends, and modern methodology for research in Viticulture and Enology. Exposure to funding opportunities and dissemination of research results in the grape and wine industry. This course will also involve critical evaluation of published literature on grape and wine research.

Units: 2

VEN 290. Independent Study

See Academic Placement - Independent Study. Approved for RP grading.

Units: 1-3

VEN 299. Thesis

See Criteria for Thesis and Project. Prerequisite: Advancement to Candidacy. Preparation, completion, and submission of an acceptable thesis for the master's degree. Oral defense of thesis required. Approved for RP grading.

Units: 4

VEN 299C. Thesis Continuation

Prerequisite: Thesis 298. For continuous enrollment while completing the thesis. May enroll twice with department approval. Additional enrollments must be approved by the Dean of Graduate Studies.

Units: 0

VITICULTURE (VIT)

VIT 1. World Viticulture

Origin and distribution of European (Old World) grapevines and their "New World" relatives. The use of grape and grape products in various regions of the world. Not open to viticulture or enology majors. S

Units: 3

Course Typically Offered: Spring

VIT 101. General Viticulture I

Prerequisite: BIOL 11 and BIOL 161. Current status and future of the grape industry. Characteristics and identification of leading raisin, table, wine and rootstock varieties. Growth and physiology of the grapevine. Climatic and soil requirements for grape growing. Principles and practices of grapevine nutrition. (2 lecture, 3 lab hours)

Units: 3

Course Typically Offered: Fall

VIT 102. General Viticulture II

Prerequisite: BIOL 11 and BIOL 161. Planning of new vineyards. Vine propagation, planting, training, and trellis systems. Recent developments in viticultural practices, with emphasis on raisin, table, and wine grape production. (2 lecture, 3 lab hours)

Units: 3

Course Typically Offered: Spring

VIT 103. Raisin Production and Processing

Prerequisite: VIT 101 and VIT 102. Principles and practices of raisin production; sun drying, mechanical dehydration, on-the-vine drying; new raisin processes to produce new products. (1 lecture, 3 lab hours) F

Units: 2

Course Typically Offered: Fall

VIT 105. Production and Marketing of Table Grapes

Prerequisite: VIT 101 and VIT 102. An overview of the table grape industry in California. Major table grape growing regions in the world, U.S., and California. Varietal adaptation to climate and soils. Cultural practices and vineyard management. Post-harvest technology and marketing strategies. Field trips. (1 lecture, 3 lab hours) S

Units: 2

Course Typically Offered: Fall

VIT 106. Winegrape Production

Prerequisite: VIT 101 and VIT 102. Advanced viticulture course in the science of winegrape production. Covers the basics and advanced technology of winegrape growing for wine production. (1 lecture, 3 lab hours)

Units: 2

Course Typically Offered: Fall

VIT 160. Mechchanized Viticulture

Prerequisite: MEAG 3 or equivalent (may be taken concurrently). Provides detailed description of the machinery used to establish vineyards, carry out cultural practices, and harvest grapes for production of wine grapes, raisins, and table grapes. Objective is to provide student with an understanding of machinery designed for grape production and the principles of machinery operation. (2 lecture, 3 lab hours) S

Units: 3

Course Typically Offered: Spring

VIT 162T. Topics in Viticulture

Prerequisite: junior standing. Oral presentations by invited speakers on topics of current interest to viticulture.

Units: 1-4

VIT 165. Grape Varieties and Rootstocks

Prerequisite: VIT 101 and VIT 102. Taxonomy and ampelography of the grapevine with emphasis on genus, species, varieties, and clones. Identification, viticultural attributes, adaptation, and utilization of the leading rootstocks, raisin, table, and wine varieties grown in California and the United States. (1 lecture, 3 lab hours) F

Units: 2

Course Typically Offered: Fall

VIT 180. Undergraduate Research

Prerequisite:VIT 101 and VIT 102 or with permission of instructor. Open to juniors or seniors with permission of instructor. Exploratory work on a suitable agricultural problem in viticulture. Approved for RP grading.

Units: 1-4

Course Typically Offered: Fall, Spring

VIT 190. Independent Study

See Academic Placement-Independent Study. Approved for RP Grading

Units: 1-3, Repeatable up to 6 units

Course Typically Offered: Fall, Spring

VIT 194. Grape and WIne Industry Internship

Prerequisite: Permission of instructor. Field experience in career specialty that integrates with classroom instruction. Written reports

of knowledge and experience gained are required. CR/NC grading only.

Units: 2-4

VIT 196. Viticulture Projects

Prerequisite: MEAG 3 or MEAG 5; and VIT 101 and VIT 102. Knowledge gained from classroom instruction applied to vineyard conditions. Students will be assigned to a block in the university vineyard and participate in cultural practices and marketing the crop. This course must be taken twice to complete the project. Approved for RP grading and CR/NC grading.

Units: 2, Repeatable up to 4 units

Course Typically Offered: Fall, Spring

VIT 199. Viticulture Seminar

Seminar format in which professionals in the grape and wine industry will make 30 to 40 minute presentations. Afterwards, there will be five to 10 minutes reserved for questions. The seminars are intended to elicit considerable interaction among participants. The setting is informal. (Formerly VIT 162T)

Units: 1, Repeatable up to 4 units

Course Typically Offered: Fall

WOMEN'S STUDIES (WS)

WS 10. Introduction to Women's Studies

Interdisciplinary course designed to introduce students to the major social, cultural, economic, and political forces which define gender in society. G.E. Breadth D3.

Units: 3

Course Typically Offered: Fall, Spring

GE Area: D3

WS 12. Critical Thinking: Gender Issues

Theory and practice in basic skills of critical thinking using examples about the intersections of gender with race and class. Skills will be demonstrated and assessed through oral and written performance. G.E. Foundation A3.

Units: 3

Course Typically Offered: Fall, Spring

GE Area: A3

WS 18. Women and Aging

(WS 18 same as GERON 18.) Interdisciplinary course designed to facilitate the understanding of older women and the physiological, psychological, and social aspects of the aging process. G.E. Breadth E1. (Formerly WS 118)

Units: 3

Course Typically Offered: Fall

GE Area: E1

WS 55T. Topics in Women's Studies

Topics of current interest in the Women's Movement, covering a wide variety of issues. (See Schedule of Courses for specific topics.)

Units: 1-4, Repeatable up to 12 units

WS 101. Women in History

(HIST 101 same as WS 101.) Prerequisite: G.E. Fondation and Breadth Area D. Historical survey of women's roles in history, with an emphasis on the emergence of the feminist movement. G.E. Intergration ID

Units: 3

GE Area: ID

WS 102T. Topics in Women's History

(HIST 102T same as WS 102T.) (See Schedule of Courses for specific topics.)

Units: 3, Repeatable up to 6 units

WS 103. History of Feminism

Survey of history of feminist thought and action from Middle Ages to present, with emphasis on nineteenth and twentieth centuries and major actors and debates.

Units: 3

Course Typically Offered: Spring

WS 107. Women in US Politics

(WS 107 same as PLSI 107). Prerequisites: at least one 3 unit WS or PLSI course. The course examines how women have shaped and been shaped by U.S. politics along with how gender impacts U.S.political thought, institutions, and practices.

Units: 3

WS 108. Rape

An inquiry into the phenomenon of rape, myths about rape and rapists, treatment of rape victims, discussion of physical and psychological preparation for possibility of attack. Lecture, film, paper, speakers. An all-day workshop held on two consecutive Saturdays.

Units: 1

Course Typically Offered: Fall, Spring

WS 109. Incest

An exploration of the victim, the victimizer, and the family dynamics of incest, as well as the psychological and sociological implications of the family secret. An all-day workshop held on two consecutive Saturdays.

Units: 1

Course Typically Offered: Spring

WS 110. Representations of Women

Prerequisites: G.E. Foundation and Breadth Area D. Interdisciplinary course focusing on representations of women; how representations vary by class, race, ethnicity, and sexual orientation; and how these representations affect social, political, and economic behaviors and institutions. G.E. Multicultural/International MI.

Units: 3

Course Typically Offered: Fall, Spring

GE Area: M/I

WS 112. Assertiveness Training

Women's special needs in becoming assertive; blocks preventing assertion and methods of getting around them. An all-day workshop held on two consecutive Saturdays.

Units: 1

WS 114. Marriage and Family Politics
Examines contemporary and historical marriage and family formations, including the ways public policies, laws and a variety of social institutions regulate the domestic sphere. Explores how women resist and re-work dominant understandings of marriage and family.

Units: 3

WS 115. Women, Children & Alcohol
Covers impact of addiction on women and children using a systems perspective.

Units: 1

WS 116. Domestic Violence
An historical and cultural overview of the battered and battering spouse syndromes; the marriage contract as a license to abuse; the status of remedial legislation; and, the effect of parental battering on children. An all-day workshop held on two consecutive Saturdays.

Units: 1

Course Typically Offered: Fall

WS 120. Women of Color in the United States
Prerequisites: G.E. Foundation and Breadth Area D. Examines the role and status of U.S. women of color within the larger social structure. Women in varying family structures and cultural settings will be examined, with an emphasis on how social systems shape the roles of women and affect larger U.S. institutions. G.E. Multicultural/International MI.

Units: 3

Course Typically Offered: Spring

GE Area: M/I

WS 125. Introduction to Lesbian/Gay Studies
Introduction to theory, questions, and topics in interdisciplinary lesbian and gay studies.

Units: 3

Course Typically Offered: Fall - odd

WS 126. Women and Violence: Public Policy and the Law
(CRIM 126 same as WS 126.) Historical and contemporary issues in public policy responses to violence against women. Gender bias in the legal system and policing violence against women. Theory and research on problems in government policy and enforcement of the law.

Units: 3

Course Typically Offered: Spring

WS 127. Female Sexuality
(PH 127 same as WS 127.) Studies on female sexuality which include past and present sexual roles, female sexual response patterns, and discussion of common problems encountered by women functioning as sexual beings.

Units: 3

WS 130. Women's Health
(PH 130 same as WS 130.) Examines current crises/ controversies in women's health care. Includes conventional/ alternatives approaches to treatment, management, and prevention with emphasis on self-care and promotion of optimum health.

Units: 3

WS 132. Women and Work
(SOC 132 same as WS 132.) An examination of women and work in contemporary society including housework, labor force participation, employment in various occupations, and career planning.

Units: 3

WS 135. Women In Cross-Cultural Perspective
Prerequisites: G.E. Foundation and Breadth Area D. Examines economic, social, political, and cultural roles as well as current status of women in one or more of the following: China, Southeast Asia, South Asia, Africa, Middle East, and Latin America. Prepares students to function in an international, multicutural world. G.E. Multicultural/International MI.

Units: 3

Course Typically Offered: Fall, Spring

GE Area: M/I

WS 136T. Topics in International Women's Studies
Examines how global economic and cultural processes affect women. Investigates the interconnections between "first" and "third" worlds through topics such as international division of labor, work and gender ideologies, and women's organized resistance to changes in local economics. (Formerly WS 150T)

Units: 3, Repeatable up to 9 units

WS 136T. Reproductive Justice: Global Issues
Examines child-bearing issues and solutions as practiced by different peoples in a variety of countries. Studies: conception, contraception, abortion, traditional and technology-assisted practices, midwifery, IVF, surrogacy, single-parenting, adoptive parenting, parenting by LGBTQQI, and heterosexual people. Asks: What are the effects of racism, classism, ableism, homophobia, gender-preference, incarceration, neoliberal economic policies, AIDS, and environmental degradation on reproductive policies, decisions, and strategies? What does justice mean with respect to these.

Units: 3

WS 136T. Intnl Feminism
Units: 3

WS 137. African American Women
(AFRS 137 same as WS 137.) An overview of the accomplishments of African American women in the United States; their contributions to American culture; African influence; African American women as defined by a dominant soceity vs. legitimate definition designed to encourage a positive self-concept.

Units: 3

Course Typically Offered: Spring

WS 141. The Chicano Family
(CLAS 141 same as WS 152.) Traditional and changing relation-

ships in the family structure of the Chicano; interaction with wider instituitional social system. (CLAS 141 formerly CLAS 152).

Units: 3

WS 143. Feminist Theory

Review of major feminist theories of the twentieth and twenty-first centuries, analysis of assumptions underlying each, evaluation of strengths and weaknesses of each, and examination of relationship of various theories to various women's life experiences.

Units: 3

Course Typically Offered: Fall

WS 148. Women and Religion

Seminar to explore many facets of women's religious experience, including history of women in institutional churches, theologies of liberation and oppression, women's religious experience, and feminist spirituality.

Units: 3

WS 150T. Topics in Women's Studies

Topics of current interest in the women's movement, covering a wide variety of issues. (See Schedule of Courses for specific topics.)

Units: 1-4, Repeatable up to 12 units

WS 150T. Chicana Women in a Changing Society

Focuses on current issues relevant to Chicana women in the workforce, the family, the health care system, and the educational system. The intersection of race, class, and gender will be the analytical context for examining both their historical and contemporary roles.

Units: 3, Repeatable up to 9 units

WS 150T. Politics of Latina Health and Size

Introduction to the politics of Latina health and size, focusing on reproduction, fitness and fatness, and illness through the study of first person narratives, popular media, and health campaigns.

Units: 3, Repeatable up to 12 units

WS 151T. Topics in Lesbian/Gay Studies

Topics in lesbian and gay studies, drawing upon areas such as history, sociology, literature, psychology, or interdisciplinary fields.

Units: 1-3, Repeatable up to 6 units

WS 153. Feminist Research Methods

Prerequisites: Either WS 10, WS 103, WS 110, WS 120, WS 135 or WS 143. Introduction to quantitative and qualitative research methods. Hands-on practice of designing and conducting a research project and writing a grant.

Units: 3

Course Typically Offered: Fall

WS 160. Feminist Issues in Counseling

Prerequisite: WS 10 or permission of instructor. Evaluates counseling theories; individual and group counseling techniques; examines ethical issues and power structure in therapeutic settings; surveys community resources; and explores innovative and feminist perspectives concerning the effective treatment of women.

Units: 3

WS 162. Community Service in Women's Studies

Prerequisite: 9 hours of WS courses and permission of instructor and agency. Individual experience relating classroom studies to experience in a women's community service agency. CR/NC grading only. (Minimum of 3 field hours per unit.)

Units: 1-3, Repeatable up to 6 units

WS 163. Consciousness Raising: Group Leader

Prerequisite: permission of instructor. Students learn skills in facilitating group discussion of women's issues through training and practicum. CR/NC grading only.

Units: 1, Repeatable up to 2 units

WS 168T. Women and Literature

(WS 168T same as ENGL 168T.) Prerequisite: ENGL 20. Discussion and written analysis of literature by and about women. Special emphasis on 19th and 20th Century authors including the Brontes, George Eliot, Emily Dickinson, Edith Wharton, Virginia Woolf, and contemporary writers.

Units: 4, Repeatable up to 8 units

Course Typically Offered: Spring

WS 170. Women: Culture and Biology

(ANTH 118 same as WS 170.) A cross-cultural and interdisplinary analysis of the determinants of female statuses and circumstances. Examines theories, including biological and cultural determinism, which explain variations in the expression of sexuality, maturation, reproduction, and the life cycle. (Formerly ANTH 170)

Units: 3

WS 175. Seminar in Women's Studies

Primarily for women's studies majors and minors. Prerequisite: 15 units in women's studies or permission of instructor. A synthesis of objective and subjective experience in women's studies. Culminating experience required.

Units: 3

Course Typically Offered: Spring

WS 190. Independent Study

See Academic Placement --Independent Study. Approved for RP grading.

Units: 1-3, Repeatable up to 6 units

WS 194T. Seminar in Women and Literature

(ENGL 194T same as WS 194T.) May be substituted for ENGL

193T in the English major; no more than 12 units of ENGL 193T-ENGL194T applicable to the major. Sections designated by topic. Individual projects; reading, discussion, and writing papers on individual women writers or some aspect of women in literature; for example, Doris Lessing, Myth and Archetypes of Women. ENGL 194T should ordinarily not be taken until 3 upper-division courses in English have been completed.

Units: 4, Repeatable up to 8 units

WS 195. Diversity in the United States: Race and Gender Issues

(See A I S 195, AF AM 195, ASAM 195, CLS 195.) This interdisciplinary course introduces students to theoretical perspectives concerning the historical development of class, race, and gender within the United States and the impact of these issues on contemporary U.S. society. Participation in a special class project is required.

Units: 3